Birthplace in England: the benefits and risks of planning to give birth in a birth centre, at home or in hospital

Mary Newburn, NCT head of research and information, was a co-investigator on Birthplace in England, a large prospective cohort study of almost 65,000 births. She reports on the findings and implications for parents and the maternity services.

The Birthplace in England programme, led by researchers at Oxford University’s National Perinatal Epidemiology Unit, was commissioned by the Department of Health in 2007 when the maternity policy stated that:

‘Every woman should be able to choose the most appropriate place and professional to attend her during childbirth based on her wishes and cultural preferences and any medical and obstetric needs she and her baby may have’.1

Reviews had identified significant gaps in evidence relating to comparative outcomes for births planned in different settings.2 The Birthplace in England national prospective cohort study compared the safety of birth planned in different settings, for women at low risk of experiencing complications during labour. The settings were: at home, in a freestanding midwifery unit (FMU), alongside midwifery unit (AMU) or in an obstetric unit (OU).

It also looked at other important outcomes, including the extent of medical interventions and measures indicating positive opportunities or wellbeing. The primary outcome was a combined measure indicating an ‘adverse outcome’ for babies:

• stillbirths during labour or early neonatal deaths (within seven days of birth), or any one of a list of conditions associated with trauma at birth, including neonatal encephalopathy and meconium aspiration syndrome, fractures and nerve injury.3

NCT involvement in Birthplace

I was pleased to be invited to become a co-investigator as the status of the evidence relating to place of birth and women’s choice is highly relevant to our work. It is NCT’s policy that:

‘All pregnant women should be able to make choices about their planned place of birth. There should be sufficient provision of midwifery-led services, based on a social model of care, to meet the demand in all areas. Women and their partners need respectful professional support and evidence-based information relevant for their particular circumstances so that they can decide what feels right for them and their baby.’4

Midwifery units, usually referred to as birth centres, and home birth services tend to have a philosophy of care and objectives consistent with a ‘social model of care’.5 This means that birth is viewed primarily as a normal physiological and social process, rather than a risky clinical event, and midwives aim to work in ways that minimise the routine use of invasive interventions.6 6 It is important to have evidence to show what actually happens in practice — are ideals realised? — and to know about any adverse outcomes and transfer rates, so that services have information about the standards they reach, and can work on improving performance if necessary.

Methods

The Birthplace team collected data on 79,774 eligible women, of whom 64,538 were low-risk. They came from 142 (97%) of the 147 trusts providing home birth services, 53/56 (95%) of freestanding midwifery units, 43/51 (84%) of alongside midwifery units, and a sample of 36 obstetric units in England. A data collection form was required for all women in the study.1

Data collection and analysis

The main analysis was carried out on women identified as low-risk at the start of care in labour, as follows: 19,706 planned OU births, 16,840 planned home births, 11,282 planned FMU births, 16,710 planned AMU births. More than 96% of records had complete data relating to the primary outcome and confounder variables. Additional neonatal morbidity data were requested for 3.5% of births, and 94% of these forms were returned; maternal morbidity data were requested for 1.9% of births, and 93% of these forms were returned.3

Key findings

Some of the main results include:

• Healthy women who plan to give birth at home or in a midwifery unit are more likely to have a vaginal birth, and to experience less intervention compared with women who plan to give birth in an obstetric unit.

• For healthy women with low-risk pregnancies, the incidence of adverse perinatal outcomes is low in all birth settings.

• For healthy multiparous women with a low-risk pregnancy, there are no differences in adverse perinatal outcomes between planned births at home or in a midwifery unit compared with planned births in an obstetric unit.

• For healthy nulliparous women with a low-risk pregnancy, the risk of an adverse perinatal outcome seems to be slightly higher for planned births at home.

• The intrapartum transfer rates were high for births planned at home and in FMUs and AMUs for first-time mothers (around 40%).3 For low-risk women who had previously had a baby they were around 10%.

