NATIONAL INSTITUTE FOR HEALTH AND CARE EXCELLENCE

Health and social care directorate

Quality standards

Briefing paper

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| Quality standard topic: Intrapartum care: women with existing medical conditions or obstetric complications and their babiesOutput: Prioritised quality improvement areas for development.Date of Quality Standards Advisory Committee meeting: 19 June 2019 |

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1. Introduction

This briefing paper presents a structured overview of potential quality improvement areas for intrapartum care: women with existing medical conditions or obstetric complications and their babies. It provides the committee with a basis for discussing and prioritising quality improvement areas for development into draft quality statements and measures for public consultation.

* 1. Structure

This briefing paper includes a brief description of the topic, a summary of each of the suggested quality improvement areas and supporting information.

If relevant, recommendations selected from the key development source below are included to help the committee in considering potential statements and measures.

* 1. Development sources

The key development sources referenced in this briefing paper are:

[Intrapartum care for women with existing medical conditions or obstetric complications and their babies](https://www.nice.org.uk/guidance/ng121) (2019) NICE guideline NG121

[Placenta praevia and placenta accreta: diagnosis and management](https://www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg27a/) (2018) RCOG guideline 27a

[Management of third- and fourth-degree perineal tears](https://www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg29/) (2015) RCOG guideline 29

Reducing the risk of [thrombosis and embolism during pregnancy and the puerperium](https://www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg37a/) (2015) RCOG guideline 37a (updated scheduled for May 2019).

1. Overview
	1. Focus of quality standard

This quality standard covers care during labour and birth for women who need extra support because they have a medical condition or complications in their current or previous pregnancy. It also covers women who have had no antenatal care.

* 1. Definition

Intrapartum care is defined as the care of the women and their babies from the onset of labour to 24 hours after birth.

A pregnancy is 'high risk' when the likelihood of an adverse outcome for the woman or the baby is greater than that of the 'normal population' due to an existing medical condition. Existing medical conditions can be made worse by physiological changes that occur during labour. Examples include heart disease, kidney disease, or being overweight or obese.

A labour is 'high risk' when the likelihood of an adverse outcome related to labour (for the woman or the baby) is greater than that of the 'normal population'. Pregnancy-related (obstetric) problems can develop and increase the risk of adverse labour or birth outcomes. Examples include sepsis, thrombosis, previous caesarean section, breech presentation and babies thought to be very small or large for gestational age.

A woman can also enter labour with no identified complications and be considered at low risk of complications, but problems during labour may arise that can be associated with adverse outcomes. Although maternal mortality is rare, complications in labour cause significant morbidity, and can have long-term physical and psychological consequences.

* 1. Mortality and morbidity

Background

[NHS Digital](https://digital.nhs.uk/data-and-information/publications/statistical/nhs-maternity-statistics/2017-18) reports that there were 626,203 deliveries in NHS hospitals between 1 April 2017 to 31 March 2018.

As reported in the 2017 National Maternity & Perinatal Audit (NMPA) [organisational survey report](http://www.maternityaudit.org.uk/pages/reports), the birth rate has increased 16% since 2001 in England, Scotland and Wales, which has led to increasing demands on maternity services.

NHS Resolution's (formerly the NHS Litigation Authority) 2017/18 [Annual report and accounts](https://resolution.nhs.uk/corporate-reports/) state that obstetric claims represented the greatest value (nearly 50%) of all new clinical negligence claims (around £4.5 million) but only 10% of claims received (around 10,500). Common clinical themes included fetal heart rate monitoring, management of breech births, and inadequate quality assurance relating to patient autonomy and informed decision-making. Maternity remains a key area of focus, due to the life-changing effect on families, and the continuing high cost of claims.

The 2018 MBRRACE-UK [annual report of the Confidential Enquiry into Maternal Deaths and Morbidity](https://www.npeu.ox.ac.uk/mbrrace-uk/reports/) highlights that the rate of maternal mortality was higher amongst older women, those living in the most deprived areas and amongst women from particular ethnic minority groups. The maternal mortality rate is twice as high among Asian women (15 per 100,000) and 5 times as high among black women (40 per 100,000) compared with white women (8 per 100,000). The 2017 MBRRACE-UK [Perinatal Mortality and Morbidity Confidential Enquiry report](https://www.npeu.ox.ac.uk/mbrrace-uk/reports/perinatal-mortality-and-morbidity-confidential-enquiries) highlights that the rate of term, singleton, intrapartum stillbirth and intrapartum-related neonatal death has more than halved since 1993 from 0.62 to 0.28 per 1,000 total births. The report however also highlights increasing numbers of pregnant women with conditions associated with higher risk.

Existing conditions

The 2018 MBRRACE-UK [annual report of the Confidential Enquiry into Maternal Deaths and Morbidity](https://www.npeu.ox.ac.uk/mbrrace-uk/reports/) found that that the maternal death rate for 2014-16 was around 10 per 100,000 maternities. More than half of maternal deaths were due to indirect causes. The leading indirect cause is still heart disease (2.39 deaths per 100,000 maternities in 2014-16). The report also notes that more than one third of women who died were obese, and one fifth were overweight.

The 2017 MBRRACE-UK [Perinatal Mortality and Morbidity Confidential Enquiry report,](https://www.npeu.ox.ac.uk/mbrrace-uk/reports/perinatal-mortality-and-morbidity-confidential-enquiries) highlights that the rate of term, singleton, intrapartum stillbirth and intrapartum-related neonatal death has more than halved since 1993 from 0.62 to 0.28 per 1,000 total births. The report however also highlights increasing numbers of pregnant women with conditions associated with higher risk. Increased prevalence of obesity is highlighted. The NMPA [Clinical report 2017 - revised version](http://www.maternityaudit.org.uk/pages/reports) reported that around 20% of pregnant women have a BMI of 30 or over at booking.

Obstetric complications

The 2018 MBRRACE-UK [annual report of the Confidential Enquiry into Maternal Deaths and Morbidity](https://www.npeu.ox.ac.uk/mbrrace-uk/reports) highlights that the leading cause of direct deaths is still thrombosis and thromboembolism (1.39 per 100,000 maternities), followed by haemorrhage (0.78 per 100,000 maternities).The report notes that rates of postpartum haemorrhage doubled since the 2013-15 report, due to an increase in cases of placenta accreta, increta or percreta.

The scope for the NICE guideline on [Intrapartum care for women with existing medical conditions or obstetric complications and their babies](https://www.nice.org.uk/guidance/ng121/) summarises findings from the 2011 Birthplace in England study. Around 10% of women considered 'low risk' before labour had one or more complicating conditions identified at the start of care in labour. Adverse outcomes for women considered to be 'low risk' at the end of pregnancy were also highlighted:

* 5.8% resulted in intrapartum section
* 2.7% resulted in third- or fourth-degree perineal tears
* 0.9% resulted in blood transfusion
* 2.1% resulted in the baby being admitted to a neonatal intensive unit.[[1]](#footnote-1)
	1. Current service delivery and management

In general all pregnant women are cared for by midwives. For women at higher risk or undergoing medical procedures care is also provided by other health professionals, working in a multidisciplinary team, led by a named clinician (consultant obstetrician). Lack of multidisciplinary working has been repeatedly cited in the Confidential Enquiries into Maternal Deaths and Morbidity as contributing to maternal deaths.

It is important that the woman is given information and advice about all available settings when she is deciding where to have her baby, so that she participates as a decision-maker in her care. This includes information about outcomes for different birth modes and settings.

Risk assessment and planning are key components of care, so that factors likely to have a negative impact on the pregnancy can be planned for, and outcomes for women and their babies maximised. Women with risk factors for an adverse labour outcome known before labour starts will enter labour with a care plan (including planned place of birth, level of intrapartum maternal and fetal monitoring, strategies for intrapartum analgesia and treatment and interventions specific to their condition). The woman is also likely to have made an individualised birth plan detailing her preferences for labour.

If risks arise or are identified after labour has started, changes to the plan of care, which consider the risks are needed. The woman and her baby may need to be transferred to a place of birth with the necessary facilities. As some women present in labour without antenatal care, their labour and birth needs to be managed without baseline information and birth plan normally established during the antenatal period.

Variation in care can arise in any stage of labour, and may depend on the severity of the condition or complication and the anticipated level of associated risk. Variation may also result from differences in birth unit protocols, opinions and preferences of senior medical staff and local availability of resources, or because of women’s preferences.

The 2019 [NHS Long Term Plan](https://www.england.nhs.uk/long-term-plan/) has identified priorities relevant to the intrapartum care of women:

* greater continuity of carer: by 2021 it is planned that most women will have continuity of care during antenatal, intrapartum and postnatal care
* greater access to digital maternity care records; by 2023/24 it is anticipated women will be able to access their notes and information through devices such as a smart phone.

The 2018 MBRRACE-UK [annual report of the Confidential Enquiry into Maternal Deaths and Morbidity](https://www.npeu.ox.ac.uk/mbrrace-uk/reports) highlights that the overall maternal death rates have not changed since 2010-12, commenting that it will be challenging to achieve the goal of reducing maternity-related deaths by 50% by 2025, as set out in the [NHS Long Term Plan.](https://www.england.nhs.uk/long-term-plan/)

* 1. Resource impact

We do not expect this quality standard to have a significant impact on resources. When the [Intrapartum care for women with existing medical conditions or obstetric complications and their babies](https://www.nice.org.uk/guidance/ng121/resources/resource-impact-statement-6717122605) guideline was developed, a resource impact statement was produced which noted that:

* the resource impact of implementing any single guideline recommendation will be less than £1 million per year in England (or £1,800 per 100,000 population) and

the resource impact of implementing the whole guideline in England will be less than £5 million per year (or £9,100 per 100,000 population).

This is because improvements in care will be achieved by using existing resources differently. No initial investment is required.

This is because we do not think practice will change substantially as a result of this guideline, and where clinical practice does change as a result of this guideline, there will not be a significant change in resource use. Any additional costs are likely to be offset by savings and benefits.

Maternity services are commissioned by clinical commissioning groups. Providers are NHS hospital trusts.

1. Summary of suggestions
	1. Responses

In total 16 registered stakeholders responded to the 6-week engagement exercise 25/03/19–02/05/19. 12 of these registered stakeholders provided areas for quality improvement and 4 advised they had no comment to make. We also received comments from 6 specialist committee members. The responses have been merged and summarised in table 1 for further consideration by the Committee.

Full details of all the suggestions provided are given in appendix 2 for information.

### Table 1 Summary of suggested quality improvement areas

| Suggested area for improvement | Stakeholders  |
| --- | --- |
| Information and care planning * Information provision
* Multidisciplinary care-planning
 | BTA, Liverpool University, RCM, RCP, RCOG, SCM2, SCM4, SCM5, SCM6Birthrights, BMFMS, RCM, RCP, RCOG, SCM3, SCM5 |
| Existing medical conditions * Heart disease
* Bleeding disorders
* Arteriovenous malformation of the brain
* Kidney disease
* Obesity
 | RCP, SCM1, SCM5, SCM6SCM3, RCPath/BSHSCM1, SCM3, SCM6RCP, SCM1ResusCUK, RCOG, SCM2, SCM6 |
| Obstetric complications - 1* Breech presentation
* Previous caesarean
* Fetal monitoring (cardiotocography)
 | SCM4SCM4SCM4 |
| Obstetric complications - 2* Sepsis
* Abnormal placentation
* Obstetric injuries
* Thrombosis and embolism
* Cardiopulmonary resuscitation
 | RCOG, SCM3, SCM4, SCM6ResusCUK, SCM5SCM5SCM5ResusCUK |
| Additional areas* Audit and review cycles for sepsis
* Caesarean section
* Contraception
* Neurological conditions
* People's experience
* Primary evidence
* Risk factors
* Social and emotional aspects of care
* Tariff for intrapartum care
* Training and development
 | RCMSCM2FSRHGSGUK, RCPBirthrights, Liverpool University FPASHRCMNCTResusCUK, SCM6 |
| Abbreviations:ASH, Action on Smoking and HealthBMFMS, British Maternal and Fetal Medicine SocietyBTA, Birth Trauma Association FP, Ferring Pharmaceuticals FSRH, Faculty of Sexual and Reproductive Healthcare, Clinical effectiveness UnitGSGUK, Gorlin Syndrome Group UKNCT, National Childbirth TrustRCGP, Royal College of General Practitioners (no response) RCM, Royal College of MidwivesRCN, Royal College of Nursing RCOG, Royal College of Obstetricians and Gynaecologists RCP, Royal College of Physicians RCPCH, Royal College of Paediatrics and Child Health (includes members of the National Neonatal Programme (NNAP) board) RCPath/BSH, Royal College of Pathologists and British Society for Haematology ResusCUK, Resuscitation Council, UKSANDS, Stillbirth and Neonatal Death Society SCM, Specialist Committee Member |

* 1. Identification of current practice evidence

Bibliographic databases were searched to identify examples of current practice in UK health and social care settings; 2,974 papers were identified for Intrapartum care: women with existing medical conditions or obstetric complications and their babies. In addition, 45 papers were suggested by stakeholders at topic engagement and 61 papers internally at project scoping.

