ASSOCIATION FOR IMPROVEMENTS

In the MATERNITY SERVICES

The benefits of home birth: evidence of safety, effectiveness and women's experience

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In the United Kingdom women have the right to birth at home if they so choose, and this right is reflected in many other countries around the world.

'In countries and areas where it is possible to establish a home birth service backed up by a modern hospital system, all low risk pregnant women should be offered the possibility of considering a planned home birth and should be informed about the quality of the available evidence to guide their choice'. (Cochrane Review: Home versus hospital birth[1])

'Women should be offered the choice of planning birth at home, in a midwife-led unit or in an obstetric unit.' (National Collaborating Centre for Women's and Children's Health[2])

'Our results support a policy of offering healthy nulliparous [first pregnancies]and multiparous [subsequent pregnancies] women with low risk pregnancies a choice of birth setting. Adverse perinatal outcomes are uncommon in all settings, while interventions during labour and birth are much less common for births planned in non-obstetric unit settings.' (Birthplace in England Collaborative Group[3])

Historical trends in home birth

Widespread hospitalisation for birth occurred following the publication of Peel Report[4] which stated that "we think that sufficient facilities should be provided to allow for 100% hospital delivery." It resulted in what Professor Wendy Savage has called "the biggest unevaluated medical experiment in the world." No-one asked the women if they wanted to birth in hospital and no evidence was produced that this would improve care and reduce infant and maternal mortality. Home birth rates then fell to an all-time low of less than 1% in the mid 1980s before increasing slightly again to their current levels[5]. In England in 2008, 18,933 women had a home birth out of 665,779 births (2.8%). Wales had the highest proportion of women having home births 1314 out of 35,256 births (3.7%). In Scotland, 881 women had a home birth out of 60,366 births (1.5%), and in Northern Ireland 83 women had home births out of 25,631 births (0.3%)[6].

UK Government policies

England, Scotland and Wales have policies that promote woman-centred maternity services with the expectation that choice will be offered to women, and that the option of home birth should be available[7,8,9].

The government's report Maternity Matters guaranteed every woman in England the choice of a home birth, birth centre birth or hospital birth by the end of 2009[10]. It is a target that is far from being met[11]. The Welsh Government's target of 10% home births by 2007[12] has not been met either.

Government policy is supported by the guidance given by the Nursing and Midwifery Council in 2006 to midwives detailing their responsibilities when asked to attend a woman who is birthing at home. This states that midwives should be competent to support women having a home birth and have a duty of care to respect women's choices[13].

Evidence of safety

It was commonly accepted that birth in hospital was safer than home birth until Marjorie Tew published her analysis of the risks of home birth[14]. This analysis has never been refuted and further research has supported her findings.

Table 1 Percentage of birth and perinatal mortality rate (PNMR) at different labour prediction scores (LPS) in different places of birth

LPS	Level of risk	Percentage of births		PNMR/1000 births	
Hospital	GPU/home	Hospital*	GPU/home	Hospital*	GPU/home
0-1	Very Low	39.4	59.4	8.0	3.6 (a)
2	Low	23.0	22.3	17.9	4.8 (b)
3	Moderate	15.6	10.6	32.2	2.0 (c)
4-6	High	18.2	7.5	53.2	14.2 (b)
7-12	Very High	3.8	0.2	162.6	166.6 (d)

*Obstetric beds only. Differences in PMNRs in these large samples of births have the following chances of being real : (a) 97.5%; (b) 99.9%; (c) 99.9%; (d) 2.5%. Source: Unpublished data from the British Births 1970 survey.

Julia Allison, in her systematic analysis of the work of community midwives in Nottingham between 1948 and 1972 found that "some 52% of women who had home births did not fulfil the criteria for normal birth given by the Ministry of Health in 1967. Nevertheless, the maternal and infant outcomes were good. " .... "The perinatal death rate to the home-booked was 3.0 per 1000, to the hospital booked 75.0 per 1000 and to the unbooked 142 per 1000." .... "Transfers from home to hospital were low: 8.6% of women were known to have been transferring the antenatal period and an estimated 1.1% during or around the time of

labour."[15]. These midwives regularly delivered premature babies, twins, breech and babies of grand multiparous women.

In 1979, a national survey of place of birth showed that a third of births at home were unplanned and they contributed substantially to the high perinatal mortality rates[16].

A number of studies have been done since the 1980s to ascertain the safety of planned home birth. Seventeen relevant studies were identified by the National Institute for Health and Clinical Excellence (NICE) and these were the subject of a recent review[17]. The 17 studies were graded for quality.

