Normal birth as a measure of the quality of care

Evidence on safety, effectiveness and women's experiences

NCT wants birth to be an experience that enriches the lives of women and their partners, and gives them confidence as they embark on parenthood.

Normal birth matters to many parents using the maternity services and can be supported by a number of initiatives. The *Normal birth consensus statement*,[1] developed by a range of maternity professional bodies and parents' organisations as members of the Maternity Care Working Party, encourages commissioners and NHS trusts to provide maternity services which promote and protect opportunities for normal birth. It recommends that normal birth rates are measured, monitored and audited in order that the quality of maternity care that women receive can be improved. A copy of the statement is available at www.nct.org.uk/normalbirth

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Cover photo: copyright Becky Reed. We are grateful to Isabella for allowing us to use this photo of her daughter Maya's birth. Isabella's mother Rosa, her twin sister Natalia, and Natalia's son Domenico were with them sharing Maya's birth day. Care was provided by Becky Reed, working as an Albany midwife.

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1 Summary

High quality of healthcare has been defined as care which is safe, effective and takes account of patient experiences.

There is good evidence that the normal birth rate can be used as an indicator of the quality of midwifery care. Practices which evidence suggests will increase opportunities for normal birth without compromising safety or women's experience can be monitored to show the impact within local services. The following practices are in line with clinical guidelines and policy directives:

- Providing continuity of midwife-led care.
- Offering birth at home or in a birth centre.
- Providing birth preparation classes.
- Ensuring one-to-one midwifery care for women in labour.
- Encouraging mobility and upright positions during labour.
- Offering access to immersion in water during labour for pain relief.

There is evidence, in some cases strong evidence, that these practices increase the quality of care by improving health outcomes and making care more personalised and responsive to the physiological, social and emotional needs of women and their families.

2 Introduction

This report describes how medical interventions during birth have increased in recent years and how concern about this has led to a renewed focus on promoting normality in labour and birth. It explains the use of a formal definition of normal birth and how this has been used to monitor trends and variation in normal birth. It then describes current national healthcare policies relating to maternity care, including the measurement of quality of care to drive improvements.

The report then considers whether normal birth rates can be used as a measure of quality, setting out the evidence in favour of this, and drawing upon a range of evidence-based NCT publications and women's stories, as well as other literature.

It looks at different components of care which have been shown to increase normal birth rates and summarises key points of evidence on how these contribute to high quality midwifery care. It also suggests ways in which these aspects of care can be measured in local services and used to drive improvements in the quality of care that women and their families receive.

The term 'normal birth' is shorthand for a vaginal birth without any of the medical procedures that require hospital-based care, and are usually carried out by a specialist hospital doctor, including induction of labour, epidural or spinal anaesthetic, and the use of forceps, ventouse or caesarean section. The idea behind the term 'normal birth' is that it is the kind of care that can be provided either at home or in a birth centre by a midwife, though it is also possible in a hospital setting.

At the time of going to press the coalition Government at Westminster had recently been elected and aspects of healthcare policy under the new administration had not been announced. While the authors have made some adjustments to reflect the change of government, readers in future may have the advantage of knowing more about ministers' maternity commitments and priorities.

Figure 1. Formal definitions of normal labour and birth or 'normal delivery'

England

In England the formal definition of normal labour and birth (termed 'normal delivery' for statistical purposes by the NHS Information Centre) is delivery without induction, the use of instruments, caesarean section, episiotomy and without general, spinal or epidural anaesthetic before or during delivery.

From 2003-06, normal delivery rates were published annually in England by the NHS Information Centre (formerly by the Department of Health Statistics Division).

Scotland

A similar definition is in use in Scotland, termed normal birth, which is the proportion of live births without induction, the use of instruments, caesarean section, episiotomy and without general, spinal or epidural anaesthetic before or during delivery. (Scottish intervention rates are all calculated as a proportion of live births, rather than of the number of mothers delivered as in England and Wales.)

Normal birth rates for Scotland have been made available to the voluntary organisation BirthChoiceUK for the years 2001-08.

Wales

The definition used in Wales is 'deliveries without induction, instrumental delivery or caesarean section'. This differs from the English definitions of "normal delivery" because of the lack of available data on use of epidural (or episiotomy) at an all-Wales level.

Normal delivery rates for Wales based on this definition are available for the years 1997 to 2009.

A note on spontaneous delivery

It should be noted that normal birth is often confused with spontaneous birth or delivery, with the spontaneous birth rate being quoted loosely as the 'normal birth rate'. Spontaneous delivery is a measurement of the mode of the baby's emergence only. It is possible to have an induction of labour and an epidural followed by a spontaneous delivery. Spontaneous delivery is a useful and important audit indicator but is less valid as a measure of overall intervention during labour and birth.