Of these papers, 15 have been included in this report and are included in the current practice sections where relevant. Appendix 1 outlines the search process.

1. Suggested improvement areas
	1. Information and care planning
		1. Summary of suggestions

### Information provision

Stakeholders emphasised the importance of providing consistent, high-quality, and unbiased information about their choice of type and place of birth to facilitate shared decision-making.

Explaining the risks and benefits of vaginal birth or planned caesarean section to women with previous caesarean section was a specific suggestion. Another was giving women with existing conditions accurate information about the impact of medication on breastfeeding.

Women without antenatal care were highlighted as an important group to focus on.

### Multidisciplinary (MDT) care planning

Stakeholders highlighted that the extended MDT, the woman, and her family should be involved in intrapartum care planning to develop and document a personalised intrapartum care plan.

Stakeholders suggested that specialist input (highlighting specialists with expertise in relevant medical conditions, obstetric anaesthetists, and healthcare practitioners from relevant surgical specialties) is important.

Stakeholders highlighted the need for clear pathways between secondary tertiary care. Stakeholders also highlighted arranging follow-up appointments before discharge from hospital is important for women with existing conditions.

Structured MDT meetings were identified as important for care planning.

Stakeholders also felt that communication within MDT, and between the MDT and the woman, could be improved by nominating a designated coordinator of care to whom the woman has ready access.

* + 1. Selected recommendations from development source

Table 2 below highlights recommendations that have been provisionally selected from the development source/sources that may support potential statement development. These are presented in full after table 2 to help inform the committee’s discussion.

### Table 2 Specific areas for quality improvement

|  |  |
| --- | --- |
| Suggested quality improvement area | Suggested source guidance recommendations |
| Information provision  | NICE NG121 Recommendations 1.1.2 (extract), 1.1.3 and 1.1.4NICE NG121 Recommendations 1.10.3, 1.10.4 and 1.10.6 |
| Multidisciplinary care planning  | NICE NG121 Recommendations 1.2.1 and 1.2.2  |

### Information provision

NICE NG121

Recommendation 1.1.2 (extract)

Offer pregnant women with medical conditions and their birth companion(s) information about intrapartum care. This should include:

how their medical condition may affect their care

how labour and birth may affect their medical condition

how their medical condition and its management may affect the baby.

Information should be presented as recommended in the NICE guideline on [patient experience in adult NHS services](https://www.nice.org.uk/guidance/cg138).

Recommendation 1.1.3

Offer information about intrapartum care in consultations before conception, if possible, and as early as possible during pregnancy. Allow extra time to discuss with the woman how her medical condition may affect her care.

Recommendation 1.1.4

Information about intrapartum care should be offered to women with medical conditions by a member of the multidisciplinary team (see recommendation 1.2.2).

Recommendation 1.10.3

Provide information about care in labour and mode of birth, which:

* is personalised to the woman's circumstances and needs
* uses local and national figures where possible

expresses benefits and risks in a way that the woman can understand

is presented as recommended in the NICE guideline on [patient experience in adult NHS services](https://www.nice.org.uk/guidance/cg138).

Recommendation 1.10.4

Recognise that individual views about risk vary, and support a woman's decision making and choices.

Recommendation 1.10.6

Involve the woman in planning her care by asking about her preferences and expectations for labour and birth. Take account of previous discussions, planning, decisions and choices, and keep the woman and her birth companion(s) fully informed.

### Multidisciplinary care planning

Recommendation 1.2.1

A multidisciplinary team led by a named healthcare professional should involve a pregnant woman with a medical condition in preparing an individualised plan for intrapartum care. The plan should be:

* formulated by following the principles of shared decision making outlined in the NICE guideline on patient experience in adult NHS services
* reviewed with the woman and her birth companion(s) as early as possible throughout pregnancy and on admission for birth

shared with the woman's GP and teams providing her antenatal and intrapartum care.

Recommendation 1.2.2.

For pregnant women with a medical condition, the multidisciplinary team may include, as appropriate:

* a midwife
* an obstetrician
* an obstetric anaesthetist
* an obstetric physician or clinician with expertise in caring for pregnant women with the medical condition
* a clinician with expertise in the medical condition
* a specialty surgeon
* a critical care specialist
* a neonatologist
* the woman's GP

allied health professionals.

* + 1. Current UK practice

### Information provision

The 2017 National Federation of Women's Institutes and National Childbirth Trust [Support overdue report](https://www.thewi.org.uk/campaigns/current-campaigns-and-initiatives/more-midwives/support-overdue-2017) provides insights into aspects of the experiences of around 2,500 women who gave birth in England or Wales in 2014-15 and the first half of 2016. Key findings include:

* more than 40% of women did not understand ‘risk’ associated with their own circumstances
* around 60% said they understood their risk and were able to discuss them openly
* women reported that a poor ‘institutional understanding’ of risk hindered their decision-making about their own care.

The 2017 MBRRACE-UK [Perinatal Mortality and Morbidity Confidential Enquiry report](https://www.npeu.ox.ac.uk/mbrrace-uk/reports/perinatal-mortality-and-morbidity-confidential-enquiries) highlighted that more than 75% of 40 term intrapartum stillbirths and 38 term intrapartum-related neonatal deaths had major or significant quality of care issues during labour:

* a lack of communication was identified in a quarter of cases:
* in 4 cases lack of an interpreter affected communication with parents (in 1 case it affected gaining fully informed consent)
* in 3 cases poor communication between the health professional and the parents affected decision-making and possible demise of the baby.

No published studies on current practice were highlighted for providing information about medications and breastfeeding or providing information to women without antenatal care. These suggested areas for quality improvement are based on stakeholder’s knowledge and experience.

The 2018 MBRRACE-UK [annual report of the Confidential Enquiry into Maternal Deaths and Morbidity](https://www.npeu.ox.ac.uk/mbrrace-uk/reports) highlights that 12% of women who died between 2014-16 did not receive 'any' antenatal care: 12% were associated with indirect causes of maternal death and direct causes. This finding is consistent with previous reports.

### Multidisciplinary care planning

2017 MBRRACE-UK [Perinatal Mortality and Morbidity Confidential Enquiry report](https://www.npeu.ox.ac.uk/mbrrace-uk/reports/perinatal-mortality-and-morbidity-confidential-enquiries) highlighted:

* of 34 women who were multiparous:
* 9 women had a vaginal birth after caesarean section (VBAC) and 6 of these did not have a care plan for labour
* none of the 5 women who had an elective repeat caesarean section (ERCS) had a plan to support early labour.

The 2017 NMPA [Organisational survey report](http://www.maternityaudit.org.uk/pages/reports) states that:

* 45% of all obstetric units provided a multidisciplinary clinic for medical conditions excluding diabetes; 97% of diabetes clinics were attended by obstetricians and physicians
* 85% of trusts and boards are involved in a maternity network
* nearly all trusts and boards use an electronic maternity information system to record care, but half reported it was not fully accessible to community midwives, and only a tenth report that women have access to their electronic maternity record.

only 15% of trusts and boards use care models for which they report that women see the same midwife for most care contacts in the antenatal, intrapartum and postnatal period, including care in labour from a known midwife; however none use these care models for all women.

* 1. Existing medical conditions
		1. Summary of suggestions

### Heart disease

Stakeholders suggested that pre-delivery planning and effective interdisciplinary management with appropriate specialist involvement of women with heart disease is important. Identification and referral for senior review of women going into heart failure was highlighted as a specific area.

Stakeholders felt that planning and managing of labour according to risk was important, to avoid overtreatment in women with mild heart disease. Managing analgesia in women with mechanical heart valves on anticoagulation therapy during the third stage of labour was a specific suggestion.

### Bleeding disorders

Stakeholders suggested that review by an obstetric anaesthetist at 36 weeks to plan anaesthesia is an important area. It was suggested this was not carried out in all obstetric units.

Planning and documenting preventative measures in women with suspected or known immune thrombocytopenic purpura (ITP) to reduce the risk of neonatal haemorrhage was also highlighted.

### Arteriovenous malformation of the brain

Stakeholders suggested that risk stratification should be carried out by a joint obstetric-neurology review to enable the choice of vaginal birth. It was suggested that this was not carried out in most obstetric units.

### Kidney disease

Stakeholders suggested that monitoring fluids supports avoiding long-term adverse outcomes.

### Obesity

Stakeholders highlighted that earlier recognition of obese women who are at higher risk of deteriorating, to reduce or prevent complications and achieve better outcomes. Stakeholders suggested women with a BMI over 30 kg/m2 should have a risk assessment and a management plan in their third trimester, as they are at increased risk of developing complications. Ensuring referral to a specialist service for women with a BMI of over 50 kg/m2 was a further suggestion. Stakeholders commented this service needs to be supported by staff with suitable expertise, with specialist equipment available.

* + 1. Selected recommendations from development source

Table 3 below highlights recommendations that have been provisionally selected from the development source/sources that may support potential statement development. These are presented in full after table 3 to help inform the committee’s discussion.

### Table 3 Specific areas for quality improvement

|  |  |
| --- | --- |
| Suggested quality improvement area  | Selected source guidance recommendations |
| Heart disease  | NICE NG121 Recommendations 1.3.1, 1.3.6, 1.3.14, 1.3.41 |
| Bleeding disorders  | NICE NG121 Recommendations 1.6.1, 1.6.5, 1.6.6 |
| Arteriovenous malformation of the brain  | NICE NG121 Recommendations 1.7.1, 1.7.3 |
| Kidney disease  | NICE NG121 Recommendations 1.8.5  |
| Obesity  | NICE NG121 Recommendations 1.9.3, 1.9.8  |

### Heart disease

NICE NG121

Recommendation 1.3.1

Risk assessment for women with heart disease should follow the principles of multidisciplinary team working (outlined in recommendation 1.2.1). Include a cardiologist with expertise in managing heart disease in pregnant women in the multidisciplinary team discussions.

Recommendation 1.3.6

When pregnancy is confirmed:

* involve women with mechanical heart valves in multidisciplinary discussion of plans for anticoagulation during the intrapartum period (see recommendations 1.2.1 and 1.2.2)
* consider including a haematologist in the multidisciplinary discussion

explain to women that they will need individualised anticoagulation depending on their current treatment.

Recommendation 1.3.14

Develop an individualised birth plan with the woman with heart disease covering all 3 stages of labour following multidisciplinary discussion (outlined in recommendation 1.2.1). Consider including a cardiologist with expertise in managing heart disease in pregnant women in the multidisciplinary team discussions. Consider including a haematologist in the multidisciplinary discussion.

Recommendation 1.3.41

During pregnancy, prepare an individualised plan for managing the third stage of labour for women with heart disease, involving a multidisciplinary team and the woman (outlined in recommendation 1.2.1). Consider including a cardiologist with expertise in managing heart disease in pregnant women.

### Bleeding disorders

Recommendation 1.6.1

Discuss the balance of benefits and risks of regional analgesia and anaesthesia with women with bleeding disorders.

Recommendation 1.6.5

For women with known or suspected immune thrombocytopenic purpura, take the following precautions to reduce the risk of bleeding for the baby:

* inform the neonatal team of the imminent birth of a baby at risk
* do not carry out fetal blood sampling
* use fetal scalp electrodes with caution
* do not use ventouse
* use mid-cavity or rotational forceps with caution
* bear in mind that a caesarean section may not protect the baby from bleeding
* measure the platelet count in the umbilical cord blood at birth.

Recommendation 1.6.6

Modify the birth plan based on maternal platelet count, using table 2 as a guide, for women with:

* gestational thrombocytopenia (without pre-eclampsia and HELLP syndrome, and otherwise well)
* an uncertain diagnosis of immune thrombocytopenic purpura.

### Arteriovenous malformation of the brain

Recommendation 1.7.1

Involve the multidisciplinary team in risk assessment for women with a cerebrovascular malformation or a history of intracranial bleeding. Include the woman in care planning and a clinician with expertise in managing neurovascular conditions in pregnant women.

Recommendation 1.7.3

For women with a cerebrovascular malformation at low risk of intracranial bleeding, base decisions on the mode of birth on the woman's preference and obstetric indications.

### Kidney disease

Recommendation 1.8.5

For women with chronic kidney disease with or without pre-eclampsia, monitor fluid balance in the intrapartum period. Measure heart rate hourly and the following at least every 4 hours:

* blood pressure
* respiratory rate with chest auscultation
* fluid output and fluid intake

oxygen saturation.