Only one UK study was regarded to be of reasonable methodological quality to provide information on safety of home birth[18]. The study found no statistically significant difference in perinatal mortality for women at low risk of complications: 1.07 per 1000 births in the planned home birth group and 1.51 for 100 for the planned hospital birth group. Two non-UK studies, one in the Netherlands[19] and one in Canada[20] also considered safety of home birth for low risk women and were of reasonable quality. Neither of these small studies identified any significant increased risk for planned home births. A further study in Australia considered safety for a combination of women at low and increased risk of complications and also found no difference in perinatal mortality between births planned for home and for hospital[21].

Overall the review of evidence found that the incidence of perinatal mortality and intrapartum related perinatal morality in the UK is very low, about 8 in 1000 births for perinatal mortality and less than 1 in 1000 for perinatal deaths occurring due to intrapartum related events whatever the setting chosen for the birth [17]. This is supported by the recommendations of the NICE Intrapartum Care Guideline which says that "women should be informed that giving birth is generally very safe for both the woman and her baby"[2].

Health benefits

Women who want a home birth are often accused of being selfish and of putting their babies at risk, without any evidence to support these claims. Indeed, research evidence indicates that the health outcomes of planned home birth are as good as or better than those for hospital birth, and that many women experience a range of emotional and practical benefits from giving birth at home[22].

"There is ample evidence that planning a home birth improves overall outcomes for mothers and babies....For women with normal pregnancies labouring at home increases the chances of a birth that is both satisfying and safe."[23]

In 1997 the research published by the National Birthday Trust Fund[18] of 6,044 planned home births in 1994 and 4,724 births in hospital to broadly similar women found that low-risk women who booked a home birth were half as likely to have a caesarean section as those who booked a hospital birth. They were also less likely to have a ventouse or forceps delivery, and had a reduced incidence of postpartum haemorrhage. Babies in the planned home birth group who were born at home were significantly less likely to have low Apgar scores or need resuscitation, and they also suffered fewer birth injuries[18].

Home birth has been shown to increase maternal satisfaction, and reduce the risk of post natal depression. It is accepted that women labour more easily when they are stress free and are in

control both internally and externally. A small qualitative study indicates the positive benefits of birthing at home in comparison to hospital with such feelings as being in control, relaxed, babies being more alert and calm[24,25].

The iatrogenic risks of birth are still poorly researched but as Campbell and Macfarlane[16] state: *"For some women, it is possible but not proven that the iatrogenic risk associated with institutional delivery may be greater than any benefits conferred."* (page 120)

While the risks of hospital deliveries are underplayed, and little researched, it should be noted that the Confidential Enquiry into Maternal and Child Health[26] noted that *"suicide was in fact the leading cause of Indirect or Late Indirect maternal death over the whole year following delivery."* This might be more likely after a hospital birth, as medical interventions and a lack of personalised care and support are known to increase psychological trauma[27].

What women want

It is important to understand differences between the government's, obstetricians' and paediatricians', and mothers' definitions, and assessments, of "risk". Often officials and doctors see it as having facilities and staff available immediately to deal with emergencies, or intervening in a situation which might become an emergency. Providing the mother takes home a live baby they are not concerned, or even aware, of the mental and physical damage that may have been done in the process. Mothers include the whole family outcome - include their mental health, bonding with the baby, bonding of the father with mother and the baby, bonding of siblings, and their postnatal physical state (fewer women with stitches, lack of infection, fewer women with postnatal depression or post traumatic stress). It is not just health of the child, but the creation of a family, with a mother who has the ability to care for them and joy in doing it. It is the accounts of women who have experienced both kinds of birth which has convinced many doubters.

"Over the last 50 years of medicalised, centralised birth, women's hopes and desires hve been remarkably consistent. They want to come through the experience physically and mentally whole and in a fit state to start life as apparent with a live and healthy baby. Parents who will not benefit from medical intervention have been misled into believing that the best way to achieve their hopes for the birth is by an operative or obstetric delivery. As a result, the medical resources of the health service are spread thinly across too many births and poor care may be provided both for those who only need non-medical support to have a normal birth and for the minority who need medical intervention to preserve the life or well-being of mother and baby."[28]

Nadine Edwards in her book 'Birthing Autonomy' explored how women make decisions about their births and what is important to them. It revealed the difficulties so many women have negotiating the kind of care they want and how current obstetrically dominated care can disempower and harm women emotionally, physically and spiritually[29].

It is clear from the appeals that women make to the AIMS Helpline that, despite Government support for home birth, women are actively dissuaded from birthing at home. They are rarely offered the option of a home birth and if they are sufficiently well informed to decide upon a home birth they are frequently persuaded to go into hospital.