3 Safeguarding normal birth

Invasive medical procedures during labour and birth such as induction of labour, epidural anaesthesia, assisted delivery and caesarean section involve exposure to additional risks so should only be used in circumstances where there is reasonable evidence that the benefit will outweigh potential harm.[2-4] In recent decades, the use of these procedures has risen substantially. Concern about the overall impact of interventions throughout the period of parturition has led to a renewed interest in safeguarding normal birth. This has included the development of a composite definition for the process of childbirth with little or no intervention, to enable services to audit their practice in an agreed consistent way and for trends to be monitored.

3.1 Historical birth trends

During the 20th century the usual place to have a baby changed from home to hospital, with about one percent of women having their baby in hospital in 1900[5] rising to about 98% by 2000.[6] The change in setting for birth has been accompanied by an increase in the management of pregnancy and birth by medical specialists and the use of medical procedures (table 1).

Table 1. Birth trends in England and Wales for the period 1955 - 2009

	1955	1990	2009
Home birth rate (England and Wales)	33.4%	1.0%	2.9% (2008)
NHS hospital birth rate (England and Wales)	60.2%	97.9%	96.5% (2008)
Induction rate (England)	13.0%	18.3%	20.2%
Caesarean rate (England)	2.2%	11.3%	24.6%
Instrumental rate (England)	4.4%	9.4%	12.1%

N.B. NHS hospital birth rate and home birth rate do not add up to 100% due to births taking place in non-NHS hospitals and elsewhere. The hospital birth rate includes GP units, cottage hospitals and birth centres.

Although intervention rates have risen, recently there have not been any corresponding improvements in health outcomes. Caesarean rates increased from 20.6% to 24.3% between 2000 and 2007 without any significant change in intrapartum-related perinatal mortality.[7]

In recent years, attention has begun to focus on the whole pathway of labour and birth, and the proportion of women who have an entire labour and birth without medical intervention: beginning, progressing and concluding spontaneously. This has led to the development of a formal definition of normal labour and birth which can be routinely measured (see Figure 1).

3.2 Monitoring normal birth rates

The development of specific indicators means that the management of labour and birth can be compared between different countries[8] and different NHS providers.[9,10] An explicit normal birth indicator is needed. Evidence shows there have been wide variations in normal birth rates between different maternity services providers. For example, in 2006, normal delivery rates in obstetric units in England ranged between 31% and 59%,[11] averaging at 47%, and from 32% to 49% in Scotland, averaging at 41% in 2008.[10,12] Where normal birth rates are low, fewer women start their labour spontaneously and give birth without medical interventions such as caesareans or instrumental delivery. High intervention rates are a cause of concern as these are associated with physical and psychological morbidity[13-15] and the Maternity Care Working Party has called for normal birth rates to be routinely collected and published according a standard definition.[1] The measurement and audit of normal birth rates are supported the Royal College of Midwives, the Royal College of Obstetricians and Gynaecologists[1,16] and the Department of Health.[17]

4 Health policy focus within the UK

The most recent healthcare policies in all the countries of the UK support both the promotion of normal birth and an improvement in the quality of all healthcare including maternity services.

4.1 Promoting normal birth

In all four countries of the UK, maternity policy has been directed towards offering women access to midwife-led services, with an explicit focus in England, Wales and Scotland on promoting normal birth and reducing interventions.

In England, the Department of Health's National Service Framework[18] stated that "*for the majority of women, pregnancy and childbirth are normal life events requiring minimal intervention*". In Wales, the All Wales Clinical Pathway for Normal Labour was developed as a response to the increasing levels of intervention during labour.[19] The Welsh Assembly Government's document 'A framework for realising the potential of midwives in Wales' aimed to develop "*Policy and practice that reflects birth as a normal physiological process for the majority of women*" and recommended that "*Maternity service policies should be reviewed and developed to ensure that they minimise intervention for women with normal pregnancies*".[20] In Scotland the Scottish Government Health Directorates has established the 'Keeping Childbirth Natural and Dynamic' programme which aims to maximise opportunities for women to have as natural a birth experience as possible.[21] In Northern Ireland, community midwifery units are being developed, both alongside hospital labour wards and community based (standalone) units.

4.2 Improving and measuring the quality of healthcare

Delivering high quality healthcare has been a stated policy for all the countries of the UK.[22-25] Although at time of publication the new Westminster government's policy had yet to be announced in England quality healthcare has been stated to include three specific components:

- Patient safety
- Effectiveness of care
- Patient experience[22]

This aligns with the approach adopted by the governments in Wales and Scotland which identify the same three aspects as being important in measuring the quality of healthcare.[23,24]

The improvement of maternity care is a key health policy focus,[17,20,21] in recognition that health and wellbeing at the start of life have implications for health throughout life and of the key role that women's health plays for the whole family.[26-28] The quality of maternity care can be evaluated by considering the same framework for the assessment of quality as in other areas of healthcare. High quality maternity care therefore involves practices which are shown to be safe, effective for mothers' and babies' health and wellbeing, and are valued by women and their families. This is a universal principle. When maternity care is delivered by midwives, this framework will assess the quality of midwifery care specifically.