After each assessment, develop an individualised plan for managing fluid balance, which may involve additional monitoring techniques, with the aim of maintaining normal fluid volume to reduce the risks of acute kidney injury and pulmonary oedema.

### Obesity

NICE NG121

Recommendation 1.9.3

For women with a BMI over 30 kg/m2 at the booking appointment, carry out a risk assessment in the third trimester. When developing the birth plan with the woman, take into account:

* the woman's preference
* the woman's mobility
* comorbidities

the woman's current or most recent weight.

Recommendation 1.9.8

For women with a BMI over 50 kg/m2 at the booking appointment, offer referral to an obstetric unit with suitable equipment and expertise as early as possible in pregnancy, if this is not available in their current unit.

* + 1. Current UK practice

### Heart disease

The 2017 NMPA [Clinical Report - revised version](http://www.maternityaudit.org.uk/pages/reports) reported that for women with pre-existing heart disease, less than a fifth of sites with obstetric units reported a joint obstetric-cardiac clinic with cardiologists and obstetricians working together. These services were concentrated in London. Large areas of the country are reported not to have them.

The 2016 MBRRACE-UK [annual report of the Confidential Enquiry into Maternal Deaths and Morbidity](https://www.npeu.ox.ac.uk/mbrrace-uk/reports/confidential-enquiry-into-maternal-deaths), which focused on maternal deaths from heart disease, highlighted the frequent lack of colocation of obstetric and cardiac services, which limited joint working and care. The report also highlighted that women who died due to valvular heart disease received a different level of care to those who survived; in around two-thirds of cases improvements were identified which may have made a difference to the outcome. The report also emphasised the importance of early involvement from the obstetric and cardiology multidisciplinary team, whenever a pregnant or postpartum woman presents, particularly if she presents in an emergency department.

### Bleeding disorders

The 2017 MBRRACE-UK [annual report of the Confidential Enquiry into Maternal Deaths and Morbidity](https://www.npeu.ox.ac.uk/mbrrace-uk/reports/confidential-enquiry-into-maternal-deaths) provides limited information in terms of nationwide current practices. Within the chapter on lessons for women with haematological disorders, recognising the severity of the illness in women with haematological cases was not recognised, and the importance of multidisciplinary expert care.

The 2016 UK Obstetric Surveillance System (UKOSS) [annual report](https://www.npeu.ox.ac.uk/ukoss/annual-reports) states that of the 109 women with confirmed ITP in pregnancy, 1 woman had a postpartum haemorrhage resulting in hysterectomy. There were no cases of neonatal death or intracranial haemorrhage irrespective of mode of delivery (the caesarean section rate was around 40%).

### Arteriovenous malformation of the brain

No published studies on current practice were highlighted for this suggested area for quality improvement; this area is based on stakeholder’s knowledge and experience.

### Kidney disease

No published studies on current practice were highlighted for this suggested area for quality improvement; this area is based on stakeholder’s knowledge and experience.

### Obesity

The 2017 MBRRACE-UK annual report of the [Confidential Enquiry into Maternal Deaths and Morbidity](https://www.npeu.ox.ac.uk/mbrrace-uk/reports/confidential-enquiry-into-maternal-deaths) reported that 42% of women reviewed with medical and general surgical disorders were identified as obese. Reviewers noted several instances where care of morbidly obese women was delayed due to a lack of equipment, or a reluctance to operate (due to perceiving likely challenges). The report noted that lack of ‘basic’ equipment for women with extreme obesity (50 kg/m2) had been noted in the 2010 UKOSS [annual report](https://www.npeu.ox.ac.uk/ukoss/annual-reports).

* + 1. Resource impact

During development of the guidance there were some concerns relating to intrapartum care for women with very high BMI and the potential costs of special equipment such as beds with very high load capacity and extra large blood pressure cuffs. The general consensus was that trusts have had to adapt to a population with increasing obesity and many hospitals will already have high weight capacity beds, especially the specialist centres where it was felt that very obese women should be referred. Extra large blood pressure cuffs were something that the committee felt most places did not have, but the unit cost of these was low enough that it would be unlikely to cost more than £1 million to meet this demand.

* 1. Obstetric complications - 1
		1. Summary of suggestions

Breech presentation

Stakeholders suggested that not all women with breech presentation are being offered a choice of birth mode, and this may be driven by differing local policies and preferences for care, rather than the woman's choice.

Previous caesarean section

Stakeholders highlighted that women with previous caesarean section should be made aware that there is no strong evidence to recommend a caesarean section over vaginal birth. It was suggested that requests for a birth pools need to be made available to women who request them, and that specific procedures (insertion of a cannula or amniotomy) may be overused.

Fetal monitoring (cardiotocography)

Stakeholders suggested that cardiotocography is overused in women with breech presentation, or babies that are small or large for gestational age when it is not indicated. Stakeholders felt this reduced mobility and experience of labour, without improving outcomes.

* + 1. Selected recommendations from development source

Table 4 below highlights recommendations that have been provisionally selected from the development source/sources that may support potential statement development. These are presented in full after table 4 to help inform the committee’s discussion.

### Table 4 Specific areas for quality improvement

|  |  |
| --- | --- |
| Suggested quality improvement area  | Selected source guidance recommendations |
| Breech presentation  | NICE NG121 Recommendation 1.15.1 |
| Previous caesarean section  | NICE NG121 Recommendations 1.19.1, 1.19.2, 1.19.3, 1.19.4 |
| Fetal monitoring (cardiotocography)  | NICE NG121 Recommendations 1.16.3, 1.20.1 |

### Breech presentation

Recommendation 1.15.1

Discuss with women in labour with breech presentation the possible benefits and risks of vaginal birth and caesarean section, including:

* an increase in the chance of serious medical problems for the woman with caesarean section
* an increase in the chance of serious medical problems for the baby with vaginal birth

what it might mean for them and the baby if such problems did occur.

### Previous caesarean section

Recommendation 1.19.1

Do not routinely insert an intravenous cannula for women in labour who have had a previous caesarean section.

Recommendation 1.19.2

Explain to women in labour who have had a previous caesarean section that:

* a vaginal birth is associated with a small chance of uterine rupture
* an emergency caesarean section may mean a higher chance of:
* heavy bleeding needing a blood transfusion
* infection, for example, intrauterine infection
* a longer hospital stay
* complications in a future pregnancy, for example, placenta praevia and placenta accreta (see the NICE guideline on [caesarean section](https://www.nice.org.uk/guidance/cg132)).

Recommendation 1.19.3

Explain to women in labour who have had a previous caesarean section that there is little evidence of a difference in outcomes for the baby between a vaginal birth or another caesarean section.

Recommendation 1.19.4

Explain to women who have had a previous caesarean section that they are likely to have a lower chance of complications in labour if they have also had a previous vaginal birth.

### Fetal monitoring (cardiotocogaphy)

Recommendation 1.16.3

Offer continuous cardiotocography to women whose babies are suspected to be small for gestational age after a full discussion of the benefits and risks (see recommendations 1.16.1 and 1.16.2). Respect the woman's decision if she declines continuous cardiotocography.

Recommendation 1.20.1

Offer continuous cardiotocography to women in labour after 42 weeks of pregnancy after a full discussion of the benefits and risks to the woman and her baby. Respect the woman's decision if she declines continuous cardiotocography.

* + 1. Current UK practice

### Breech presentation

A small study reviewed 18 cases from 2016 of vaginal breech births at a hospital in north west England. Of cases diagnosed antenatally, 85% had documented discussions regarding mode of delivery in the notes, while only 50% of the intrapartum discussions were documented.[[2]](#footnote-2)

### Previous caesarean section

Safely delivered, a [national survey of women's experiences of maternity care](https://www.npeu.ox.ac.uk/reports/807-safely-delivered) of around 5,000 women who gave birth in England over a 2-week period during 2014, reported that around half felt that they were 'definitely involved' in the decision-making regarding their caesarean birth, particularly where the procedure was planned. Where the caesarean followed unforeseen problems during labour, women were less likely to say they were involved in decision-making, although around 70% felt that they were to some extent.

No published studies on current practice were highlighted for routine use of a cannula or amniotomy for quality improvement; this area is based on stakeholder’s knowledge and experience.

### Fetal monitoring (cardiotocography)

A 2016-17 survey of 187 NHS consultants found for small-for-gestational age (SGA) fetuses most units (around 70%) did not perform cardiotocography (CTG), unless there were concerns such as decreased fetal movements.[[3]](#footnote-3)

* 1. Obstetric complications - 2
		1. Summary of suggestions

### Sepsis

Stakeholders highlighted the importance of early identification and management of sepsis. Starting the sepsis 6 bundle within 1 hour and expedited delivery were specific suggestions to reduce maternal and fetal mortality and morbidity. Stakeholders also suggested that escalation to a specialist is important, with a specific suggestion that signs of organ failure prompt escalation to a specialist intensivist.

Stakeholders commented that avoiding overtreatment through prompt recognition would enable women to receive more personalised care. Reducing use of antibiotics, enabling use of a birth pool and reducing the risk of infection by giving antibiotics prior to regional analgesia were identified as important in achieving this.

### Abnormal placentation

Prompt recognition and management of unexpected or unrecognised morbidly adherent placenta that occurs during delivery was identified as important in avoiding major obstetric haemorrhage.

### Obstetric injuries

Stakeholders suggested that improving assessment and management of third and fourth perineal tear following spontaneous vaginal delivery or instrumental delivery to reduce the risk of short and long-term maternal morbidity.

### Thrombosis and embolism

Stakeholders suggested that ongoing and consistent risk assessment for VTE during pregnancy, and up to 6 weeks following childbirth.

### Cardiopulmonary resuscitation

Stakeholders suggested that uterine displacement to prevent compression of the inferior vena cava to increase the chance of survival after cardiac arrest is a quality improvement area.

* + 1. Selected recommendations from development source

Table 5 below highlights recommendations that have been provisionally selected from the development source/sources that may support potential statement development. These are presented in full after table 5 to help inform the committee’s discussion.

### Table 5 Specific areas for quality improvement

|  |  |
| --- | --- |
| Suggested quality improvement area  | Selected source guidance recommendations |
| Sepsis  | NICE NG121 Recommendations 1.11.6, 1.12.3, 1.13.6, 1.13.22, 1.13.23, 1.13.24, 1.13.25 |
| Abnormal placentation  | NICE NG121 Recommendations 1.11.7, 1.14.5, 1.14.6 |
| Obstetric injuries  | NICE NG121 Recommendations 1.19.1, 1.19.2, 1.19.3, 1.19.4RCOG GTG 29 (NICE-accredited) recommendation in 6.1; first 2 recommendations in section 7.1  |
| Thrombosis and embolism | RCOG GTG 37a (NICE-accredited), recommendations 2, 3 in section 4.1; recommendation 1 in section 7.5  |
| Cardiopulmonary resuscitation  | No recommendations presented as none in NICE-accredited sources  |

### Sepsis

NICE NG121

Recommendation 1.11.6

For women in labour with sepsis or suspected sepsis, carry out maternal observations as shown in table 4.

Recommendation 1.12.3

For women in labour with a fever, a temperature of 38°C or above on a single reading, or 37.5°C or above on 2 consecutive readings (1 hour apart), follow the recommendations [1.13.17 to 1.13.21](https://www.nice.org.uk/guidance/ng121/chapter/recommendations#fetal-monitoring-for-women-in-labour-with-sepsis-or-suspected-sepsis) on fetal blood sampling for women with suspected sepsis.

Recommendation 1.13.6

Include a senior intensivist (critical care specialist), if a woman in labour with sepsis has any of the following signs of organ dysfunction:

* altered consciousness
* hypotension (systolic blood pressure less than 90 mmHg)
* reduced urine output (less than 0.5 ml/kg per hour)
* need for 40% oxygen to maintain oxygen saturation above 92%

tympanic temperature of less than 36°C.

Recommendation 1.13.22

For women in labour with sepsis or suspected sepsis:

* take into account the whole clinical picture when thinking about antimicrobial treatment.
* Document the rationale for any decision to start antimicrobial treatment and the choice of antimicrobial.

Take specimens for microbiological culture, including blood cultures, before starting antimicrobials in line with the NICE guideline on [sepsis](https://www.nice.org.uk/guidance/ng51).

Recommendation 1.13.23

For women in labour with sepsis or suspected sepsis and a clear source of infection, use existing local antimicrobial guidance when offering an antimicrobial. [This recommendation is adapted from the NICE guideline on [sepsis](https://www.nice.org.uk/guidance/ng51).]

Recommendation 1.13.24

For women in labour with sepsis or suspected sepsis and an unclear source of infection, offer a broad-spectrum intravenous antimicrobial from the agreed local formulary and in line with local (where available) or national guidelines. [This recommendation is adapted from the NICE guideline on [sepsis](https://www.nice.org.uk/guidance/ng51).]

