Executive summary

Introduction

This report, the eleventh MBRRACE-UK annual report of the Confidential Enquiry into Maternal Deaths and Morbidity, includes surveillance data on women who died during or up to one year after pregnancy between 2020 and 2022 in the UK. In addition, it also includes Confidential Enquiries into the care of women who died between 2020 and 2022 in the UK and Ireland from thrombosis and thromboembolism and malignancies as well as the care of women who died as a result of ectopic pregnancy between 2021 and 2022.

The report also includes a Morbidity Confidential Enquiry into the care of migrant women who arrived in the UK less than two years prior to giving birth and who had a preferred language other than English. These women were identified from the MBRRACE-UK database of perinatal deaths or through routine national birth records for 2022.

Surveillance information is included for 625 women who died during or up to one year after the end of pregnancy between 2020 and 2022. The care of 38 recent migrant women with language difficulties was reviewed in depth for the Morbidity Confidential Enquiry chapter.

This report can be read as a single document; each chapter is also designed to be read as a standalone report as, although the whole report is relevant to maternity staff, service providers and policy-makers, there are specific clinicians and service providers for whom only single chapters are pertinent. There are six different chapters that may be read independently, the topics covered are: 1. Introduction and methodology 2. Maternal mortality surveillance and epidemiology 3. Thrombosis and thromboembolism 4. Malignancy 5. Ectopic pregnancy and 6. Migrant women with language difficulties (morbidity enquiry).

Methods

Maternal deaths are reported to MBRRACE-UK, Northern Ireland Maternal and Child Health (NIMACH) or to Maternal Death Enquiry (MDE) Ireland by the staff caring for the women, or through other sources including coroners, procurators fiscal and media reports. In addition, identification of deaths is cross-checked with records from the Office for National Statistics, National Records of Scotland and Public Health Scotland. For all women who die, MBRRACE-UK requests the full medical records, postmortem reports and, where relevant, copies of any local reviews or investigations including those conducted by the Maternity and Newborn Safety Investigations (MNSI) programme (previously part of the Healthcare Safety Investigation Branch (HSIB)). Full medical records are also requested for the women identified for the Confidential Enquiry into Maternal Morbidity. All documents are fully anonymised prior to undergoing confidential review. Each woman's care is examined by multidisciplinary expert reviewers and assessed against current guidelines and standards (such as that produced by the National Institute for Health and Care Excellence (NICE) or relevant Royal Colleges and other professional organisations). Subsequently the expert reviews of each woman's care are examined by a multidisciplinary writing group to enable the main themes for learning to be drawn out for the MBRRACE-UK report. The new national recommendations to improve future care are presented here, alongside a surveillance chapter reporting three years of UK statistical surveillance data.

Causes and trends

There was a statistically significant increase in the overall maternal death rate in the UK between 2017-19 and 2020-22. This increase remained statistically significant when deaths due to COVID-19 were excluded, which suggests a concerning trend independent of COVID-19 specific deaths.

Women aged 35 or older had three-fold higher rates of maternal death compared to women aged 20-24. Inequalities in maternal mortality rates remain with a nearly three-fold difference in rates amongst women from Black ethnic backgrounds and an almost two-fold difference amongst women from Asian ethnic backgrounds compared to White women. Nine percent of the women who died during or up to six weeks after pregnancy in the UK in 2020-22 were at severe and multiple disadvantage. The main elements of multiple disadvantage were a mental health diagnosis, substance use and domestic abuse. Women living in the most deprived areas continue to have maternal mortality rates twice that of women living in the least deprived areas, emphasising the need for a continued focus on action to address these disparities.

Thrombosis and thromboembolism is now the leading cause of maternal death in the UK followed by COVID-19 and cardiac disease; together, these three causes represent 43% of maternal deaths during or up to six weeks after pregnancy.

Deaths from mental health-related causes continue to account for a large proportion (34%) of deaths occurring between six weeks and a year after the end of pregnancy with deaths due to substance misuse and other psychiatric causes the leading cause of deaths in this period.

Lessons learned from the confidential enquiries into the care of women who died

This year's confidential enquiries into maternal deaths identified lessons learned from the care of women who died from thrombosis and thromboembolism, malignancies and ectopic pregnancy. Assessors identified many common themes across these topics including the importance of recognising concerning symptoms that indicate underlying conditions. For many women, symptoms such as persistent nausea and vomiting or pain requiring opioids were inappropriately attributed to pregnancy without further investigation of the cause. 'Red flag' symptoms or symptoms requiring repeat presentation are not normal and care should be escalated if women voice concerns. There was evidence of confusion in when and how to use venous thromboembolism (VTE) risk assessment tools and interpret a woman's risk score. Research is needed to restructure the current national assessment tool to make it clearer, more accurate and easier to use. Many women died from VTE in early pregnancy including several at high-risk of VTE, which emphasises the importance of early risk assessment as well as clear pathways for prescribing thromboprophylaxis so women are able to access medication at all stages of care.