"It's either been like, no I don't want to hear you, I don't want to hear this stuff because it's been just designed to make me say yes, yes, I'll go into hospital."[29]

Research by Singh and Newburn[30] suggests that around one in five pregnant women would at least like more information about the option of giving birth at home, but that this information - and the support to make it a real possibility - is not always available.

'Women who have no factors that contra-indicate a home birth, and who prefer a planned, attended home birth with such facilities for prompt transfer to hospital if necessary, should not be advised against this.'[22]

A Home Birth Survey Oct 2008 to March 2009 found that 20% of women choosing to have a home birth had to give birth in hospital because of a lack of community midwives[31]

The economic costs

Determining the costs of a home birth compared with the costs of a hospital birth is difficult because of the problems the National Health Service has in assessing the costs of individual care and treatments. However, an *'Economic evaluation of home births'* by by Henderson and Mugford[32], in the National Birthday Trust Fund report, concluded that the average cost of home birth (including transfers) was lower than that of hospital birth because of the reduced need for interventions and for hospital stays overall, even after accounting for the transfers to hospital:

"The better outcome alongside the lower expected costs per case lead us to conclude that the recommendations in 'Changing Childbirth' of a real option of a home birth for all women who want it would also be a cost-effective option."

At the moment, the home birth rate in the UK is less than 3% of total births and if the numbers of home births increase significantly then there is the potential for considerable cost savings. Torbay Hospital, providing a home birth service for a mostly rural community spread over 300 square miles, has a home birth rate over 11%[10]. Their successful planned home birth service with community midwives resulted in the Head of Midwifery being able to close a post natal ward, because of the reduction in women needing postnatal care. Chamberlain[18] in 1997 noted that if home births continued to rise the home birth service would become increasingly cost effective and there would be an overall reduction in costs.

Despite claims that midwives working in the community and providing a home birth service would involve more midwifery time (and therefore be more costly) the workforce planning tool Birthrate Plus showed that overall booked home births involved less midwifery time than hospital births[33].

It is known that intervention often leads to more intervention. Increasing caesarean section rates have cost implications for the NHS. A caesarean section in 1991 was estimated to cost £760 more than a vaginal delivery. By this calculation, *'every 1% increase in the national rate costs the NHS £5,000,000 per annum'*[34]. In arguing the case for caseload midwifery it was estimated that *'With every 1% increase in the caesarean section rate £5 million are added to the maternity services bill, - this is the equivalent of 167 midwives.'*[35].

In 2006 it was estimated that *"hospital birth costs approximately £850, homebirth £430"* [36]. Promotion and support of home birth reduces costs in the longer term, and reduces the levels of medical interventions. A midwife who supports a woman at home is a great deal cheaper than repeated use of drugs and high-tech equipment with the increasingly high caesarean section rates in the obstetric units.

Henderson and Mugford[32] reported that 'Costs for antenatal visits and tests, staff presence in labour and delivery, procedures and pain relief in labour, perineal damage, and most importantly, days in hospital, all confirmed the greater cost of hospital delivery.'

An analysis of the costs of home birth in the USA also found cost savings:

"The average uncomplicated vaginal birth costs 68% less in a home than in a hospital, and births initiated in the home offer a lower combined rate of intrapartum and neonatal mortality and a lower incidence of cesarean delivery."[36].

The Propaganda

The American College of Obstetricians and Gynecologists (ACOG) has long-standing opposition to home births. Typically, in opposing home births they fail to produce any evidence to suggest that women would be safer in hospital instead they focus on the well-worn tactic of suggesting unspecified dangers which in their view would be avoided by booking into a hospital. *"While childbirth is a normal physiologic process that most women experience without problems, monitoring of both the woman and the fetus during labor and delivery in a hospital or accredited birthing center is essential because complications can arise with little or no warning even among women with low-risk pregnancies."*

This statement fails to acknowledge that midwives are trained to identify complications and take action, either by correcting the problem or by transferring the woman to hospital. It presumes that the complication will necessarily result in death or disaster and, furthermore, assumes that the complications that are regularly seen in a hospital setting will also happen at home. The fact that low risk women booked for hospital birth undergo significantly more medical interventions than women booked for a hospital birth suggests that unnecessary interventions such as induction or acceleration of labour routinely take place in hospital, creating iatrogenic complications, but do not occur in a home birth attended by a qualified midwife.

Wiegers[37] showed that for low-risk first-time mothers, the outcome of a planned home birth is at least as good as the outcome of a planned hospital birth. For other mothers, the outcome of planned home births is significantly better than that of planned hospital births, further evidence of the obstetricians' failure to pay attention to the research evidence.