Recommendation 1.13.25

Explain to the woman in labour with sepsis or suspected sepsis and her birth companion(s):

* there is no evidence to support the use of one broad-spectrum antimicrobial over another

the choice of antimicrobial will be guided by local antimicrobial guidelines.

### Abnormal placentation

Recommendation 1.11.7

For women with intrapartum haemorrhage, continuously monitor vaginal blood loss and carry out maternal observations as shown in table 4.

Recommendation 1.14.5

If a woman in labour has any vaginal blood loss other than a 'show':

* Take a history of the bleeding, asking about:
* any associated symptoms, including pain
* any specific concerns the woman may have
* any previous uterine surgery.
* Check previous scans for placental position.
* Assess the volume of blood loss and characteristics of the blood, such as colour, and presence of clots or amniotic fluid.
* Carry out a physical examination, including:
* vital signs
* abdominal palpation
* speculum examination
* vaginal examination if placenta praevia has been excluded
* fetal heart auscultation.
* Start continuous cardiotocography

Take a blood sample to determine full blood count and blood group.

Recommendation 1.14.6

Think about the possible causes of bleeding, for example:

* placental abruption
* placenta praevia
* uterine rupture
* vasa praevia.

Recognise that in many cases, no cause will be identifiable.

### Obstetric injuries

RCOG GTG 29

Section 6.1

Recommendation

All women having a vaginal delivery are at risk of sustaining OASIS or isolated rectal buttonhole tears. They should therefore be examined systematically, including a digital rectal examination, to assess the severity of damage, particularly prior to suturing.

Section 7.1

Recommendation 1

Repair of third- and fourth-degree tears should be conducted by an appropriately trained clinician or by a trainee under supervision.

Recommendation 2

Repair should take place in an operating theatre, under regional or general anaesthesia, with good lighting and with appropriate instruments. If there is excessive bleeding, a vaginal pack should be inserted and the woman should be taken to the theatre as soon as possible. Repair of OASIS in the delivery room may be performed in certain circumstances after discussion with a senior obstetrician.

### Thrombosis and embolism

RCOG GTG 37a

Section 4.1

Recommendation 2

Risk assessment should be repeated if the woman is admitted to hospital for any reason or develops other intercurrent problems.

Recommendation 3

Risk assessment should be repeated again intrapartum or immediately postpartum.

Section 7.5

Recommendation 1

Risk assessment should be performed in each woman at least once following delivery and before discharge and arrangements made for LMWH prescription and administration (usually by the woman herself) in the community where necessary.

### Cardiopulmonary resuscitation technique for pregnancy

No recommendations presented.

* + 1. Current UK practice

### Sepsis

The 2017 MBRRACE-UK [annual report of the Confidential Enquiry into Maternal Deaths and Morbidity](https://www.npeu.ox.ac.uk/mbrrace-uk/reports/confidential-enquiry-into-maternal-deaths) reported that the number of deaths from indirect causes of maternal sepsis had decreased since 2010-12, but highlighted the following areas for improvement:

* delays in the recognition of sepsis
* full completion of the sepsis bundle
* delay in providing antibiotics promptly and measurement of lactate
* lack of complete observations

involvement of senior clinicians when needed, including a lack of communication between specialities about the need for senior and specialist involvement.

The report noted that these concerns echoed those identified in the 2014 report.

The number of deaths due to sepsis reported in the 2018 MBRRACE-UK [annual report of the Confidential Enquiry into Maternal Deaths and Morbidity](https://www.npeu.ox.ac.uk/mbrrace-uk/reports) (2014-16) were 0.48 per 100,000 maternities (compared to 0.43 for 2013-15) for direct causes, and 0.09 and 0.26 (compared to 0.04 and 0.13) for indirect causes.

### Abnormal placentation

The 2018 MBRRACE-UK [annual report of the Confidential Enquiry into Maternal Deaths and Morbidity](https://www.npeu.ox.ac.uk/mbrrace-uk/reports) reviewed care of women with morbidly adherent placentae, which includes placenta accreta, increta or percreta. Assessors noted that:

* despite effective planning for emergency delivery for women at high risk, the plans were not followed in the acute situation

anaesthetists were ‘often’ not involved in plans; anaesthetists should be involved as part of multidisciplinary planning.

### Obstetric injuries

The NMPA [Clinical report 2017 - revised version](http://www.maternityaudit.org.uk/pages/reports) analysed data from around 700,000 births (2015/16) in England, Scotland and Wales and reported that 3.5% of women with singleton pregnancies sustained these injuries. The rate varied between trusts; following adjustment for case mix, it ranged from 0.6% to 6.5%.

### Thrombosis and embolism

The 2018 MBRRACE-UK [annual report of the Confidential Enquiry into Maternal Deaths and Morbidity](https://www.npeu.ox.ac.uk/mbrrace-uk/reports) reviewed cases of women who died from thrombosis and thromboembolism in the UK and Ireland 2014-16. Key findings include:

* improvements to care which may have made a difference to the outcome were noted in nearly 70% of the 37 cases

the ‘overwhelming’ issue was inconsistency of risk assessment, with a lack of reassessment at points when women’s risk changed during pregnancy; carrying out a risk assessment, including at ‘intrapartum and immediately postpartum’ stages was commented on.

### Cardiopulmonary resuscitation

The 2016 MBRRACE-UK [annual report of the Confidential Enquiry into Maternal Deaths and Morbidity](https://www.npeu.ox.ac.uk/mbrrace-uk/reports/confidential-enquiry-into-maternal-deaths), which focused on maternal deaths from heart disease, found that almost 1 in 5 women died in an ambulance or emergency department. The report highlighted the importance of staff being aware of the modification of resuscitation techniques including uterine displacement.

* 1. Additional areas

### Summary of suggestions

The improvement areas below were suggested as part of the stakeholder engagement exercise. However, they were felt to be either unsuitable for development as quality statements, outside the remit of this particular quality standard referral or need further discussion by the committee to establish potential for statement development.

There will be an opportunity for the committee to discuss these areas at the end of the session on 19 June 2019.

### Audit and review cycles for sepsis

A stakeholder suggested that local audit cycles should be introduced, to check local practice and guidelines. This suggestion has not been progressed. Participation in audit is a method by which quality improvement can be evidenced. Quality statements focus on actions that demonstrate high quality care or support, not the methods by which evidence is collated. However, audits and suggested methods of data collection may be referred to in the data sources for quality measures.

### Caesarean section

A stakeholder suggested that women should discuss the risks and benefits of caesarean section prior to birth. Another stakeholder suggested that continuous fetal monitoring (cardiotocography) should not be overused in this population. These suggestions are covered by NICE's [guidance on caesarean section](https://www.nice.org.uk/guidance/cg132).

### Contraception

A stakeholder suggested that discussion about inserting intrauterine contraception during delivery forms part of antenatal care. Antenatal care that does not relate directly to intrapartum care is beyond the scope of this quality standard.

### Neurological conditions

A stakeholder suggested that multidisciplinary planning for delivering babies of women with epilepsy is important. This suggestion could not be progressed as there are no supporting recommendations for this population in the source guidance.

Another stakeholder suggested that screening and information about Gorlin syndrome should be incorporated into antenatal care. This suggestion has not been progressed because antenatal care is beyond the scope of this quality standard.

### People's experience

Areas relating to the experience of pregnant women were suggested as areas of quality improvement. Specifically, these concerned continuity of care and tailoring services to meet the needs of women with disabilities, as well as improving compliance with legislation requiring 'reasonable adjustment', such as language, communication and facilities. These suggestions have not been progressed as they are included in [patient experience in adult NHS services](https://www.nice.org.uk/guidance/qs15) (QS15).

### Primary evidence

A stakeholder queried the evidence for the optimal agent for inducing labour in women with asthma and the most appropriate management regimen for women with postpartum haemorrhage during a caesarean section.

It is beyond the scope of a quality standard to examine primary evidence.

### Risk factors

A stakeholder suggested that smoking is a major risk factor for adverse birth outcomes for both women and their babies, and that it should be recognised as an area for improvement in the quality standard. Supporting people to stop smoking, including in pregnancy and after childbirth, is covered by the [Smoking: supporting people to stop](https://www.nice.org.uk/guidance/qs43) quality standard (QS43).

### Social and emotional aspects of care

A stakeholder suggested that women's social and emotional needs should be considered for their care in labour.

### Tariff for intrapartum care

A stakeholder suggested that including postnatal care in hospital in the tariff for intrapartum care may reduce variation in postnatal care.

### Training and development

The training of staff in support of improving resuscitation techniques was suggested as an area of quality improvement.

This suggestion has not been progressed. Quality statements focus on actions that demonstrate high quality care or support, not the training that enables the actions to take place. The committee should consider which parts of care and support would be improved by increased training. Training may be referred to in the audience descriptors.

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# Appendix 1: Review flowchart