Assessors also noted delays in pre-hospital care that may have impacted women's care. This was particularly apparent in the care of women who died from ectopic pregnancy, many of whom faced significant delays in the arrival of ambulance services or in transfer to hospital. In some instances, assessors felt that pregnancy was not considered as part of the differential diagnosis until women arrived in the emergency department and abdominal bleeding was discovered by point-of-care ultrasound. Bleeding from a ruptured ectopic pregnancy requires urgent diagnosis and surgical intervention. It is important to recognise the symptoms and consider the possibility of pregnancy in any woman of reproductive age who collapses.

Many women who died from malignancies, and several who died from VTE, were denied or received inappropriate imaging and treatment because they were pregnant. For many this meant that their symptoms or the extent of their disease was not recognised. Multidisciplinary input and senior review can help facilitate discussions about what imaging modalities and treatments are appropriate for pregnant or recently pregnant women so they can receive the care they need when they need it. This includes discussions around end-of-life planning and palliative care.

Lessons learned from the morbidity confidential enquiry into the care of recent migrant women with language difficulties

It was evident from the care of the women reviewed as part of this year's morbidity enquiry, that many women who had recently arrived in the UK did not understand the NHS or how to access maternity services. Many women booked late in pregnancy and several presented for the first time in pregnancy to the emergency department. Clearer guidance is needed on how to register with a GP who can offer a clear path into maternity services. Most women did not receive adequate support for their language needs throughout their care, as these needs were not regularly documented and professional interpreter services were not available at many interactions including both scheduled visits and in emergency situations. Many women relied on family members or friends to interpret, which is not recommended. In many instances, written information, including consent forms and discharge materials, was also provided in English with no apparent consideration for the woman's level of English or overall literacy. It is important that all information provided verbally or in writing is understood so that women are able to make informed decisions about their health and the health of their babies.

Key messages to improve care

The majority of recommendations that MBRRACE-UK assessors have identified to improve care are drawn directly from existing guidance or reports and denote areas where implementation of existing guidance needs strengthening. All recommendations based on existing guidance are presented in the relevant chapter of the full, compiled report. Actions needed for which national guidelines are not available are presented below.

New national recommendations to improve care

1. Clearly define the rapid access pathways for prescribing thromboprophylaxis to ensure that women known to be at risk are able to access thromboprophylaxis when they need it, particularly in the first trimester **[ACTION: Integrated Care Boards and Health Boards]**
2. Restructure the existing national VTE risk assessment tool based on research evidence to produce an assessment that is easy to use, clear and accurate and that includes factors that may arise in the postnatal period **[ACTION: National Institute for Health and Care Research in consultation with the Royal College of Obstetricians and Gynaecologists]**

3. Revise and implement guidance for cancer diagnosis and management in pregnant women to include clear recommendations on the use and safety of diagnostic imaging modalities in pregnant women with a history of or with newly diagnosed cancer **[ACTION: Royal College of Obstetricians and Gynaecologists in partnership with other royal colleges and professional societies]**
4. Update end-of-life care guidance to include recommendations for the appropriate service delivery to pregnant or recently pregnant women including the need to recognise decline, facilitate time spent with their baby and hold conversations around provision of consent for advanced resuscitation **[ACTION: National Institute for Health and Care Excellence]**
5. Review ambulance service algorithms for risk categorisation to ensure that 999 calls regarding women who are pregnant, recently pregnant or have the potential to be pregnant are appropriately managed, which may include early navigation and assessment. Ensure that repeated calls and calls made by minors are escalated to enable a rapid response by appropriately trained paramedics **[ACTION: NHS England and ambulance service commissioners in the devolved nations]**
6. Ensure the digital maternity record includes details of language needs including the use of formal interpreter services, to ensure that these are taken into consideration at all interactions, including in emergency situations **[ACTION: Professional Record Standards Body and equivalents in the devolved nations]**

Conclusions

This report includes the surveillance information for women who died during and after pregnancy for 2020-22. The maternal mortality rate for this period is significantly higher than that reported that for 2017-19 and this remains significantly higher when deaths due to COVID-19 are excluded. The reasons for this increasing rate are multiple. It was evident from the care of the women reviewed in the confidential enquires that service-related changes necessitated by the COVID-19 pandemic impacted women's care as many faced significant delays when accessing pre-hospital care and others were not provided with specialist supports, such as interpreter services, due to limited availability. However, there were many factors that assessors identified that may be contributing to the increased rate of maternal mortality independent of the COVID-19 pandemic. As discussed in this and previous reports, the current maternity population is becoming more complex. Many of the women who died were older than 35 years of age and the majority were overweight or obese. Many also had multiple morbidities or had multiple adversities including mental health conditions and social complexities. Inequalities also continue persist amongst women from Black and Asian ethnic backgrounds and in women living in the most deprived areas. Addressing these inequalities, complexities and mental health concerns must remain an important focus in order to improve outcomes and prevent maternal deaths.