

MBRRACE-UK Update:

Key messages from the UK and Ireland Confidential Enquiries into Maternal Death and Morbidity 2016

The latest report from the UK and Ireland Confidential Enquiries into Maternal Deaths, the second in the new annual report format, was published in December (1), and includes surveillance of maternal deaths from 2012-14 and Confidential Enquiries covering the period 2009-14. Once again the report includes reviews into the care of women who died during or after pregnancy in the Republic of Ireland as well as the UK. Following the annual topic-specific format, this report includes topic-specific reviews of deaths and severe morbidity from cardiac causes, deaths from pre-eclampsia and eclampsia and related causes, deaths in early pregnancy, and messages for critical care.

Key facts and figures

- Overall there has been a statistically significant decrease in the maternal death rate between 2009-12 and 2011-13 in the UK, which is now 9.02 per 100,000 maternities. The rate has decreased by 35% since the 2003-5 triennium (RR 0.65, 95%CI 0.61-0.86).
- Maternal deaths from direct causes continue to decrease, but indirect maternal deaths remain high with no significant change in the rate since 2003. Coordinated action across a wide range of health services is still required to address this problem.
- There were no deaths from influenza in 2012 and 2013, which contributed to the decrease in the overall rate of maternal death in 2011-13. This is mainly due to a low level of influenza activity in 2012 and 2013 (compared to 2009 and 2010) rather than an increase in the uptake of vaccination among pregnant women. Increasing immunisation rates in pregnancy against seasonal influenza should therefore remain a public health priority.
- Thrombosis and thromboembolism remains the leading cause of direct maternal death and cardiac disease the leading cause of indirect maternal deaths.
- Almost a quarter of maternal deaths occurring between six weeks and one year after the end of pregnancy were due to psychiatric causes.

Key messages for care

General messages

- Repeated presentation to services, often with an escalating pattern of symptoms, was a recurring theme observed in the reviews of women's care across all topic areas. In each instance, the woman was reviewed 'in the moment' and no-one considered the overall pattern of symptoms. Assessments should always include a review of previous history and always

take into account the findings of recent presentations and escalating patterns of symptoms, their severity and any associated abnormal behaviour.

- Many of the women who died, and particularly those who died between six weeks and one year after pregnancy had long-standing and multiple morbidities, occurring prior to, during and after pregnancy, and often led socially complex lives. In many cases a single individual did not take overall responsibility to orchestrate the care for these women who were expected to attend multiple separate psychiatric, medical and social services appointments. This led to many of them 'slipping through the net' and unable to get the care they needed. Targeted follow up must take place for women with complex medical and mental health needs, to ensure that the expected recovery has occurred and that the need for any on-going care is being met. A single individual should take a leadership role in this respect.
- Care of these women more than six weeks after birth is currently outside the remit /scope of maternity services, however, there is a clear need for co-ordinated care, including actions for maternity services. In particular, these women require additional care following discharge from hospital after birth and there should be senior review prior to discharge, with a clear plan for the postnatal period.

Topic-specific messages

Mental Health

- In almost a third of women with a prior history of mental health problems who died by suicide, there was evidence that significant aspects of the woman's past psychiatric history were not communicated between primary care and maternity services. Good communication between primary care, mental health and maternity services is critical to good quality care for women with mental ill health, in particular:
 - At booking there should be a routine enquiry about a current or past history of mental health problems, which should cover the full range of mental health issues and not just depression.
 - Maternity services should ensure that the GP is made aware of a woman's pregnancy and enquire of the GP about the woman's past mental health history.
- The women who died by suicide frequently used violent methods. Almost one in five women had expressed prior thoughts of violent self-harm but the staff caring for them had not appreciated the significance of this. The following are 'red flag' signs for severe maternal illness and require urgent senior psychiatric assessment:
 - Recent significant change in mental state or emergence of new symptoms,
 - New thoughts or acts of violent self-harm,
 - New and persistent expressions of incompetency as a mother or estrangement from the infant.