Records identified through IS scoping search
61

Records identified through ViP searching
2,868

Records identified through topic engagement
45

Records excluded
2,873

Records screened
2,974

Citation searching or snowballing

3

Full-text papers excluded
89

Full-text papers assessed
104

Current practice examples included in the briefing paper
15

# Appendix 2: Suggestions from stakeholder engagement exercise – registered stakeholders

| ID | Stakeholder  | Suggested key area for quality improvement | Why is this important? | Why is this a key area for quality improvement? | Supporting information |
| --- | --- | --- | --- | --- | --- |
| 1 | RCGP  | No comments at this time |  |  |  |
| 2 | RCN | No comments at this time |  |  |  |
| 3 | RCPCH | No comments at this time |  |  |  |
| 4 | SANDS | No comments at this time |  |  |  |
| Information and care planning |
| 5 | Birth Trauma Association | Key area for quality improvement 1Improvement in communication | There is strong evidence that mental health outcomes can be very adversely affected by poor communication – both antenatally and during labour and the postpartum. These affect not only the woman but the child and wider family. | Good communication encompasses:High quality information to enable informed decision making. This means respecting women’s choices about mode and place of birth, pain relief, infant feeding, etc. For women with potential complications, this requires communicating CONSISTENT information in a supportive, non alarming way antenatally rather than intrapartum where possible. Moreover, information needs to be provided to the extent that the woman wants to be informed: most will , but some do not. There need to be multiple opportunities to clarify understanding or to reconsider decisions. It is vital staff have good listening skills and take expressions of concern by parents seriously and sympathetically.The central tenet of good communication is to ensure women ‘feel in control’..but the partner is not left out.Moreover, it can be addressed at minimal cost to the NHS; addressing poor communication would be amongst the most cost effective intervention to improve mental health outcomes in women facing potentially difficult obstetric experiencesThe central tenet of good communication is to ensure women ‘feel in control’..but the partner is not left out.Moreover, it can be addressed at minimal cost to the NHS; addressing poor communication would be amongst the most cost effective intervention to improve mental health outcomes in women facing potentially difficult obstetric experiences | There is a wealth of research evidence to support the importance of good communication in reducing adverse outcomes (Slade, Ayers, et alia).However, we have a FB user group with over 7,500 almost entirely UK users and the level of feedback and distress caused to women through poor communication dwarfs all other factors. |
| 6 | BMFMS | Key area for quality improvement 1:Provision of multidisciplinary care for high risk women both for planning and delivery of intrapartum care. | Delivery of MDT care and appropriate involvement of specialists frequently highlighted in maternal mortality reports | All secondary and tertiary care settings should have framework and key referral pathways for the management of high risk conditions with clear strategies and signposting for specialists who need to be involved in care (physicians, anaesthetists, other surgical specialities etc) | EMMBRACE reports |
| 7 | RCM | Key area for quality improvement 3Women with existing medical conditions or obstetric complications should have access to unbiased information on their choices of type or place of birth. | To improve positive birth experience women must receive easily understood information regarding their choices e.g. VBAC, MLU and opportunities to discuss their options individually | The Maternity Review Better Births QS Personalised care: Women to have access to unbiased information allowing them to make the right choices about their care, based on their individual circumstances. They should also have access to a digital tool with information about local services and that helps them design their own care plan.NWFI&NCT Support Overdue (2017): Women’s experiences of maternity services findings show that over 40% of women do not understand ‘risk’ as associated with their own circumstances and women report that a poor institutional understanding of ‘risk’ has hindered their decision-making about their own care. | No text submitted |
| 8 | RCM | Key area for quality improvement 2Communication within the multi-disciplinary team and woman should be facilitated by a designated co-ordinator of care. This person could be a consultant/specialist midwife or other clinician that woman has easy access to. | Poor communication associated with variable standards of information available for pregnant woman is commonly recognised as an indicator for poor outcomes and women’s anxiety and dissatisfaction | Confidential enquiries MBRRACE reportsNICE guidelines rationaleCQC survey ‘Women’s experiences in maternity care’ has shown some improvement re communication with women but that is for whole pregnant population.  | No text submitted  |
| 9 | RCM | Key area for quality improvement 1Planned management of intrapartum care during pregnancy involving an extended multidisciplinary team and the pregnant woman and her family. | There is good evidence and several NICE guidelines with recommendations on multi-disciplinary working and women’s involvement in planning an individualised plan of care. This will provide a continuity in the management care and facilitate a more positive birth experience for the woman. | RCM agrees with rationale that women with medical conditions have an increased risk of adverse outcomes, and a lack of multidisciplinary working has been repeatedly cited in the [Confidential Enquiries into Maternal Deaths and Morbidity](https://www.npeu.ox.ac.uk/mbrrace-uk/reports) as contributing to maternal deaths. Several reports have commented on absence of extended teams with expertise in the medical conditions working with the more traditional obstetric team when planning care.The Maternity Review Better Births QS recommendation on Safer Care: All professionals involved in women’s care should work together, providing integrated care where women can be referred to different services quickly and efficiently. Teams should assess their own performance and keep track of quality indicators to guarantee continuous learning and improvement. | No text submitted |
| 10 | RCOG | Key area for quality improvement 11.2 Generic one about multidisciplinary team involvement in the care of women with existing medical conditions (section 1.2 of the guideline) | A high percentage of maternal morbidity and mortality is due to medical causes | All aspects of pregnancy in women with medical conditions should be carefully addressed by easy access to obstetric physicians or multidisciplinary specialist clinics. This is not always the case in some antenatal settings. | No text submitted |
| 11 | RCOG | Key area for quality improvement 2Women with medical conditions are offered pre-pregnancy counselling to discuss the risks associated with pregnancy and to formulate a plan of care | Common topic/life-threatening importance to the woman and her baby | No text submitted | No text submitted |
| 12 | RCOG | Key area for quality improvement 31.10.2 Recognise that women in labour with obstetric complications or no antenatal care: may be more anxious than other women in labour and are likely to have a better experience of labour and birth if they receive information about the benefits and risks of options for their care and are fully involved in decision making. | This is an important aspect of care in order to help improve engagement and co-operation for these patients, address their fears and anxieties and also help with future engagement. | No text submitted | No text submitted |
| 13 | RCP | **Key area for quality improvement 1**Pre delivery planning for women with chronic medical conditions | There is evidence that planning and multidisciplinary involvement of obstetric anaesthetists and physicians smooths the pt pathway at delivery without unexpected deviations from plans because of fear or unfamiliarity | No text submitted | National diabetes in pregnancy audit UKOSS MECHANICAL heart valves study – published in MBRRACE |
| 14 | RCP | **Key area for quality improvement 5** | Ensure women with medical problems receive accurate and appropriate information regarding safety of drugs in breast feeding prior to delivery and again afterwards | Many women are told by uninformed clinicians/neonatologists that they cannot breast feed /should not if they are taking certain medicationThere are very few drugs that are contraindicated in breast feeding | No text submitted  |
| 15 | SCM2 | **Key area for quality improvement 2**Information for women with obstetric complications or no antenatal care | Supporting patient involvement in decision making is supported in NICE and RCOG guidance | There are increasing numbers of births to women with complexities: better births (2015) endorses personalisation and experience of care as key factors to consider. | NICE Intrapartum care for healthy women (2014)NICE Intrapartum care for women with existing medical conditions (2019) |
| 16 | SCM3 | **Key area for quality improvement 1**Pregnant women who have an existing medical condition requiring medical input have a documented individualised multidisciplinary intrapartum care plan | A clear intrapartum care plan can improve the management of women with medical disorders in the intrapartum period. The NICE guideline recommends a multidisciplinary individualised plan for intrapartum care | MBRRACE reports of maternal deaths find that multidisciplinary care does not occur for many women with medical disorders, leading to substandard care. This quality standard would help drive an improvement in the MDT review of pregnant women with medical disorders.The consultant obstetric staffing on labour wards will include generalists and others who may not be sufficiently experienced in the management of medical disorders in pregnancy. They will require assistance on the correct management in order to prevent e.g.:* unnecessary medical intervention eg caesarean sections or early delivery when not required
* inappropriate care e.g. unnecessary use of antibiotics or steroids
* inappropriate medication for the 3rd stage of labour
 | None knownNational Maternity Review recommends a personalised care plan for all women but this is not specifically related to intrapartum care |
| 17 | SCM3 | **Key area for quality improvement 4**The decision to perform an induction of labour or elective caesarean section on the basis of a medical condition in pregnancy should be made by a multidisciplinary team including an obstetrician and physician who both have expertise in the medical condition in collaboration with the woman | Experts with a knowledge of the effect of specific medical disorders in pregnancy are best placed to make decisions on the mode of delivery for those conditions. A clear decision made by this MDT will reduce the inappropriate decision for a caesarean section or early induction of labour for women with a wide range of medical disorders. | The majority of women with medical disorders will not require induction of labour (IOL) or caesarean section (CS) on the basis of their disease. There are only a few medical conditions where planned caesarean section is recommended on the basis of the disease. There is a wide variation of practice with many units offering IOL or CS to women with medical disorders without a clear indication. | Elective CS data is collected routinely e.g. RCOG indicators, London maternity dashboardThere would need to be filtering of this CS according to medical condition |
| 18 | SCM4 | **Key area for quality improvement 1**Information and written plans for women with pre-existing conditions | The need for information and early planning of intrapartum care applies to all of the medical and obstetric conditions in the NICE guideline, and the committee identified that while such information-giving and planning was good practice, it was not universal practice | This would improve woman-centred care by providing the woman with information about anything relating to her medical/obstetric condition and helping her to make and record a plan. This would then in turn help clinicians caring for her during the intrapartum period. This would enhance women’s experience of care, and ensure that her decisions were at the centre of the care planning process. | NG121, QS15, Better Births |
| 19 | SCM5 | **Key area for quality improvement 5** Intrapartum care planning for pre-existing complex medical conditions involving multidisciplinary team | Intrapartum care planning is a very important aspect of care for the safe delivery of the mother and baby. With multiple and complex medical problems a shared and informed decision should be made about the mode, timing and place of delivery by the health care professionals along with the woman. The intrapartum care plan is an important form of communication for the team to allow continuity of care and be informed about the relevant aspects of intrapartum care related to the medical condition as well as obstetric, anaesthetic and neonatal issues for care. | There is a variation in the multidisciplinary team planning for these high risk cases. We conducted a national survey about the current practice and multidisciplinary models in different units in the UK and this has confirmed the wide variation in clinical practice and arrangements for the multidisciplinary input varying from no local arrangements, virtual meetings, ad hoc meetings to regular meetings involving a wide range of specialist teams.Whilst the ad hoc meetings will be essential for the urgent cases, a regular MDT meeting allows for a structured approach to discuss the intrapartum care involving obstetricians, midwives, anaesthetists, neonatologists, theatre teams and any other relevant specialty that may be involved in the care of the women.Individualised care plans are key to the quality and safety in intrapartum care planning | Patient experience in adult NHS services (2012) NICE quality standard 15 Intrapartum care for women with existing medical conditions or obstetric complications and their babies (2019) NICE guideline NG121Unique model of multidisciplinary team in high risk Obstetric patients N Archer, M Khare, M Mushambi RCOG World Congress 2017 ( abstract) |
| 20 | SCM5 | **Key area for quality improvement 3**Postpartum care and follow up in women with pre-existing medical complications or diagnosed during pregnancy | ‘Better births’ has called for more support for women postnatal and describing this as ‘under resourced and ‘overlooked’ area. The postpartum period can be challenging for some of the women with pre-existing medical problems or for those with complications during pregnancy as they may have associated co-morbidities, they may be taking medications that may have been stopped during pregnancy due to their safety profile for the fetus and so may have to recommence these for maternal reasons. Managing their medical problems postpartum can be difficult as they have to look after newborn babies along side their own health issues. | Lack of communication between secondary and primary care for ongoing care postpartum, advice on contraception and breast feeding support is variable. For women with complex medical problems and co-morbidities it is vital that they are seen by their specialists for the specific medical problems postnatal and have follow up appointments arranged ideally before discharge from hospital if possible. Advice regarding medications and safety profile of these medications for breastfeeding should be discussed. Women should be well informed of the available contraceptive choices that are suitable for them including any obvious contraindications. Using the postnatal follow up appointments as crucial time points for preconception counselling for women planning further pregnancies and discussion about the optimisation of their medical condition Patient surveys have consistently reported lesser satisfaction with the postnatal care received. | HQIP/MBRRACE-UK (2018) Saving lives, improving mothers’ care.Care Quality Commission (2018) NHS Patient Survey Programme: maternity services programme 2018National Maternity Review (2016) Better births: improving outcomes of maternity services in England |
| 21 | SCM5 | Additional developmental areas of emergent practiceAssessment and repair for third and fourth degree perineal tear following spontaneous vaginal delivery/ instrumental deliveryWomen with no antenatal care | Associated with increased maternal short term and long term maternal morbidityIncreased risk for adverse maternal and neonatal outcomes | Improvements in the management of obstetric anal sphincter injury can result in significant reduction in medical and emotional burden to womenWomen with no antenatal care are a high risk group and there is variation in the care received by this group of women and the subsequent outcomes for mothers and babies. | Management of third- and fourth-degree perineal tears (2015) RCOG guideline 29RCOG OASI care bundle projectNHS Improvement Safety thermometer – maternity dashboard:Intrapartum care for women with existing medical conditions or obstetric complications and their babies (2019) NICE guideline NG121 |