In order to assess whether improvements in healthcare have taken place there needs to be a systematic measurement of processes or outcomes which indicate a high quality of care. The King's Fund has reasoned that such 'quality indicators' need to be based on clear standards and evidence:

- Existing data sources can be used where appropriate information which indicates quality care is already being collected.
- Where such information is not available, new ways of collecting data can be developed to provide quality indicators.[29]

In England and Scotland information to derive normal birth rates according to the Maternity Care Working Party definition[1] is already routinely collected. In Wales and Northern Ireland additional data would need to be collected in order to calculate normal birth rates according to this standard definition.

4.3 Normal birth as a measure of quality

The concurrence of these various strands of healthcare policy, namely the promotion of both normal birth and high quality healthcare, encompassing safety, effectiveness and a service user perspective, together with a call for reliable indicators that will enable measurement of care quality, leads us to propose that the composite variable 'normal birth' can be examined as a potential quality indicator. Normal birth has been clearly defined (see figure 1) and thus normal birth rates can be identified and monitored over time.

If evidence regarding practices which promote and protect opportunities for normal birth demonstrates safety and effectiveness as well as showing that these forms of care are valued by women and their families, then the measurement of normal birth rates can be used as a way of assessing quality of care.

5 Evidence of normal birth as a measure of quality

In order for normal birth rates to be used as a measure of quality, there should be evidence that normal birth can contribute to improved safety (or that there is no statistically significant evidence that it is unsafe compared with other forms of care) [5,30] contribute to other valued clinical outcomes, and result in good or better experiences for women and babies than births with medical interventions. The evidence in this section shows that increasing normal birth rates from current levels in the UK of below 50% so that a majority of births in NHS trusts and boards were normal births would fulfil these criteria.

The Maternity Care Working Party has suggested a normal birth rate of 60% could be achieved by many maternity services on the basis that the upper limit of the range for England was 59% in 2006.[1,11] Whether or not this is the most appropriate rate, normal birth should be used as an indicator of quality for routine monitoring and service evaluation, and as part of primary research studies.

5.1 Minimising use of medical interventions in normal labour

NICE recommends that once labour has started, clinical intervention should not be offered or advised where labour is progressing normally and the woman and baby are well.[2] The Maternity Care Working Party further recommends that maternity services should set in place a strategy for supporting women to have a positive experience of pregnancy and birth and increasing normal birth rates.[1] This reflects the principle that midwifery practices that facilitate normal birth start much earlier in the maternity care pathway than the beginning of labour.

5.1.1 Safety

Birth is a normal physiological process and most pregnant women are fit and healthy. With appropriate support, the majority of healthy women are able to have a straightforward vaginal birth with minimal assistance. Medical interventions have been introduced primarily to increase the safety of birth for both mother and baby. The RCOG have stated that "promoting normal birth is an important philosophy of maternity care, with intervention only if necessary for the benefit of the mother or child."[16] Most women prefer to avoid interventions, provided that their baby is safe[9] and they feel they can cope.[15]

Clinicians may be concerned that a focus on normal birth could compromise the safety of birth. However the RCOG acknowledges

that 'normal birth should be integral to a quality maternity service' provided that 'the recognition of an ill mother or infant is paramount' (p50).[16] The multi-disciplinary development of evidence-based clinical guidelines is contributing to a shared understanding of the appropriate use of interventions such as induction, instrumental delivery and caesarean to ensure the safety of women and babies.[2,3,31] In ensuring quality, an appropriate balance needs to be struck between maximising safety for the mother and for the baby, in the current and in potential subsequent pregnancies, with achieving a range of other optimal health outcomes and ensuring a positive experience for the woman and a positive start in life for the baby.

The caesarean rates of different maternity service providers vary according to a number of factors.[9,32] Although an optimal rate can be difficult to determine, it is known that both under-use and over-use will have a negative effect on safety.[33-35] It has been suggested by clinicians that maternity units applying best practice to the management of pregnancy, labour and birth will achieve safe minimum caesarean rates consistently below 20%.[36] Maternity units are increasingly demonstrating that the application of evidence-based recommendations and innovative models of care can lead to lower caesarean rates without evidence of any reduction in safety.[37] For example Leeds Teaching Hospitals NHS Trust reduced their caesarean rates from 24-27% to 18-20% between 2003-4 and 2005-6.[38] Professor Walker has identified the value of multi-disciplinary development and implementation of clinical guidelines, joint monitoring of performance, and reviewing mistakes and near-misses to identify ways of preventing them happening in future.[39,40] In other settings, reduction or lower rates of medical interventions seem to be linked to a focus on supportive care, monitoring progress, multidisciplinary training and supervision, and building good teams with respect, support and mutual responsibility.[36,41]

