AIMS For a better birth...

When a mother dies...

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Manisha Nair, Charlotte McClymont, Anjali Shah and Marian Knight explain the work of MBRRACE-UK

Although fortunately very rare in the UK, every maternal death is a tragedy. Each woman leaves behind a family without a wife, a mother, a daughter. The importance of learning from the death of every woman during or after pregnancy has been recognised in the UK for more than 60 years, and has been highlighted once again by the review of events that occurred at Furness General Hospital. By learning lessons for future care, we can make changes which will hopefully save more lives in the future.

The UK Confidential Enquiry into Maternal Deaths is the programme through which each mother's death is investigated. It is accepted as a gold standard worldwide. Considerable progress has been made following the introduction of these Enquiries. The chances of a woman dying during pregnancy, childbirth and within 42 days of giving birth has decreased over the 60 years the Enquiry has been in progress from 90 to 10 per 100,000 maternities.1 Most recently, the Enquiry has been conducted by a collaboration of doctors, midwives and researchers called MBRRACE-UK (Mothers and Babies: Reducing Risks through Audits and Confidential Enquiries across the UK). The work now not only includes reviews of the care of every woman who dies, but also the care of women who have specific severe complications in pregnancy, but survive.

What happens when a mother dies?

In order to ensure that the care of all women who die during or immediately after pregnancy is investigated, all hospitals in the UK report every woman's death to the MBRRACE-UK administration team, based at the National Perinatal Epidemiology Unit in Oxford.1 Sometimes women's deaths are also reported by Coroners (Procurators Fiscal in Scotland), pathologists, supervising Midwifery Officers, the woman's friends or family, or we find out about them through reports in the media. The reported women's details are further cross-checked with records from the Office for National Statistics and National Records of Scotland to confirm that no women have been missed.1

Following the notification of a death, the doctor or midwife who reports the woman's death fills in a form that collects basic information about the woman who died (such as her age, occupation and any health problems she had before she became pregnant), details of the care she received during pregnancy and childbirth, and what she is thought to have died from. The hospital is also asked to send a full copy of all the mother's medical records. The doctors and midwives responsible for caring for the women who died are also asked to describe the women's care and to identify any lessons learned for changing care in the

future. All the records received by the MBRRACE-UK team are made completely anonymous, so any names of women, their families, staff and hospitals are removed from all the documents.

Once complete, the records are scanned and uploaded onto a secure computer system for review by independent experts. The first review that takes place is to try to find out what the woman died from. For some women, the cause of her death may be very clear, but for other women who collapse suddenly and unexpectedly, for example, this may be more difficult to determine. We need to find this out first, so that we can then assess whether the care for her condition was appropriate. After the reason a woman died has been identified, her records are examined in detail by two midwives, two obstetricians, two pathologists, one or two anaesthetists and other specialists as required to assess the care she received. MBRRACE-UK has more than 100 assessors who voluntarily review all mother's medical records to assess the quality of care delivered and to identify lessons that can be learned to improve care of future mothers. 1

The assessors are from a wide variety of health specialities, and as well as obstetricians, midwives, pathologists and anaesthetists also include obstetric physicians, psychiatrists, general practitioners, neurologists, cardiologists, specialists from intensive care and infectious diseases, and any others who we feel are needed. This comprehensive and detailed review is to ensure that we identify as many possible changes that need to be made to future care to prevent mothers from dying.

The entire process is strictly anonymous, so that none of the assessors know who individual women are, or the hospitals where they were cared for. The recommended changes to future care are drawn together and published in an annual report. However, under certain circumstances, concerns about a woman's care are fed directly back to hospitals and notified to the Healthcare Quality Improvement Partnership (HQIP). 1 The criteria which HQIP specify for raising concern include: deaths attributable to abuse or neglect; staff members displaying abusive behaviour ; serious professional misconduct or a dangerous lack of competency when it is not clear if this has been reported to senior staff; and standards in care that indicate a dysfunctional or dangerous department or organisation, or grossly inadequate service provision. 1