| 22  | SCM6 | Key area for quality improvement 4 | Previous LSCSMarch 2018 England Maternity services monthly statistic 13% elective CS and 16% emergency CS (29% of all births). Planning birth after previous LSCS will affect a large percentage of all multips. | Audit the provision of information to previous CS women:Risk/ benefit to motherRisk/ benefit to fetusOf both aiming for a vaginal birth and a planned LSCS | No text submitted  |
| Existing medical conditions  |
|  Heart disease  |
| 23 | RCP | Key area for quality improvement 2 | As above [key area for quality improvement 1] but specifically women with mechanical heart valves seeing cardiologist / obstetric physician with expertise in pregnancy in heart disease | No text submitted | No text submitted |
| 24 | SCM1  | Management of anticoagulation in women with mechanical heart valves | Evidence shows a very high rate of maternal mortality and morbid`ity in this group | Evidence suggests wide variation in practice and sub-optimal multidisciplinary management | MBRRACE – as above ['Evidence used in development …'] |
| 25 | SCM1 | Separately list each key area for quality improvement that you would want to see covered by this quality standardWomen with modified NYHA 1 & 2 heart disease should be managed as per NICE guideline for intrapartum care\*\* Except for not offering a physiological 3rd stage for women with NYHA 2 | There is good published evidence for management of women with mild cardiac disease but anecdotal evidence that these women may be ‘overtreated’ and could be reassured about their level of risk in labour | See previous paragraph | Evidence used in development of BICE guideline HRIPG - medical |
| 26 | SCM1 | Management of the 3rd stage I women with significant heart diseasen | Recommendations in the literature are highly variable and contradictory | Cardiac disease is the most cause of maternal mortality in the UK | See MBRRACE reports on maternal mortality |
| 27 | SCM5  | Key area for quality improvement 4Women with cardiac disease in pregnancy and management of third stage of labour | With advancing age, rise in obesity and comorbidities there is an increased risk of ischaemic heart disease. Also with improved care and surgery for congenital cardiac disease more women are getting pregnant. Mechanical heart valves with women on anticoagulation therapy brings along challenges for managing labour analgesia | With increased maternal mortality and morbidity for these group of women having a quality standard will improve the services at local, regional and national level. | Intrapartum care for women with existing medical conditions or obstetric complications and their babies (2019) NICE guideline NG121 HQIP/MBRRACE-UK (2018) Saving lives, improving mothers’ care. |
| 28 | SCM6  | Key area for quality improvement 1 | Heart disease:In the last MBRRACE report cardia disease was the leading cause of maternal death (N=54).Identification and referral to senior clinician of women going into heart failure (with or without pre-existing diagnosis) in the intrapartum period is critical in the prevention of mortality.NICE guideline recommends If any of the symptoms or signs suggest heart failure, a senior clinician should review the woman's condition without delay. | Identify all women who have cardiac disease or cardiac incidents from the postnatal records. Audit their care to ensure if signs or symptoms of heart failure were recorded in the notes a senior clinician was inform immediately. | No text submitted  |
|  Bleeding disorders  |
| 29 | SCM3 | Key area for quality improvement 2Pregnant women with an identified bleeding disorder should be reviewed antenatally by an obstetric anaesthetist by 36 weeks gestation to discuss the use of regional analgesia and anaesthesia | Assessment by an obstetric anaesthetist of pregnant women with bleeding disorders can identify those women who can have regional analgesia, thereby preventing inappropriate general anaesthesia if caesarean section is required. It also allows for discussion of alternative analgesia options, such as a fentanyl PCA | Not all maternity units have antenatal review of women with bleeding disorders by an obstetric anaesthetist antenatally. The NICE guideline recommends a discussion of the balance of risks versus benefits of regional analgesia and anaesthesia in women with bleeding disorders and highlights platelet counts where regional techniques should be avoided. No maternity units have 24/7 on site anaesthetic consultant presence, therefore a clear antenatal plan as to the appropriateness of a regional technique in labour or for caesarean section will improve the appropriate use of this technique and avoid inappropriate general anaesthesia which is associated with greater technical difficulty and harm in pregnant women. | None knownIndirect data- number of women having GA for delivery collected in HES data. These data in themselves not helpful but would require audit |
| 30 | RCPath/BSH | Key area for quality improvement 11.6.5For women with known or suspected immune thrombocytopenic purpura (ITP), take the following precautions to reduce the risk of bleeding for the baby:* Inform the neonatal team of the imminent birth of a baby at risk
* Do not carry out fetal blood sampling
* Use fetal scalp electrodes with caution
* Do not use ventouse
* Use mid-cavity or rotational forceps with caution
* Bear in mind that a Caesarian section may not protect the baby from bleeding
* Measure the platelet count in the umbilical cord blood at birth
 | Why is this important?Important to prevent haemorrhagic complications in the neonate if suspected or known ITP; such complications can cause chronic morbidity and sequelae. | Why is this a key area for quality improvement?To document and ensure good communication within the multidisciplinary team, at the time of birth, and prevent catastrophic complications of neonatal haemorrhage at birth | Supporting informationNo text submitted  |
|  Arteriovenous malformation of the brain |
| 31 | SCM1 | Management of mode of delivery in women with intracranial aeriovenous malformations | No evidence for offering the entire group elective CS delivery | See previously [comment beginning 'Management of mode of delivery …] | No text submitted |
| 32 | SCM3 | Key area for quality improvement 3Pregnant women with a cerebrovascular malformation of intracranial bleeding should be stratified for risk of intrapartum intracranial bleeding by a multidisciplinary team of a neurologist and obstetrician with an interest in neurovascular disease in pregnancy, preferably in a joint clinic. Women at low risk should have a documented discussion of the option to plan a vaginal birth | A joint obstetric and neurology review of pregnant women with cerebrovascular malformations and or previous intracranial bleeding can allow appropriate risk stratification of the woman’s risk of intrapartum cerebral haemorrhage and allow women the option of vaginal birth if the risk is low.A joint obstetric and neurology review of pregnant women with cerebrovascular malformations and or previous intracranial bleeding can allow appropriate risk stratification of the woman’s risk of intrapartum cerebral haemorrhage and allow women the option of vaginal birth if the risk is low. Joint neurology and obstetric clinics are recommended in the MBRRACE maternal mortality report to improve the advise given to pregnant women with neurological disordersNICE guideline recommends multidisciplinary risk assessment and basing decision of mode of delivery in women at low risk of intracranial bleeding on woman’s preference an obstetric indications" | Most maternity units will not risk stratify women with cerebrovascular malformations and will usually recommend a caesarean section to all women removing their choice of vaginal birth | None known |
| 33 | SCM6 | Key area for quality improvement 3 | Neurological conditionsNeurological conditions accounted for 31 maternal deaths in the last MBRRACE report. Avoiding intracranial pressure at time of delivery for women with cerebrovascular malformation at high risk of intracranial bleeding is critical. Offering women a planned LSCS is NICE guidance | Audit:Women with cerebrovascular malformations are provided with information about mode of birth. Offer LSCS to those at high risk of intracranial bleeding. Plan to withhold ergometrine for third stage management. | No text submitted |
|  Kidney disease  |
| 34 | RCP | Key area for quality improvement 3 | As above but for women with CKD | No text submitted | No text submitted |
| 35 | SCM1 | Fluid management and monitoring in women with renal disease | Clinical experience of poor fluid management exacerbating renal function | Long term consequences may be underestimated | No text submitted  |
|  Obesity  |
| 36 | ResusCUK | Key area for quality improvement 1 | Earlier and better recognition of those pregnant patients at higher risk, especially deteriorating obstetric patients and obese pregnant patients. | There is good evidence that early recognition of patients at higher risk (both pregnant and non-pregnant) allows measures to be taken to reduce the risk of or prevent complications and achieve better outcomes. There is an increasing number of obese pregnant patients, who have more common and greater co-morbidities than the non-obese | The general (I.e. not limited to obstetrics) adoption of early warning scores such as NEWS (as recommended by NICE) illustrates the potential for early identification of deterioration and recognition of features that present a higher risk. Please see the NICE-accredited national guidelines on resuscitation at: <https://www.resus.org.uk/resuscitation-guidelines/prevention-of-cardiac-arrest-and-decisions-about-cpr/> Section 4  |
| 37 | RCOG | Key area for quality improvement 41.9.3 For women with a BMI over 30 kg/m2 at the booking appointment, carry out a risk assessment in the third trimester | Obesity remains prevalent in the general population and in women of reproductive age. Obese women are at higher risk in developing medical conditions and complication in pregnancy/intrapartum, therefore a risk assessment and plan of management should be carried out early on in pregnancy. | Individual policies vary across the country | No text submitted |
| 38 | SCM2 | Key area for quality improvement 3Obesity | Increasing numbers of obese women. Identified as contributing factor in MBRRACE-UK (2018) | Obesity often a co-morbidity. | No text submitted |
| 39 | SCM6 | Key area for quality improvement 5 | ObesityObesity rates in the U.K. are rising. Fetal and maternal morbidity and mortality increases in women with a BMI over 50Kg/M2.These women will require specialist service with professional with a special interest and specialist equipment. Nice recommends For women with a BMI over 50 kg/m2 at the booking appointment, offer referral to an obstetric unit with suitable equipment and expertise as early as possible in pregnancy, if this is not available in their current unit. | Audit local guidelines to ensure referral pathways to specialist service exists for women with a BMI >50kg/m2 | No text submitted |
| Obstetric complications - 1 |
|  Breech presentation  |
| 40 | SCM4 | Key area for quality improvement 3Breech birth – choice of mode of birth | There is currently a variation in birth options offered to women with breech presentation, and variation in skills of clinicians to support vaginal breech birth. The evidence shows that there is no significant difference in outcomes regardless of mode of birth, although other factors may influence outcomes such as stage of labour. This choice should therefore be with the woman, and a quality standard to measure the offering of choice and the decisions made would ensure that the choice is being offered. | By offering women a choice of mode of birth, there will be a more consistent approach to care which supports women’s choice whatever mode of birth she chooses, rather than depending on a local policy or preference. | NG121, Better Births |
|  Previous caesarean section  |
| 41 | SCM4 | Key area for quality improvement 4Intrapartum care for women with previous caesarean birth | There is variation in birth options offered to women who have previously had a caesarean birth, and care is often medicalised more than the evidence would suggest is necessary, which can affect women’s experience of intrapartum care. By ensuring that the choice is available and supported for all women who have had a caesarean birth, the quality standard would reduce intervention and increase choice for women, and potentially reduce financial costs of surgery. | The evidence showed that there was no strong evidence to recommend one mode of birth over the other, and it is important that women are aware of this when making a choice about mode of birth. Over-medicalisation such as routine insertion of a cannula or amniotomy is not based on evidence, and the guideline recommends neither should be performed. Use of the birth pool is often requested by women, and there is variation in whether this is made available for women having a VBAC. These recommendations are a change in practice and by developing a quality standard the inequity of practice can be reduce and women’s choices and decisions about their care will be supported. | NG121 , Better Births |
|  Fetal monitoring (cardiotocography) |
| 42 | SCM4 | Key area for quality improvement 5Routine monitoring for women with some obstetric complications after the initial risk assessment in order to reduce unnecessary interventions and focus more on the whole clinical picture when assessing and monitoring women in labour. | Women with breech presentation, small for gestational age babies, larger for gestational age babies, previous c-section, labour after 42 weeks of pregnancy and women who have not received antenatal care are often routinely monitored using CTG. The guideline recommends that this should not be done if there are no other concerns, which will reduce medicalisation of the care of these women. | There was no evidence that CTG monitoring, where there are no other concerns, improved outcomes for women in these groups. CTG monitoring can reduce mobility and affect women’s experience of intrapartum care. A quality standards which ensured that women in these groups were not routinely monitored would improve women’s experience of care and focus care on the whole clinical picture, rather than on an electronic trace. | NG121, Better Births |
| Obstetric complications - 2 |
|  Sepsis |
| 43 | RCOG | Key area for quality improvement 5Antimicrobial treatment for women in labour with sepsis or suspected sepsis - use recommendations 1.13.22 to 1.13.25 | Sepsis is one of the leading causes of maternal morbidity and mortality. It is therefore important that it is recognised and treated promptly. | No text submitted | No text submitted  |
| 44 | SCM3 | Key area for quality improvement 5Women with suspected or confirmed intrapartum sepsis should have the sepsis six bundle initiated within 1 hour, have senior obstetric review and delivery should be expedited | Early recognition and treatment of sepsis reduces maternal and fetal morbidity and mortality | The MBRRACE report into maternal mortality shows that women who die from sepsis have not had prompt identification and management using the sepsis 6 bundle | Sepsis rates are recorded by each Trust and are reviewed by the CQC NG121 1.13 |
| 45 | SCM4 | Key area for quality improvement 2Care for women with suspected sepsis or sepsis | Sepsis and suspected sepsis are key causes of morbidity and mortality for women and babies. By developing a quality standard to measure elements of care for women with suspected sepsis or sepsis, the focus of care can be enhanced identify it early and avoid too much intervention those who don’t need the additional treatment. | There are a number of elements of care which are addressed by the recommendations. By improving recognition and avoiding over-medicalising treatment, this will improve women’s experience of care, reduce over-use of antibiotics, increase birth options by enabling use of the birthing pool, and reduce risks of infection by giving antibiotics before any regional analgesia. There is currently variation in practice, so by implementing the recommendations and measuring them with a quality standard, women will receive standardised and individualised care which should improve safety for them and their baby, and enhance their experience of care. | NG121, RCOG greentop guideline 56 |
| 46 | SCM6 | Key area for quality improvement 2 | Sepsis Sepsis continues leading direct cause of maternal death in the UK. When combined with indirect death from sepsis the total number of women who died was 47. Prompt recognition, treatment and escalation to specialist is required to prevent severe morbidity and mortality.NICE guidelines recommend an MDT review of all suspected and confirmed sepsis cases during the intrapartum period and escalation to a specialist intensivist if any signs of organ disfunction.  | Audit of local policy on suspected and confirmed sepsis including pathways of care from labour ward to HDU or specialist intensive care facilities. For example, criteria for considering sepsis. Criteria for diagnosing sepsis. Criteria for suspecting organ involvement. Pathways to MDT review and specialist intensivists. | No text submitted  |
|  Abnormal placentation  |
| 47 | ResusCUK | Key area for quality improvement 5 | * Better anticipation of…
* Prompt recognition of…
* Prompt, effective treatment of…