Women themselves also have their own view of safety of maternity care which includes their perception of the skills and professionalism of those caring for them. For many women, trust in their midwives enables them to feel safe. In one qualitative study exploring women's views of safety of maternity care, "individualised attention from supportive, caring and experienced midwives mattered more than anything else".[42]

5.1.2 Clinical effectiveness and outcomes

There is a range of evidence to show that women who are otherwise healthy who can avoid medical procedures during labour and birth generally have a greater chance of starting motherhood fit and healthy which may make them more able to cope with the demands of a new baby. For example, women who have had a spontaneous vaginal birth are less likely to suffer from pain after childbirth than women recovering from a caesarean.[3] Women who have an epidural

for pain relief during labour are more likely to have an assisted delivery[43] which in turn is likely to result in an episiotomy[44] and therefore more painful perineal trauma than having a spontaneous vaginal birth.[45,46] Women who have a spontaneous birth are more likely to initiate breastfeeding than women who have had a caesarean birth.[3]

5.1.3 Women's experiences

For all women including those who are vulnerable or disadvantaged, the opportunity for having a well-supported normal birth can be empowering and reassuring.[47,48] There is some evidence that women's perceptions of their birth experience and long-term well-being are negatively affected by having an operative birth. A prospective longitudinal study found that for first-time mothers having a caesarean, forceps or ventouse birth there were 'significant psychological risks', including an increased risk of 'grief reaction, post-traumatic distress and depression'. In particular, women who had a caesarean birth were found to have diminished self-esteem after childbirth, whereas women who had a spontaneous vaginal birth generally had a pronounced increase in self-esteem following birth.[49]

A well designed comparative UK study looking at the management of labour and birth, women's experiences and psychological outcomes in both 1987 and 2000 showed that in both time periods the majority of women valued giving birth with a minimum of drugs, though the use of epidural anaesthesia had increased dramatically (from 19% to 59% of primigravidae).[15] Women in 2000 had more anxiety about pain and a reduced faith in their ability to cope with labour. This change particularly affected first-time mothers. The study emphasised the importance for women of feeling in control of themselves and their environment. This affected their satisfaction, fulfilment and postnatal well being,[50] suggesting that alongside working to minimise obstetric interventions it is vital that midwives listen to women, find out about their hopes and respect their wishes, focusing on providing emotional support and encouragement rather than withholding access to wanted pain relief. Generally, the study found that women who had avoided interventions during labour reported higher satisfaction scores compared with those who had had labour induced or augmented, an episiotomy or an epidural.[15] It has been suggested that more ready access to epidural anaesthesia for pain relief during labour is associated with a reduction in post traumatic stress disorder.[51] However, Ayers' review suggests that several factors can be responsible for traumatic stress, such as lack of support, feelings of loss of control or violation of expectations, as well as uncontrollable pain.[52] As Walsh has discussed, "in the context of a fragmented model of care, with little continuity and patchy provision of one-to-one support in labour, in a clinical environment with little resemblance to home, it is understandable that epidurals

are a welcome relief." He continued: "it is important not to confuse system failure with women's preference".[53]

Women's own stories show the importance of birth in their lives, both the positive nature of normal birth and the negative effect that interventions can have when they diminish a woman's sense of autonomy and control during labour. When one unwanted intervention is succeeded by other invasive and/or unwanted experiences the cumulative effect can be severe:

> "The fact that I was surrounded by people who cared about me and ... that inside of my head a voice was singing 'I did it!' made the first moments of being that child's mother confident (ones)."[54]

> "The induction sent me into immediate and very scary labour, with labour pains close together from the start...The baby became distressed, I was given a painful episiotomy and she was taken out with a ventouse. I then went into shock...I loved her immediately but the trauma of the birth, followed by a very painful internal infection, took a very long time to recover from."[54]

> "The birth was a hugely empowering experience and after the birth I felt simply wonderful – my self-esteem was restored and I have noticed a huge improvement in my general wellbeing... The way a woman gives birth can affect the whole of her life – how can that not matter?"[54]

5.2 Normal birth rates as an indicator for quality improvement

The overall aim in improving quality of care is to provide safe, effective care which is valued by women and their families. It has been shown that, in general, women who are supported to have a normal labour and birth without medical intervention are more satisfied with their birth experience and suffer less morbidity than women who have medical procedures. Provided that decisions about when to use medical interventions during labour and birth are made on a case-by-case basis taking into account individual needs and circumstances, and within the context of evidence-based, flexible care protocols and good multi-disciplinary team working, there is evidence that intervention rates can be reduced without compromising the safety of the mother or baby.

Increasing normal birth rates to an appropriate level by introducing practices and behaviours which reduce the need for medical procedures can therefore be used an indicator of improved quality of care.