'It is now acknowledged by the most influential sources of evidence that there is no risk-based justification for requiring all women to give birth in hospital and, furthermore, that women should be offered an explicit choice when they become pregnant over where they want to have their baby.'[38]

Marjorie Tew in *Safer Childbirth? A Critical History of Maternity Care*[38] concludes with the following observation: *'In a period of political re-appraisal of the vested interests of the providers of goods and services, the time is ripe for a counter-revolution in maternity care, for the end of a harmful professional monopoly and the restoration of choice to mothers in carrying out their natural, and socially essential, function.'*

In June 2010 the American College of Obstetricians and Gynecologists published a study by Joseph R Wax and his colleagues on its web site www.ajog.org The study claimed to be a meta-analysis of maternal and newborn outcomes in planned home births vs planned hospital births[39]. The authors concluded that *'Less medical intervention during planned home births is associated with a tripling of the neonatal mortality rate.'* This resulted in an explosion of press comments attacking those who decide to birth at home labelling them as foolhardy, selfish, reckless and almost any other pejorative adjective.

As the weeks passed, articles and internet critiques of the study emerged. The conclusions of the study were shown not to be well founded.

A meta-analysis is a method of systematic review that combines several independent studies and draws conclusions from the combined data. Unfortunately, this particular meta-analysis was not as rigorous as one would expect and it has been widely criticised by lay-people and professionals all over the world.

The major criticisms are:

- The analysis is in direct conflict with a growing body of international quality research that shows the safety of home birth for low risk women and babies when they are attended by trained midwives.

- The analysis does not compare like with like. For example, birth at home in the United States is not the same as birth at home in the United Kingdom or Australia or the Netherlands. In the UK a woman has a right to birth at home and midwives are required by their Code of Conduct to attend. In Australia women often live hundreds of miles from a hospital and it is very difficult to find a midwife to attend a home birth, thus some women do not have a trained midwife in attendance. In the United States, depending on the State involved, midwifery can be illegal or it can be offered by lay midwives, and in the Netherlands home birth is attended by trained midwives and is constrained by rigid medical rules which require midwives to refer women to hospital in many circumstances, and the majority of the population live close to hospitals.

- The Wax study combined data from five different countries and four different decades. While older research studies are often relevant for a long time (until further research refutes them), birth practices and support for home birth has changed over time so that again one is not comparing like with like.
- Only three of the studies in the meta analysis clearly distinguished between planned and unplanned home births (and those studies found no significant differences in perinatal outcome).

- The Wax meta-analysis involved 9,811 babies from numbers of studies, yet the large study carried out by deJong in 2009 in the Netherlands, which was not included in the

meta-analysis involved 529,688 women[40]. deJong included enough women and babies to draw a conclusion about mortality and it found that babies born at home were NOT more likely to die or suffer severe illness in the first month of life.

- Not only was deJong's study omitted from the Wax meta- analysis, but it included a study by Dowsell et al which involved only 11 women31 and omitted another large prospective study of planned home births carried out in the USA[40]. Most of the 'planned' births contributing to the alleged higher risk of neonatal death came from another American study, by Pang and colleagues[41], that was based on birth certificates which had no information as to whether the births were planned to take place at home or not. It will have included, therefore, women who unexpectedly gave birth at home or women who were admitted to hospital during pregnancy or transferred in labour. Furthermore, because in many States in the USA community midwifery is outlawed the only option for the woman who is not prepared to have an obstetric delivery is to stay at home without skilled help.

Needless to say, the criticisms of the Wax study have been largely ignored by the press.

The following are links to comments that have been made by various organisations:

- National Association of Certified Professional Midwives: http://www.themidwifenextdoor.com/?p=930
- Lamaze International: www.scienceandsensibility.org/
- American College of Nurse Midwives: http://www.midwife.org/documents/ACNMstatementonAJOG2010.pdf
- Birth Sense website: http://www.themidwifenextdoor.com/?p=930
- British Medical Journal (BMJ 2010; 341:c4699): http://www.bmj.com/content/341/bmj.c4699
- Birth Journal: http://onlinelibrary.wiley.com/doi/10.1111/j.1523-536X.2010.00431.x/abstract

The Birthplace in England prospective cohort study

This is the latest and one of the largest studies of place of birth. 64,538 women expecting their first baby, between April 2008 and April 2010, were included in the study which was designed to compare perinatal (around the time of birth) and maternal outcomes for women with low risk pregnancies. Planned caesarean sections, caesarean sections before the onset of labour, and unplanned home births were excluded.[3]

The study compared outcomes for births planned at home, in free-standing midwifery units, alongside midwifery units (midwifery led units within an obstetric unit) with births planned in obstetric units for babies of women considered, before the start of labour, to be low-risk. In 2007, in England, few women give birth outside an obstetric unit – 8% in total. 2.8% at

home, around 3% in alongside midwifery units, and just under 2% in freestanding midwifery units[42].