Prevention and treatment of thrombosis and thromboembolism

- More than four-fifths of women who died from venous thromboembolism (VTE) had at least one identified risk factor for VTE; 70% had two or more. However, their risk was not always identified. All women should undergo a documented assessment of risk factors for venous thromboembolism in early pregnancy or pre-pregnancy. This should be repeated intrapartum or immediately postpartum and if the woman is admitted to hospital or develops other intercurrent problems.
- Significant delays in receipt, incorrect dosages or length of courses of postpartum thromboprophylaxis were frequently identified, including due to fixed timing of drug rounds, incorrect calculation of weight appropriate dose and requirement for the general practitioner to prescribe low molecular weight heparin prophylaxis. Prescription for the entire postnatal course of low molecular weight heparin should be issued in secondary care. This will help ensure that women receive the full course without the need to visit their GP to obtain another prescription. This also provides a double safety net since the prescription will be checked by a hospital pharmacist, who ensures the correct weight-appropriate dose is dispensed.
- In some instances, symptoms, signs and laboratory tests were misinterpreted when pregnant women presented to the Emergency Department. Pregnant and postnatal women presenting to the Emergency Department with medical problems should be discussed with a member of the maternity medical team. This should ensure appropriate investigations and treatments for pulmonary embolism are not withheld and prophylaxis is prescribed where appropriate.

Caring for women with cancer in pregnancy or postpartum

- There was clear evidence that women with newly diagnosed and/or recurrent cancer received a different standard of care simply because they were pregnant. The most important overall message for care of women with malignancy is that cancer should be treated the same in pregnancy as in non-pregnant women, unless there is specific evidence that to do this would cause harm.
- If a cancer diagnosis is suspected, investigations should proceed in the same manner and on the same timescale as for a non-pregnant woman, but with caution when there is evidence of specific risks to the fetus.
- There were several examples of excellent multi-disciplinary care with joint treatment decisions between women, their families and their clinicians. However, some women underwent multiple transfers of care with little evidence of care planning. Early multidisciplinary discussions are needed for all pregnant women with a new diagnosis of cancer as well as newly pregnant women with a previous cancer diagnosis. A named individual should be nominated to coordinate care; this is particularly important when care is provided across multiple centres.
- It is also important to note that treating cancer does not usually require delivery. Iatrogenic preterm delivery is associated with cognitive impairment and should be avoided wherever possible.

Learning from homicides and women who experienced domestic abuse

- Pregnancy and the puerperium represent periods of higher risk of domestic abuse. Any woman reporting a previous history of domestic abuse should therefore be considered at high risk.
- Healthcare professionals need to be alert to the symptoms or signs of domestic abuse and women should be given the opportunity to disclose domestic abuse in an environment in which they feel secure.
- All health professionals caring for women should be aware of the pathway of care once domestic abuse is disclosed, and escalate to senior staff if necessary.
- Pregnant and postpartum women presenting to the emergency department repeatedly and/or with unusual symptoms should be discussed with a member of the maternity team and the GP should be informed.

Conclusions

This report would not have been possible without the dedication of clinical staff throughout the UK and Ireland, and in particular the MBRRACE-UK assessors who reviewed all the cases. The report shows a continued decrease in the rate of maternal death in the UK, but highlights in particular that the women who die between six weeks and one year after the end of pregnancy have multiple morbidities and frequently socially complex lives. Although their care beyond six weeks postnatally is outside the scope of most maternity services, improvements in particular to care at the time of discharge were identified, including senior review, a documented postnatal care plan and arranged follow-up visits. Almost a quarter of the women who died more than six weeks after the end of pregnancy died from mental health-related causes. However, many had symptoms for weeks or months before their deaths. A greater awareness of the importance of eliciting a history of all prior mental health problems, early recognition of 'red flag' symptoms and rapid escalation to a specialist psychiatrist may prevent their deaths in the future.

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Reference

1. Knight M, Nair M, Tuffnell D, Kenyon S, Shakespeare J, Brocklehurst P, Kurinczuk JJ (Eds.) on behalf of MBRRACE-UK. Saving Lives, Improving Mothers' Care - Surveillance of maternal deaths in the UK 2012-14 and lessons learned to inform maternity care from the UK and Ireland Confidential Enquiries into Maternal Deaths and Morbidity 2009-14. Oxford: National Perinatal Epidemiology Unit, University of Oxford 2016. Available at: www.npeu.ox.ac.uk/mbrrace-uk