6 Midwifery practices which improve quality of care

Certain midwifery practices have been identified which increase the opportunities for normal birth by promoting circumstances in which the physiological process of birth is supported and pharmacological and surgical interventions are kept to a minimum, particularly for women at low risk of complications.[1,36] These practices tend to involve building confidence in the physiological birth process and women's ability to give birth, so that they emerge feeling enriched rather than traumatised.[55] In particular they focus on midwives offering women more personalised care allowing them to form continuing relationships, where the women feel valued, listened to and more in control.[56,57] They also focus on ensuring that the environment for birth is optimal, avoiding disturbance of the neuro-hormonal processes which are necessary for optimal progress of labour and also enhance a woman's ability to cope with pain.[58]

Where there is evidence that these strategies and practices are safe (or not significantly less safe) and effective forms of care, and that they enhance women's experiences of pregnancy, birth and the postnatal period, these forms of care can be used of measures of quality. This section considers the evidence about a number of midwifery practices and assesses their value as quality indicators.

6.1 Continuity of midwife-led care

The NICE Antenatal Care guideline recommends that 'there should be continuity of care throughout the antenatal period.[59] A multi-disciplinary working party report on standards for maternity care states that women, including those at high risk of complications, benefit from the support and advocacy of a known midwife throughout their pregnancy.[16] In England there has been policy commitment to every woman being supported by a midwife she knows and trusts throughout her pregnancy and afterwards so as to provide continuity of care.[60]

Safety: A Cochrane review identified no adverse outcomes from midwife-led care and found no differences in fetal loss, neonatal death, low birth weight or admission to neonatal care.[56] Midwife-led antenatal care is regarded as being as safe as obstetrician-led care with no significant difference found for a number of outcomes including postpartum haemorrhage.[61]

Outcomes: Midwife-led care results in a reduced use of regional analgesia, fewer episiotomies and fewer instrumental births and

increases the chance of a spontaneous vaginal birth.[56] Women having midwife-care are more likely to start breastfeeding.[56]

Experience: Women prefer social models of care which recognise birth as an important life event and which allow them to develop relationships of trust with their caregivers.[62] For women who are particularly anxious or vulnerable, it is especially important that they have the opportunity to really get to know the midwife who will be with them in labour, so that they can build up a trusting relationship. Midwife-led care improves women's experiences, providing them with more personalised care during pregnancy, increasing the likelihood that they will be cared for in labour by a midwife they know and will experience feelings of control during labour.[56]

> "I would have preferred to have just one or two midwives looking after me whilst pregnant. Instead, there was a team so I just saw whoever was on duty on the day of my appointment. It didn't give me a chance to get to know them and vice versa, so there wasn't one/two midwives who knew everything that was going on in my pregnancy."[63]

> "I was very pleased with the care I received before and after my baby was born. I saw two midwives mainly and came to think of them as my friends."[64]

Summary: Evidence shows that providing midwife-led care is safe, effective and results in a positive experience for women. The extent of access to midwife-led care can therefore be used as a measure of midwifery care quality.

6.2 Offering the choice of giving birth at home

NICE and government departments have recommended that women should be offered the choice of where to give birth,[65] including planning birth at home.[2,60, 20]

Safety: A number of studies have compared the safety of birth planned at home compared with planning for a hospital birth. Observational studies suggest that for women at low risk of complications, birth is equally safe in each setting.[66,67]

Outcomes: The NICE guideline on caesarean section recommends that healthy pregnant women with anticipated uncomplicated pregnancies should be informed that planning a home birth reduces the likelihood of caesarean section compared with planning a hospital birth.[3] Planning for a home birth also reduces the likelihood of women experiencing an instrumental delivery or an epidural[68] compared with broadly similar women booking a hospital birth.

According to one large study undertaken in the UK, the rates of caesarean and instrumental delivery were halved for women who planned to have a home birth.[68]

Experience: Having a baby is a physical and emotional challenge as well as a major life event and it is important for women and their partners to be able to choose a setting which feels safe, comfortable and welcoming. Women who plan birth at home are more likely to be assisted by a midwife they know,[68] to have a greater sense of control,[69] have more privacy, be able to avoid separation from their family and personal space, experience less disruption caused by travelling during labour, and avoid the need to go into a large public, institutional environment which may be perceived as uncomfortable.[70] For some women, these factors enable them to feel more relaxed and secure,[68,69,71] and this increased sense of control and empowerment has been linked to better emotional outcomes.[15]

> "Being in my home meant I was more comfortable and relaxed. For me, knowing I had that choice to give birth at home was really empowering."[72]

> "It was hard to believe. There, in my husband's hands was a little slippery baby girl! That, without a doubt, was the most magical moment in my life. Everything was suddenly so peaceful and so perfect. The three of us were together in our warm, quiet home, in dim lights; it was a truly magical night. If we have more children in the future we will definitely opt for a home birth again." (Anna, personal communication)

Summary: Evidence shows that for women at low risk of complications, giving birth at home is safe, effective and results in a positive experience for women. The extent of choice of place of birth and consistent access to birth at home for low risk women can be used as a measure of midwifery care quality.