…severe bleeding from placental abnormalities, leading to hypovolaemia and maternal collapse. | Cases of such potentially life-threatening ‘abnormal placentation’ are increasing in incidence. | Please see the NICE-accredited national resuscitation guidelines at:<https://www.resus.org.uk/resuscitation-guidelines/prevention-of-cardiac-arrest-and-decisions-about-cpr/> Section 4: Prevention of in-hospital cardiorespiratory arrest.and also at:<https://www.resus.org.uk/resuscitation-guidelines/adult-advanced-life-support/#reversible> Section 5: Treat reversible causes |
| 48 | SCM5 | Key area for quality improvement 2Antenatal screening and diagnosis of placenta accrete spectrum; Management for antenatal suspected placenta accrete at caesarean section and also unexpected or nonrecognised morbidly adherent placenta at delivery | With increase in caesarean section rates, there is a higher risk of placenta accrete spectrum in future pregnancies.This is a significant risk for major obstetric haemorrhage, obstetric hysterectomy, intensive care unit admission, maternal morbidity and mortalityAntenatal diagnosis of placenta accreta spectrum using ultrasound and additional imaging when clinically required using MRI can allow appropriate care planning by a multidisciplinary team to improve the outcomes and reduce maternal mortality and morbidity.Also there may be unexpected, nonanticpated and not recognised placenta accrete diagnosed at delivery due to other risk factors eg previous uterine surgery. This is associated with significant risks from major obstetric haemorrhage. | The recent MBRRACE 2018 report highlighted an increase in the number of materal deaths from obstetric haemorrhage related to abnormally invasive placenta. Overall this remains one of the leading causes for maternal mortality and morbidity.The two areas that need improvement are diagnosis and planning of care involving a multidisciplinary team. There is evidence of significant variation in diagnosis and planning of care of these cases according to the assessors for MBRRACE 2018 report.This ranged from no recognition or anticipation of accreta, to late recognition. In some cases despite anticipation, appropriate imaging was not arranged. | HQIP/MBRRACE-UK (2018) Saving lives, improving mothers’ care. Intrapartum care for women with existing medical conditions or obstetric complications and their babies (2019) NICE guideline NG121Placenta praevia and placenta accreta: Diagnosis and management RCOG green top guideline no 27a NHS Improvement Safety thermometer – maternity dashboard: |
|  Obstetric injuries  |
| 49 | SCM5 | Additional developmental areas of emergent practiceAssessment and repair for third and fourth degree perineal tear following spontaneous vaginal delivery/ instrumental deliveryWomen with no antenatal care | Associated with increased maternal short term and long term maternal morbidityIncreased risk for adverse maternal and neonatal outcomes | Improvements in the management of obstetric anal sphincter injury can result in significant reduction in medical and emotional burden to womenWomen with no antenatal care are a high risk group and there is variation in the care received by this group of women and the subsequent outcomes for mothers | Management of third- and fourth-degree perineal tears (2015) RCOG guideline 29RCOG OASI care bundle projectNHS Improvement Safety thermometer – maternity dashboard:Intrapartum care for women with existing medical conditions or obstetric complications and their babies (2019) NICE guideline NG121 |
|  Thrombosis and embolism |
| 50 | SCM5 | Key area for quality improvement 1Ongoing Risk assessment for thrombosis and embolism during pregnancy and puerperium | Thrombosis and venous thromboembolism (VTE) are the leading cause for direct maternal death during or upto 6 weeks after end of pregnancy.Increased maternal age, obesity, rising caesarean sections lead to increased risks for VTE. It is a preventable cause if assessed and managed appropriatelyRCOG recommendations for VTE assessment have been widened. | The recent MBRRACE UK maternal report 2018 concluded that in 68% of the maternal death due to thrombosis and thromboembolism improvements in care may have made a difference to the outcomeThere is inconsistency in the risk assessment scoring across the UK. | HQIP/MBRRACE-UK (2018) Saving lives, improving mothers’ care. Reducing the risk of thrombosis and embolism during pregnancy and the puerperium (2015) RCOG guideline 37a |
|  Cardiopulmonary resuscitation  |
| 51 | ResusCUK | Key area for quality improvement 2 | In the collapsed pregnant patient with no signs of life, immediate commencement of chest compressions WITH uterine displacement to prevent inferior vena caval compression | There is very good evidence that immediate delivery of good-quality chest compressions increases a person’s chance of survival from cardiac arrest. Uterine displacement to prevent compression of the inferior vena cava by the gravid uterus can improve outcomes from cardiopulmonary resuscitation (CPR) in this situation. There is evidence from many studies that uterine displacement is often performed poorly | Please see the NICE-accredited national guidelines on resuscitation at: https://www.resus.org.uk/resuscitation-guidelines/prevention-of-cardiac-arrest-and-decisions-about-cpr/ Section 4.Please see also ‘Cardiac arrest associated with pregnancy’ in ‘European Resuscitation Council Guidelines for Resuscitation 2015 Section 4. Cardiac arrest in special circumstances’ page 184.Please see also question 3 and its answer at:https://www.resus.org.uk/faqs/faqs-adult-advanced-life-support/ |
| Additional areas  |
|  Audit and review for sepsis  |
| 52 | RCM | Key area for quality improvement 5Local Clinical audit cycles to review clinical management, guidelines and practice i.e. Sepsis | Ensuring up-to-date clinical guidelines, reviewing local performance to improve outcomes of multi-disciplinary team, better communication, better information for women. | Sepsis: recognition, diagnosis and early managementNICE guideline [NG51]MBRRACE Saving Lives, Improving Mothers’ Care; Sepsis (2019) | No text submitted  |
|  Caesarean section  |
| 53 | SCM2 | Key area for quality improvement 1Counselling for women who have had a previous caesarean section | NICE guidance supports women’s informed decision making regarding mode of birth, and states a VBAC success rate of 72-75% in women who plan VBAC | Increasing CS rates, variation in uptake of opportunity to have VBACLack of standardised information giving for women. | RCOG: Birth after Previous Caesarean Section <https://www.rcog.org.uk/en/guidelines-research-services/guidelines/gtg45/> NICE Caesarean section (2017) |
|  Contraception  |
| 54 | Faculty of Sexual and Reproductive Healthcare Clinical Effectiveness Unit  | Post-placental insertion of intrauterine contraception (at the time of LSCS or vaginal delivery | Approximately1 in 13 women presenting for abortion or delivery conceived this pregnancy within a year of a previous birth. A short inter-pregnancy interval is associated with poor outcomes in the subsequent pregnancy.Careful pre-pregnancy planning and optimisation of health ahead of pregnancy is important for all women, especially those with existing medical conditions or obstetric complications. Thus provision of effective contraception after childbirth should be a priority.Sexual activity and fertility may return quickly after delivery and offering post-placental insertion of intrauterine contraception is one way to improve access to effective contraception. | Evidence indicates that post-placental insertion of intrauterine contraception at the time of vaginal delivery or caesarean section is safe, effective and highly acceptable to women and obstetric staff.It is recommended that a discussion takes place regarding contraception as part of antenatal care so that women who opt for intrauterine contraception and their healthcare professionals can plan for this to be provided at the time of delivery. Thus provision of intrauterine contraception is relevant to intrapartum care. (Provision of other methods of contraception generally takes place in the post-partum period, rather than immediately at the time of delivery). | Faculty of Sexual and Reproductive Healthcare Guideline: Contraception after Pregnancy <https://www.fsrh.org/standards-and-guidance/documents/contraception-after-pregnancy-guideline-january-2017/> |
|  Neurological conditions  |
| 55 | Gorlin Syndrome Group UK | No text submitted  | There is guidance to support mothers with babies at high risk of macrocephaly are at risk of birth complications including caesarean section, forceps and perineal tear. | Currently Gorlin Syndrome is not a routine part of ante natal screening and awareness of the condition and associated birth complications is generally poor | Hall, J Collins B, Ireland J, and Hundley V. (2018) The Human Rights & Dignity Experience of Disabled Women during Pregnancy, Childbirth and Early Parenting. Summary of 9q22.3 microdeletion;Muller E and Hudgins L (Feb 2014) Gene reviews Neviod Basal Cell Carcinoma Syndrome. Synonyms: Basal Cell Nevus syndrome (BCNS), Gorlin syndrome, NBCCS. D Gareth Evans, MD, FRCP and Peter A Farndon, MD, FRCP Gene Reviews 20301330 Mar 2013 |
| 56 | RCP  | Key area for quality improvement 4 | As above but for women with epilepsy | No text submitted | No text submitted  |
|  People's experience  |
| 57 | Birthrights  | Pregnant women with pre-existing medical conditions have care plans personalised to their needs.Care plans must recognise women as the experts in their bodies and their conditions, as well as any reasonable adjustments needed to ensure equal access to maternity care and to enable women to make decisions about their care. This may involve collaborative working across multidisciplinary teams, always with the woman at the centre and as decision-maker. For women who present in labour without a previously discussed care plan, it is vital that women are supported to say what is important to them in an accommodating, non-judgemental environment. | Women with pre-existing medical conditions or disabilities bring additional needs to birth planning and intrapartum care that may not be well understood within the maternity team. Maternity services are “geared to provide for ‘normal’, able bodied women and were not adapted to their individual needs” Issues which are poorly understood by maternity providers include management of pregnancy and childbirth pain in the context of a person who experiences ongoing pain due to disability. This is also true for women with specific sensory profiles such as autistic women.Safe care is personalised care. Women with pre-existing conditions were vastly over-represented in in maternal deaths in London (NHS London Clinical Networks 2016). The 2015 review of London maternal deaths found that “Of the women with co-existing medical disease, there was a lack of co-ordinated plans of management. In medically complex pregnant women, it is important to ensure a holistic approach to both the pregnancy and underlying medical disease from the outset and throughout the pregnancy. This must be co-ordinated by a lead clinician. | Our evidence suggests that women’s needs in relation to their disabilities or existing medical conditions may not be well understood within the maternity team. In a 2018 study for Birthrights (Hall et al 2018) women described maternity staff not understanding that decisions on pain relief or birth position had significant impacts on their disabilities, and that proactive support based on an understanding of their disabilities was not in place. In the initial survey stage of the research, only 19% of women who participated described having the reasonable adjustments that they are legally entitled to receive. This includes women who were not provided with information and medical records in accessible formats, thereby limiting their ability to take decisions about their care.Birthrights published a recent pair of blogs on the experiences of autistic women and the need for their specific sensory, social profiles acknowledged and supported, and their pain understood and validated even if it does not look as expected. They are illustrative of issues women have contacted the Birthrights advice line about, where women have experienced a lack of understanding/willingness to flex around how important it is for some autistic women to see/become familiar with where they will give birth and to have their sensory needs taken into account around being touched and also bright lights etc. | Hall, J Collins B, Ireland J, and Hundley V. (2018) The Human Rights & Dignity Experience of Disabled Women during Pregnancy, Childbirth and Early Parenting. Centre for Midwifery Maternal and Perinatal Health, Bournemouth University: Bournemouth, onlineWalsh-Gallagher, D., Sinclair, M., & McConkey, R. (2012). The ambiguity of disabled women’s experiences of pregnancy, childbirth and motherhood: A Phenomenological Understanding. Midwifery, 28(2), 156-162. <https://doi.org/10.1016/j.midw.2011.01.003> Good practice model: Getting Over the Bump St George’s University Hospitals Trust <https://www.stgeorges.nhs.uk/service/maternity-services/3-after-youve-had-your-baby/getting-over-the-bump-a-collaborative-project-between-maternal-medicine-midwives-and-occupational-therapy/> Blog: <http://www.birthrights.org.uk/2019/04/autism-awareness-day-guest-blog-by-emma/?fbclid=IwAR14oZqzgPXd3gNodi4WDGJQL8Muj7kBvPBsho8sdEPKTnE00qKaTnC9cU4> NHS London Clinical Networks 2016 review of London maternal deaths 2015 <http://www.londonscn.nhs.uk/wp-content/uploads/2016/08/London-maternal-mortality-report-2015.pdf>  |
| 58 | Birthrights | Women with existing medical or obstetric conditions should have continuity of carer across antenatal and intrapartum care | Continuity of carer is associated with better maternal and infant outcomes (Sandall et al 2016). Disability is associated with worse pregnancy and child outcomes, including some of those outcomes that are improved by providing continuity (e.g. pre term birth), suggesting there is a particular benefit in focussing continuity of women with pre-existing health conditions. The 2018 MBRRACE confidential enquiry into maternal deaths 2014-2016 states the lay advisory panel “could quite clearly value of continuity of care and shared record keeping [in improving maternal outcomes], particularly that provided by midwives and GPs - ensuring women are able to be heard and develop trusting and supportive relationships with health professionals to disclose and discuss their concerns, enabling women to receive the right specialist care with appropriate communication between different hospital and community services, and rapid referral when it is needed” Continuity of carer is also associated with respectful and rights-respecting care. | In the project for Birthrights, Hall et al found little evidence of improved rates of continuity of carer for disabled women. “In the survey more than a quarter of women felt that their rights were poorly or very poorly respected; a quarter felt they were treated less favourably because of their disability and more than half (56%) felt that maternity care providers did not have appropriate attitudes to disability.” Particular challenges were experienced by women when they saw multiple midwives or health professionals and had to repeatedly explain their conditions to the detriment of their maternity care. “women described that their human rights and dignity were better respected when they had continuity of carer.” If women receive worse care because they are disabled this could be considered a breach of the Public Sector Equality Duty.Women in the Hall et al study for Birthrights raised significant safety concerns when they did not have continuity of carer: “The significant finding – which should be a warning to health professionals – is that this range of carers meant that some women felt that it was not worth raising any issues or concerns with care providers because they may never meet them again and because the visits were so short. This must raise questions of safety of practice, particularly when the women in the study are disabled." | Sandall, J., Soltani, H., Gates, S., Shennan, A. & Devane, D. (2016) Midwife-led continuity models versus other models of care for childbearing women. Cochrane Database of Systematic Reviews. (4). Available from: https://doi.org/10.1002/14651858.CD004667.pub5Knight M, Bunch K, Tuffnell D, Jayakody H, Shakespeare J, Kotnis R, Kenyon S, Kurinczuk JJ (Eds.) on behalf of MBRRACE-UK. Saving Lives, Improving Mothers’ Care - Lessons learned to inform maternity care from the UK and Ireland Confidential Enquiries into Maternal Deaths and Morbidity 2014-16. Oxford: National Perinatal Epidemiology Unit, University of Oxford 2018Dana Šumilo, Jennifer J Kurinczuk, Maggie E Redshaw and Ron Gray Prevalence and impact of disability in women who had recently given birth in the UKBMC Pregnancy and Childbirth 2012 12:31https://doi.org/10.1186/1471-2393-12-31 |
| 59 | Birthrights | All women must be offered reasonable adjustments and any other support required (e.g. language support) to ensure full choice and consent during intrapartum care | Trusts have to make reasonable adjustments to ensure equality of access to maternity care. NHS Equality Objective 4 aims to reduce language barriers as a means of addressing health inequalities and patient safety issues.Reasonable adjustments or other communication support may be needed by some disabled women (for example women with hearing or visual impairments, or learning difficulties) and/or women who do not speak English. This is vital to ensure women are able to legally consent to care. It is also vital to ensure that HCPs are able to take the “full medical, psychological and social history” referred to in the EIA. The Equality Impact Assessment highlights four groups of women who have a higher likelihood of having not received antenatal care. This assessment should also include women who are recent migrants and may be subject to, or afraid of, NHS charging. The MBRRACE confidential enquiry into maternal deaths highlighted the proportion of migrant women who died. Recent research from Maternity Action found that the current NHS charging regime left women delaying or avoiding maternity care, in some cases despite significant existing or pregnancy-related health problems. | In the 2018 research for Birthrights, only 19% of women described having the reasonable adjustments that they are legally entitled to receive. Some women described inaccessible communication and medical information, without being offered alternate formats. In forthcoming research for Birthrights and Birth Companions, specific consent issues were raised for women who required language support and women with learning difficulties. For all women with little or no English, but especially for those women who have not received antenatal care, language support is vital to ensure intrapartum care is safe, personalised and consented. In the forthcoming research, midwives’ experience of language support varied widely from those almost always able to access good quality support, to those with only partial access. Language support for women with limited English was thought to be lacking. Midwives raised concerns about safety as a result of lack of language support or inaccurate interpretation. Midwives raised questions about whether women with learning or cognitive difficulties were appropriately identified and supported, particularly where they have family members offering support or speaking for them. See also Malouf et al 2017 in relation to the communication needs of women with learning disabilities. | NHS Equality Objectives https://www.england.nhs.uk/about/equality/objectives-16-20/Maternity Action 2018 What Price Safe Motherhood? Online. Malouf R, McLeish J, Ryan S, et al. ‘We both just wanted to be normal parents’: a qualitative study of the experience of maternity care for women with learning disability. BMJ Open 2017;7: e015526. doi:10.1136/ bmjopen-2016-015526Birthrights and Birth Companions, forthcoming |
| 60 | Birthrights | All maternity care environments should carry out regular access audits to ensure that facilities, including antenatal facilities and post-natal wards are accessible for wheelchair users and, if possible, that accommodation can be made for a personal assistant to remain with a disabled woman. | In Birthrights’ study, a number of women reported aspects of maternity care, or areas within the maternity ward being inaccessible to them (for example, for women who use a wheelchair) or unable to accommodate their carers. Others reported they had no access to vital equipment such as toilet frames or shower stools. This is an unsafe situation for a woman during any of the antenatal, intrapartum and postnatal periods. | Failure to provide equal access is a breach of the Public Sector Equality Duty. When services are not accessible, women cannot receive dignified and respectful care: The Birthrights report states “When reasonable adjustments were not in place, participants’ independence and dignity were undermined”. Women often had to request accessible facilities and were not provided them as standard. | Hall, J Collins B, Ireland J, and Hundley V. (2018) The Human Rights & Dignity Experience of Disabled Women during Pregnancy, Childbirth and Early Parenting. Centre for Midwifery Maternal and Perinatal Health, Bournemouth University: Bournemouth, online |
| 61 | Liverpool University | Sensitive communication with women experiencing obstetric complications | PTSD after childbirth is now recognised to affect at least 5% of women with many more suffering at a subdiagnostic level. This has major implications for womens’ postnatal health and relationships | Metasyntheses of births experienced as traumatic highlight the role of poor or insensitive communication from staff during obstetric complications which activates perinatal fear which is a key risk factor for PTSD | The Birth Trauma Association collate information from women’s experiences  |
|  Primary evidence  |
| 62 | Ferring Pharmaceuticals | Which is the optimal agent for induction of labour in women with asthma | The NICE guidance committee recommends prostaglandins E2 as an option for inducing labour in women with asthma, because this is also the options for women without asthma | However, there is very limited evidence to indicate that prostaglandins E2 used for induction of labour does not worsen asthma. Prostaglandin use in women with asthma might necessitate / increase intensive monitoring of respiratory function during labour or after birth. This would have a resource impact, but would be offset by the reduction in extremely prolonged labour or failed induction, and the impact of postpartum haemorrhage. | Please see the NICE Guideline Intrapartum care for women with existing medical conditions or obstetric complications and their babies NG 121https://www.nice.org.uk/guidance/ng121 |
| 63 | Ferring Pharmaceuticals | How should prevention of postpartum haemorrhage be managed during caesarean section in women with cardiac disease? | This is of particular interest in the case of women whose cardiac condition is related to and affected by the circulating volume of blood. This question is important because there are a variety of options for management of the risk of postpartum haemorrhage, of which uterotonics are the area of biggest clinical disagreement. The currently recommended oxytocin administered by an infusion could lead to a further increase in circulation blood volume in an already compensated patient. During caesarean section, mismanagement could lead to uncontrolled postpartum haemorrhage, haemodynamic compromise | No clinical studies have determined the most appropriate management regimen to prevent postpartum haemorrhage for women with different categories of cardiac disease. Moreover, there is limited evidence of cost effectiveness / cost benefit analysis and resource use in terms of use of uterotonics in patients with cardiac disease undergoing caesarean section | Please see the NICE Guideline Intrapartum care for women with existing medical conditions or obstetric complications and their babies NG 121<https://www.nice.org.uk/guidance/ng121>  |
|  Risk factors  |
| 64 | Action on Smoking and Health | Key area for quality improvement 1 | Smoking as a risk factor | Smoking is a major risk factor for adverse birth outcomes for both women and their babies and should be recongised as an area for improvement in the quality standard.Literature has demonstrated the negative impacts of smoking on maternal health. Compared to women who are not pregnant, pregnant women are at an increased risk of developing adverse events such as acute myocardial infarction, stroke, and venous thromboembolism.(1) Pregnant smokers have more than a 4-fold increased risk for acute myocardial infarction (95% CI 3.3, 6.4), 1.3-fold increased risk for deep vein thrombosis (95% CI 1.1, 1.6), and a 2-fold increased risk for pulmonary embolism (95% CI 2.1, 3.0).(1) Other effects of smoking during pregnancy include:* Decreased fertility
* Ectopic pregnancies (implantation of a fertilised egg outside the uterus)
* Placental abruption (early separation on the placenta from the uterus)
* Placenta previa (placenta growing in the lowest part of the uterus)
* Preterm premature rupture of membranes
* Spontaneous abortion
* Stillbirth (2)