The study compared perinatal mortality and specific neonatal morbidities between the groups and found that there was no difference in outcomes for either free-standing or alongside midwifery units compared with obstetric units but there was a higher incidence in the home birth group. This was interpreted in the press that birth at home was more dangerous than birth in hospital. What the press did not do was consider that this figure was achieved by combining perinatal mortality with specific neonatal morbidities. So, together with neonatal death and serious handicap it included: meconium aspiration syndrome; brachial plexus injury; fractured humerus, and fractured clavicle. While meconium aspiration syndrome is a serious condition it is not necessarily life-threatening, nor is the latter three conditions. The combination of all these outcomes only achieved statistical significance for first time mothers in the home birth group where the risk of these adverse outcomes was 9.3 per 1,000 births compared with 5.3 per 1,000 in an obstetric unit.

The study also found that women who planned to give birth, at home, in a free-standing or along side midwifery unit had significantly fewer interventions, fewer caesarean sections and more 'normal' births than women who planned to birth in an obstetric unit. The study did not look at the risks of post natal depression nor post-traumatic stress disorder.

The report concluded that 'Our results support a policy of offering healthy nulliparous [first pregnancies]and multiparous [subsequent pregnancies] women with low risk pregnancies a choice of birth setting. Adverse perinatal outcomes are uncommon in all settings, while interventions during labour and birth are much less common for births planned in non-obstetric unit settings. For nulliparous women, there is some evidence that planning birth at home is associated with a higher risk of an adverse perinatal outcome. A substantial proportion of women having their first baby who plan to give birth in a non-obstetric unit setting are transferred to an obstetric unit.

The study clearly shows the advantages and safety of midwifery led care and questions should be asked about why there is a slightly increased risk for first-time mothers birthing at home and why do so many women with no complications suffer so many unnecessary and sometimes harmful medical interventions during a hospital delivery?

The Birthplace Cohort Study published the average costs of birth in the settings available in the UK. It shows that a planned home birth is cheaper than any other option. "On average, costs per birth were highest for planned obstetric unit births and lowest for planned home births. Average costs were as follows: £1631 for a planned birth in an obstetric unit £1461 for a planned birth in an alongside midwifery unit (AMU) £1435 for a planned birth in a freestanding midwifery unit (FMU) £1067 for a planned home birth" If, instead of sending out two midwives to every home birth the Trusts ensured that the second midwife was a student not only would the costs reduce further, but they would also begin to develop a cohort of midwives who were confident at attending home births and who would have seen normal, straightforward, births.

Implementing change

In order to implement change it is essential that a cadre of midwives, which the UK had before the Peel Report, who are trained to facilitate normal birth and that they regularly

attended normal births, preferably at home or in free-standing midwifery units. Indeed, in the 1940s a newly qualified midwife was required to attend a primigravida at home as her first delivery on qualification. Contrary to the medical propaganda, that requires all primips to give birth in hospital 'because the staff do not know how the labour will progress', the midwives knew that the reality was that if a problem arose in a primip she gives plenty of notice which allows the midwife to correct the problem or bring the woman into hospital. As a result, the midwives attended premature babies, twins, breech and grand multips and, as Marjorie Tew and Julia Allison showed, the outcomes were far better than those who delivered in hospital.

As hospital births became the majority, fewer midwives had experience of, and confidence in, home births, and increasingly they were working to obstetric protocols.

Attending home births should be part of student midwife training, so that they can see the difference between a birth at home and an obstetric delivery in hospital; and it is time that obstetricians addressed their lack of knowledge of the evidence and the attitudes of those colleagues who sometimes deliberately mislead the public and use their perception of 'risk' to undermine women's confidence and prevent them birthing in the safety of their own homes or in free-standing midwifery units.

Women also need to be given clear unbiased and evidence-based information about the benefits of home birth.

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Hon Chair, AIMS
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Home Births in other countries

- Austria – women have a legal right to birth at home and the cost is refunded from health insurance.
- Australia – women have the right to birth at home.
- France – home birth is legal.
- New Zealand – women have the right to birth at home and the government refunds the cost.
- Netherlands – 30% of women birth at home.
- Spain – home birth allowed, usually with a private midwife.
- Switzerland – women have the right to birth at home.
- UK – women have the right to birth at home and a midwife must attend when called.
- Wales – women have the right to birth at home and the Welsh Government has set a target of 10% home births by 2007.

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