6.3 Offering the choice of giving birth in a birth centre

NICE and governments have recommended that women should be offered the choice of where to give birth,[65] including planning birth in a midwife-led unit or birth centre.[2,60]

Safety: A number of studies and reviews have compared the safety of birth planned in both alongside and freestanding birth centres and the evidence was considered in the NICE intrapartum care guideline.[2] Hodnett et al's meta analysis, based on six RCTs, three of which took place in the UK, did not identify any statistically significant difference in perinatal mortality for women planning birth in an alongside birth

centre compared with birth planned in an obstetric unit.[73] Poorer outcomes in a Swedish trial from 1997 raised concerns about a possible increase in overall perinatal mortality in alongside units compared with obstetric units.[74] However, the most recent study from Ireland (not available for the 2005 Hodnett review) did not identify any difference in perinatal mortality between planned midwidery-led care in an alongside unit and that planned in an obstetric unit (RR 1.00, 95% CI 0.18 to 5.46).[75] A synthesis of the outcomes of UK trials alone showed no statistically significant difference in perinatal mortality rates for babies born in alongside units compared with obstetric units (RR 1.52 [95% CI 0.77 to 3.0]).[2] However both this analysis of three UK trials and the larger 2005 meta-analysis, including all six eligible international studies,[73] were underpowered to assess differences in perinatal mortality.

A number of observational studies have compared the safety of birth planned in a freestanding birth centre compared with planned hospital birth but these did not report perinatal mortality.[2] This lack of high quality evidence on possible risks to either the woman or her baby relating to planned place of birth is being addressed by the Birthplace prospective study which is being carried out throughout England and is due to report in 2011.[76]

In the meantime, the risk of perinatal mortality in the babies of healthy, low-risk women booking care in a birth centre is small,[77] and NICE recommends that "Women should be informed that giving birth is generally very safe for both the woman and her baby".[2]

Outcomes: Planning a birth in a birth centre increases the likelihood of having a straightforward labour and birth.[2,78] Where the birth centre is alongside a hospital obstetric unit, there are lower rates of epidural use and episiotomy.[2] Where the birth centre is at some distance from an obstetric unit, there are also lower rates of instrumental and caesarean births and of induction.[78] In Scotland, where community maternity units are often at some distance from the district general hospital, a recent audit found that of all 1686 women admitted to a midwife-led unit during labour, 88% had a spontaneous (cephalic) birth and outcomes were generally positive.[79]

Experience: It is important for women and their partners to be able to choose a setting which feels safe, comfortable and welcoming. Evidence suggests that women who choose to give birth in a midwife-led unit or birth centre are more likely to be satisfied with their care than women giving birth in hospital.[78] One study, which used a randomised controlled design, suggests that this also applies to women who agree to be randomised.[80] Women who plan to use this birth setting tend to have greater continuity of care than those planning a hospital birth[81] and also have positive views about aspects

ranging from the home-like environment, receiving personalised treatment from a midwife they know and trust, to having a sense of control over the labour and birth.[78]

> "I went to see the birth centre, and it was beautiful. I projected myself with [partner] immediately in that situation, and it was perfect because I wanted to go in the pool... [It] is a more familiar environment than hospital. I could see myself there immediately."[82]

> "I really liked the atmosphere, it's calm and the midwives are trying to do it as naturally as possible."[82]

Summary: Evidence shows that for women at low risk of complications, giving birth in a birth centre is safe, effective and results in a positive experience for women. The extent of choice of place of birth and consistent access to birth centre care for low risk women can be used as a measure of midwifery care quality.

6.4 Opportunities for birth preparation classes

NICE recommends that pregnant women should be offered opportunities to attend participant-led antenatal classes.[59]

Safety: A recent review of antenatal education did not find any adverse outcomes associated with participant-led antenatal courses.[83]

Outcomes: Women should be encouraged and helped to move and adopt whatever positions they find most comfortable throughout labour,[84] yet women are less likely to try out positions during labour which are unfamiliar to them. Antenatal preparation can offer women the opportunity to try out a variety of positions.[85] Health-led parenting interventions in pregnancy can improve a range of outcomes such as adjustment to motherhood, maternal psychological well-being and parental confidence.[86] The social support developed during antenatal courses may improve women's well-being[87] and can have a protective effect against postnatal depression.[88,89] This is some evidence that breastfeeding initiation rates and breastfeeding duration can be improved by antenatal education.[59]

Experience: Women view birth preparation courses as being helpful and informative, even though other forms of information are available (for example, internet, television, health education leaflets). They value the opportunity to interact directly with a group facilitator with specialist knowledge and to explore issues and prepare for new experiences alongside other parents at the same life-course stage as

themselves.[90-92] Even though there are a number of factors influencing outcomes, reviews of evidence about antenatal education have concluded that, where antenatal preparation is participative or client-led, there is evidence that women may feel more satisfied with their birth experience.[59,83,89,93]

> "I just feel much calmer and more confident about the whole thing compared to before I started coming [to classes]. I feel more in control."[94]

> "[The classes] gave me the knowledge and confidence to have the labour and birth I wanted."[90]

Summary: Evidence shows that providing participative birth preparation classes is safe, effective and results in a positive experience for women. The extent to which women can access participative birth preparation courses through their maternity services provider can therefore be used as a measure of quality of maternity care. Where these courses are facilitated by midwives it can be used as a measure of quality of midwifery care.