Smoking during pregnancy has been linked with low birthweight in babies (babies being born less than 2500g).(3) Continuous smoking (smoking from conception to birth) has been shown to reduce birthweight by 162g among mothers who smoked 1-9 cigarettes per day, and up to 226g among mothers smoking more than 9 cigarettes per day, compared to mothers who don’t smoke.(3)Low birthweight has been associated with neonatal and infant mortality. (4) Additionally, children born with low birthweight are more at risk of developing developmental delays (5), and intellectual impairment.(6) Low birthweight has also been linked to the development of morbidities later in life including obesity, type 2 diabetes, hypertension, coronary heart diseases and metabolic syndrome.(3)Other effects of smoking on the child include:* Malformations
* Asthma
* Respiratory deficits
* SIDS (Sudden Infant Death Syndrome)
* Behavioural difficulties (2)

Currently around 10.4% of women are smoking at delivery with a significant social and age gradient to smoking rates.(7)(8) * Rates of smoking in white women in routine and manual occupations are currently more than double that of women on average. This inequality for all women is reflected in pregnant women (data analysis courtesy of Public Health England, Published in Challenge Group report)(8)
* Women under 20 at 6 times as likely to smoke and smoke during their pregnancy as those over 35, and are less likely to quit (9).
* Women who live with a smoker are 6 times more likely to smoke throughout pregnancy and those who live with a smoker and manage to quit are more likely to relapse to smoking once the baby is born (data analysis courtesy of Public Health England, Published in Challenge Group report)(8)

The quality standard should:* Recognise the importance of on smoking as a risk factor – similar to the section on obesity – which includes smoking in the home by someone other than the mother, both pre and post-natal, as an increased risk factor for adverse outcomes including Sudden Infant Death Syndrome.
* Recognise the need to require health professionals to identify women who smoke at first contact and highlight smoking as a risk factor that should be taken into account when planning labour and defining care pathways.
* Link with existing NICE Guidance on smoking and pregnancy and smoking in secondary care.(10)(11)

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|  Social and emotional aspects of care  |
| 65 | RCM  | Key area for quality improvement 4Social and emotional aspects of care | Any pregnant population but especially these women with existing medical conditions have extended needs requiring support with the social and emotional aspects of their care. Their clinical conditions and care should not be the only focus as some long-term condition can present with more complex social and emotional needs which impact in their labour and care.  | NICE guideline pregnancy and more complex social needsRecognition of the emotional and mental health impact on woman and their families with complex pregnancies is key. Ensuring that complex deliveries are normalised as much as possible, (skin to skin, early feeding etc) supports bonding and longterm wellbeing for both mother and baby. | No text submitted  |
|  Tariff for intrapartum care |
| 66 | NCT | Key area for quality improvement 1That the tariff for intrapartum care includes sufficient postnatal care in hospital.  | This will help ensure follow up and continued care for any condition or complication resulting from pregnancy or birth and that there is a robust care plan in place before women and their babies are discharged from hospital. This needs to include accessible, clear information for women about medication, further appointments and any further actions she or health professionals need to complete, particularly anything that may affect a future pregnancy or birth | Women are still reporting variations in postnatal care, and often feel they are discharged too soon in order to free up bed space | Women are still reporting variations in postnatal care, and often feel they are discharged too soon in order to free up bed space.  |
|  Training and development  |
| 67 | ResusCUK | Key area for quality improvement 3 | Competence of clinical staff in recognising/knowing when, where and how to perform a resuscitative hysterotomy (peri-mortem caesarean section). | There is good evidence that, if initial CPR does not achieve an early good outcome, delivery of the baby by caesarean section may allow survival of the baby and, in some cases, may be followed by a successful response to CPR and survival of the mother | Please see ‘Cardiac arrest associated with pregnancy’ in ‘European Resuscitation Council Guidelines for Resuscitation 2015 Section 4. Cardiac arrest in special circumstances’ page 184 |
| 68 | ResusCUK | Key area for quality improvement 4 | Greater awareness of clinical staff that that older, smoking, overweight parturients are at increased risk of ischaemic heart disease and resulting cardiac arrest, requiring early defibrillation for a ‘shockable rhythm’. | As in key area 1 above, awareness of potential risk allows clinical teams to be better prepared to take prompt, effective action if that risk materialises in any individual. | Please see the NICE-accredited national resuscitation guidelines at:<https://www.resus.org.uk/resuscitation-guidelines/adult-basic-life-support-and-automated-external-defibrillation/> and at: <https://www.resus.org.uk/resuscitation-guidelines/adult-advanced-life-support/> Please see also ‘Cardiac arrest associated with pregnancy’ in ‘European Resuscitation Council Guidelines for Resuscitation 2015 Section 4. Cardiac arrest in special circumstances’ page 184. |
| 69 | SCM6 | Additional developmental areas of emergent practice | Ensure mandatory training or skills and drills includes identification of heart failure. | No text submitted | No text submitted  |

1. [Intrapartum care for women with existing medical conditions or obstetric conditions and their babies](https://www.nice.org.uk/guidance/ng121/documents/final-scope-2) (2019) NICE guideline NG121: final scope. [↑](#footnote-ref-1)
2. Shawer, S, McEldowney E and Batra S (2017) [Audit comparing a district general hospital practice in vaginal breech deliveries against RCOG guidelines](https://doi.org/10.1111/1471-0528.14957) (conference poster) - BJOG. [↑](#footnote-ref-2)
3. Sharp A et al (2018) Screening and management of the small for gestational age fetus in the UK: a survey of practice European Journal of Obstetrics and Reproductive Biology 231: 220-24 [↑](#footnote-ref-3)