Birth centres – safe and sound

Overall, Birthplace results showed that babies had the same very small risk of an adverse outcome (4.3/1000) whether their birth was planned (at the start of care in labour) to take place in a midwifery unit or in an obstetric unit. Freestanding midwifery units were as safe as alongside units. For all low-risk women there were 3.5/1000 and 3.6/1000 ‘adverse events’ for babies, respectively. The rates of adverse events for women having their first baby were a little higher (4.5 and 4.7) and for women who had previously had a baby a little lower (2.7 and 2.4).

Women planning to give birth in a midwifery unit experienced substantially fewer epidurals, episiotomies, assisted deliveries (forceps and vacuum) and unplanned caesarean sections (CS) compared to those planning births in an OU.

More women had a ‘normal birth’, meaning that they mostly had no obstetric interventions at any stage of their labour and birth. Their labour started spontaneously, there was no use of epidural, spinal or general anaesthesia and the baby was born without the assistance of episiotomy, ventouse,
forces or caesarean. Overall, normal birth rates in the different settings were: OU planned births – 58%; FMU planned – 88%; AMU planned – 77% and home – 83%. The extent of these differences were reduced but still considerable when additional analysis was carried out, controlling for parity and including only women with no potentially complicating factors identified at the start of labour care. Unexpectedly, results showed that these factors, such as ruptured membranes before the onset of labour, turned out to be reported more frequently in the OU group.

Birthplace measured three ‘positive’ outcomes for mothers and/or babies. Compared with planned ‘low-risk’ OU births, the results were:

- Immersion in water – four times greater for births planned in FMUs and three times greater for AMU planned births
- Normal birth – as described above
- Initiated breastfeeding – higher for births planned in an FMU.

Home birth – parity affects outcomes

As with birth centres, planned home birth resulted in significantly lower rates of medical interventions, and higher rates of normal birth. Poor outcomes among the ‘low-risk’ women in the Birthplace study were rare in all settings, with over 990 babies in every 1000 born healthy and well. For low-risk women who have previously had a baby, there was no difference in adverse outcomes for babies between those planning to have their baby in an OU and those planning a home birth. For low-risk first-time mothers there was a difference. In round numbers, the risk of an adverse outcome for the baby was greater for those planning a home birth:

- 1 in 190 - for women planning to have their baby in an OU
- 1 in 110 - for women planning a home birth.

So, while overall the chance of an adverse outcome was small in these ‘low-risk’ mothers wherever the birth was planned, the chance of an adverse outcome was about 1.75 times greater for first-time mothers who were planning for a home birth.

Costs and cost effectiveness

On average, costs per birth were highest for planned OU births and lowest for planned home births. Average costs were as follows:

- £1631 for a planned OU birth
- £1461 for a planned AMU birth
- £1435 for a planned FMU birth
- £1067 for a planned home birth

These figures include all NHS costs associated with the birth itself – for example midwifery care during labour and immediately after the birth, the cost of any medical care and procedures needed in hospital, and the cost of any stay in hospital, midwifery unit, or neonatal unit immediately after the birth either by the mother or the baby. The costs for planned home and midwifery unit births take account of interventions and treatment that a woman may receive if she is transferred into hospital during labour or after the birth. They do not include any longer term costs of care.

There are full reports on the NPEU website, including the economic evaluation. NCT has also prepared an accessible Q and A sheet on the study findings.

More information is available in the Birthplace Research Programme – Background Q&A available at www.npeu.ox.ac.uk/birthplace

For enquiries, contact research@nct.org.uk

References


Extracts from NCT’s Policy

Briefing: Midwife-led units, community maternity units and birth centres:

- Women and their partners, across the whole of the UK, should be able to plan to give birth in a birth centre or community maternity unit. This midwife-led model of care focuses on supporting the woman and her family socially, emotionally and physically during pregnancy, birth and the postnatal period, while facilitating normal birth and breastfeeding.
- Women and their families need up-to-date evidence-based information, provided in an appropriate and accessible format, which addresses their questions, so that they can make well-informed decisions about their baby’s birth. Information about increasing the chances of having a straightforward birth is important, so that they can make choices in planning the birth to maximise the family’s on-going health and wellbeing.
- Booking and transfer protocols should be developed by a multi-disciplinary team, taking account of the best available evidence and NICE guidance to the NHS.

For NCT policy and evidence publications go to www.nct.org.uk/professional/research.