6.5 One-to-one midwifery care in labour

NICE intrapartum care guidelines recommend that women in established labour should receive supportive one-to-one care.[2] This recommendation has become an agreed standard for maternity care.[16]

Safety: No adverse outcomes have been identified from providing one-to-one midwifery care.[56]

Outcomes: Providing continuous, one-to-one personal support during labour reduces the need for medical interventions, including caesarean, forceps, ventouse and epidurals.[95-97]

Experience: Women have a need for support during labour to attend to their physical and emotional needs and provide information where necessary. Current research shows that a key factor affecting how well women cope during labour and birth and how they feel afterwards is the level of support they perceive they have had. Being well supported during labour results in higher satisfaction of women giving birth and reduces feelings of trauma.[98,99] Great comfort can be gained from the security of receiving care from one or two known midwives who are experienced, calm, confident and empathetic:

> "I had no support at all. My labour progressed very quick and the midwives didn't believe me, and treated me like I was a drama queen. Was left alone during most of labour and when a midwife

did come to check me very reluctantly, I was 10cm dilated and the baby was coming. This was a very scary and painful time and still gives me nightmares."[63]

"Being allowed to trust my instincts about where I wanted to be and when I wanted to push was important...I had a midwife with me throughout labour. I needed the comfort and support of a caring and qualified female presence."[100]

Summary: Evidence shows that providing one-to-one midwifery care in established labour is safe, effective and results in a positive experience for women. The extent of provision of one-to-one midwifery care in established labour can therefore be used as a measure of quality of midwifery care.

6.6 Supporting the use of natural and low-technology comfort aids for pain relief

NICE makes the following recommendations about using aids for pain relief:[2]

- Women should be encouraged and helped to move and adopt whatever positions they find most comfortable throughout labour.
- Women who choose to use breathing and relaxation techniques in labour should be supported in their choice.
- Women who choose to use massage techniques in labour that have been taught to birth partners should be supported in their choice.
- The opportunity to labour in water is recommended for pain relief.
- The playing of music of the woman's choice in the labour ward should be supported.
- Acupuncture, acupressure and hypnosis should not be provided, but women who wish to use these techniques should not be prevented from doing so.

The RCOG recommends that maternity services research the 'working with pain' framework suggested by Leap.[101,102]

Safety: There have been no adverse safety outcomes identified from women choosing to use non-pharmacological methods of pain relief.[84] However as the most appropriate use and safety of some complementary therapies has not been established,[103] advice for midwives on their use is provided by their regulatory body, the Nursing and Midwifery Council.[104]

Outcomes: Upright positions can help women feel more comfortable and also speed up labour.[105] A study carried out by the NCT showed that women who had a vaginal birth had had better access to a wide range of valued facilities (e.g. privacy, space to walk around) and active birth equipment (e.g. a birth pool) than women who had had an emergency caesarean.[100] Helping women use equipment such as birthing balls, pillows, beanbags, floor mattresses and furniture of varying heights lets women choose a variety of positions to help relieve pain.[85] It has been shown that immersion in water also provides effective pain relief, so encouraging a woman to get into a warm bath or birthing pool will help reduce the pain of the first stage of labour, and mean she is less likely to need an epidural.[84] Upright positions in second stage of labour can reduce pain and instrumental delivery rates.[2] A recent Cochrane review of complementary and alternative therapies reported that using acupuncture and self-hypnosis showed a decreased need for pain relief, including epidural analgesia, and greater satisfaction compared with controls.[106]

Experience: The way midwives support and guide women through their pain can allow them to feel confident and positive about their ability to cope.[107,108] This support can be even more important to women than the actual level of pain[109] and the attitudes of midwives can have a profound impact on how women feel about their labours in the longer term.[110] In one study women who received more suggestions about coping with pain from their midwife rated them more highly than those who made few suggestions.[111] A systematic review indicated that, despite varying effectiveness in relieving pain, the majority of women felt positive about using acupuncture, massage, transcutaneous electrical nerve stimulation (TENS), hypnosis, relaxation and breathing, aromatherapy and the use of music.[105,112] Increasing comfort, privacy and non-disturbance can be addressed in all birthing environments.[113,114]

> "Being stuck on the bed with the monitor, I found it very difficult to manage contractions. I don't feel I had any control over my birth experience, it was a terribly lonely day where I tried the best I could, but I felt there was nobody who listened to my needs or gave me support."[100]

> "The only way I managed to have such a positive birth experience was by being totally focused on what I was doing... The room was large and spacious, so I was able to move about freely and change positions. There were various different seating / squatting / lying options available (e.g. beanbags, mats, chairs, tables, beds). There was calm music playing, calm colours and calm lighting. The midwives had a very personal, flexible approach – I led, the midwives followed."[100]

Summary: There is evidence that supporting the use of some natural and low-technology comfort aids for pain relief is safe, effective and results in a positive experience for women. The extent to which midwives encourage women to move around and use upright positions during labour and offer access to immersion in water for pain relief can therefore be used as a measure of quality of midwifery care.