Report publication

After completion of reviews of the care of all women who died, a group of writers are convened from all specialities from the pool of assessors. They identify impor tant themes about the quality of care received by the mother who died and the lessons learned. The main themes related to care, lessons identified for improving the care of future mothers, information about the numbers of women who die and their causes of death, and the women's characteristics are all included in an annual report.1 In addition, a group of writers from some of the voluntary organisations involved in maternity care work together to produce a lay summary of this clinical report, which includes key messages particularly for women who are planning to have a child, pregnant women and women who have recently given birth.2

Key messages for women from the 2014 report The latest enquiry, Saving Lives, Improving Mothers'

Care, published in December 2014 reported that 321 women died in the three years, 2009-12, during pregnancy, childbirth or within 42 days of giving birth.1 One third of these women died from direct pregnancy-related complications such as bleeding and the other two-thirds from medical and mental health problems which developed or became worse during pregnancy.1 Threequar ters of women who died had medical or mental health problems before they became pregnant.1 Almost a quarter of women died from severe infections during pregnancy (sepsis) and one in eleven of the women who died had flu1

The report highlighted the need for joint medical and pregnancy care, and prompt recognition and management of danger signs as key to preventing deaths.1 The report makes recommendations for policy makers, professional organisations, hospitals and healthcare staff. There are also important messages for women who are planning to have a child, for pregnant women, and for those who have recently giving birth.2

Women who have known medical conditions or mental health problems should seek advice from their doctor before they become pregnant or as soon as possible after they find out they are pregnant. It is important that women do not stop any medicines they are already taking unless they have discussed this with their doctor or midwife.

Women who have known medical or mental health problems should make their condition known to their doctor or midwife and not simply assume that it will be picked up from their existing medical notes.

More than half of the deaths due to flu could have been prevented if the women had a flu jab during pregnancy. Flu jabs during pregnancy can prevent complications of flu and save the lives of both mothers and babies. Sepsis, which is a severe reaction of the body to infection, can develop rapidly. It is important that pregnant women and women who have recently given birth are aware of the signs and symptoms of sepsis (which can include high temperature, chills and shivering, fast heartbeat, fast breathing, breathlessness, headache, severe abdominal pain, extreme sleepiness) and seek prompt care from senior doctors and midwives. Rapid diagnosis and treatment with appropriate antibiotics can save the lives of both mother and her baby.

Women should be persistent in asking their doctor or midwife to refer them to a senior doctor or midwife for consultation if they feel that they are not receiving the care that they need.

Women have the right to know about all aspects of their care. If anything goes wrong, women and their family should ask for a report of the review of their care, which the maternity unit should have undertaken.

Moving forward

It is important to remember that the chance of a woman dying in pregnancy and childbirth in the UK is very small. However, although maternal deaths in the UK are rare, for every woman who dies there are about another hundred women who suffer severe lifethreatening complications during pregnancy and may be left with life-long disability. To continue to save mothers' lives and improve the quality of

maternity care, we must examine the care of women who have these major complications as well as every woman who dies, in order to drive change for the future and give every woman and her baby the high quality care they deserve.

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References

1. Knight M KS, Brocklehurst P, Neilson J, Shakespeare J, Kurinczuk JJ (Eds.) on behalf of MBRRACE-UK (2014) Saving Lives, Improving Mothers' Care - Lessons learned to inform future maternity care from the UK and Ireland Confidential Enquiries into Maternal Deaths and Morbidity 2009-12. Oxford: National Perinatal Epidemiology Unit, University of Oxford; 2014.
2. Hinton L on behalf of MBRRACE-UK lay summary writing group. Saving Lives, Improving Mothers' Care: Lay Summary 2014. Oxford: National Perinatal Epidemiology Unit, University of Oxford; 2014.

Editor's note:
AIMS is aware, from members' discussion and calls to our helpline, that women are concerned about the potential effects of having or not having vaccinations for them and their babies and about possible long term effects on children of any medication in pregnancy. The evidence and guidance available to them can be lacking and is sometimes contradictory. More research is needed on the efficacy, benefits and harms of vaccinations overall and how that applies to specific situations, so that women have good quality, wideranging evidence on which to base their decisions.