7 Implementing a programme to measure quality of midwifery care

To get started on implementing a measuring midwifery care quality programme, a project manager will need to identify aims and objectives. A multidisciplinary team, including commissioners and user representatives, such as the maternity services liaison committee or labour ward forum, or a special working group, can provide a project steering group with shared responsibilities for the programme, or a more independent advisory group. Aims and objectives will need to make sense locally but they might include agreeing to monitor the normal rate and review changes, alongside reviewing practice and agreeing some specific practice developments.

The NHS Institute toolkit, *Focus on normal birth and reducing caesarean section rates* sets out practices related to facilitating normal birth and minimising the use of caesarean without compromising safety or woman's experiences of birth.[36] The activities undertaken and the monitoring results should be fed back to all members of the maternity team responsible for organising and delivering care.

7.1 Monitoring normal birth rates

Normal birth rates should be measured and audited by using the definition set out in the Maternity Care Working Party's *Normal birth consensus statement*.[1] A clear definition is necessary in order to be able to monitor trends. Normal birth rates should be published by all maternity units regularly and discussed by all those involved in their improvement, including the labour ward forum and maternity services liaison committee. Normal birth rates should be fully accessible to the public.

Other measures of birth without specific medical interventions can be used (for example, spontaneous vaginal birth [see figure 1] or physiological birth[115]) as long as they are clearly defined to avoid confusion. Use of different measures may limit comparison between trusts, but broader or more tightly focused definitions can be useful to benchmark particular aspects of care.

7.2 Finding out local women's views and experiences

Women can be asked about their experiences of elements of midwifery care known to influence normal birth rates.

Examples of questions (some taken from the Healthcare Commission survey of women)[116] include:

Midwife-led care

- If you saw a midwife for your antenatal check-ups, did you see the same one every time?
- During your pregnancy did you have the name and telephone number of a midwife you could contact if you were worried?
- Had you met any of the staff who looked after you during your labour and the birth before you went into labour?
- Did you have confidence and trust in the staff caring for you during your labour and birth?

Choice of place of birth

- At the start of your pregnancy did you have a choice of having your baby at home, giving birth in a birth centre (either in a hospital or at some distance to a hospital) or in a hospital maternity unit?'
- Did you get enough information from a midwife or doctor to help you decide where to have your baby?

Birth preparation

- During your pregnancy did you attend any antenatal classes provided by the NHS?
- During your pregnancy did you attend any antenatal classes provided by the NCT?

1:1 midwifery care

- Altogether, how many different midwives looked after you during your labour and the birth of your baby?

Support for coping with pain

- During your labour, were you able to move around and choose the position that made you feel most comfortable?
- Did your midwife make suggestions of ways you could cope with the pain of labour without using drugs?
- During your labour, were you offered immersion in water for pain relief?
- During your labour and birth, did you feel you got the pain relief you wanted?
- What position were you in when your baby was born?

Using women's experiences of midwifery care will become increasingly important as a measure of quality. These can be gathered in depth using a variety of patient feedback methods. Tools for doing this are described in the King's Fund report, 'The Point of Care - measures of patients' experience in hospital: purpose, methods and uses'[117] and the Picker Institute guide 'Using patient feedback'.[118] In England guidance has been set out in the publication "Understanding what matters: a guide to using patient feedback to transform services".[119]

8 Conclusion

Normal birth is a useful quality indicator for maternity care in general and midwifery care in particular. Evidence from a range of sources suggests that it fulfils the criteria to be a useful measure of the quality of care, using the criteria of safety, effectiveness and positive 'patient' experiences.

Local NHS programmes are needed to ensure that routine monitoring and reporting arrangements are in place, to plan service developments and evaluation, and to encourage and facilitate detailed research studies. The following practices have been identified as ones which are likely on past evidence to increase opportunities for normal birth without compromising safety:

- Providing continuity of midwife-led care.
- Offering birth at home or in a birth centre.
- Providing birth preparation classes.
- Ensuring one-to-one midwifery care for women in labour.
- Encouraging mobility and upright positions during labour.
- Offering access to immersion in water during labour for pain relief.

There is evidence, in some cases strong evidence, that these practices increase the quality of care by improving health outcomes and making care more personalised and responsive to the physiological, social and emotional needs of women and their families.

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