# Prospective regional study of planned home births

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**Abstract**

***Objective*—To collect data from a cohort of women requesting a home birth and examine the experience and outcome of pregnancy, the indications for hospital transfer, and the attitudes of mothers, midwives, and general practitioners.**

***Design*—Follow up study with anonymised postal questionnaires.**

***Setting*—Northern Regional Health Authority area.**

***Subjects*—The 256 women resident in the Northern region who expected to deliver in 1993 and whose request for a home birth became known to one of the local supervisors of midwives. Limited cross validating information was also collected retrospectively on all other women delivering a baby outside hospital in 1993.**

***Main outcome measures*—Rate of and reason for transferred care; maternal, midwifery, and general practitioner views; perinatal outcome.**

***Results*—Five women miscarried, leaving 251 in the study. Of these, 142 (57%) delivered at home. There were 17 (7%) caesarean sections but no perinatal deaths. General practitioners had reservations about half of the booking requests. Two thirds of the women thought they had not been offered any option about place of birth, 74 (29%) were referred to hospital for delivery before the onset of labour, and 35 (14%) were referred to hospital during labour. Intrapartum transfers were uneventful, and half the mothers commented spontaneously that they valued having spent even part of their labour at home.**

***Conclusions*—Home birth is valued for its family setting. General practitioners' support is sought and influential but uncommon, possibly because of a lack of understanding of the responsibilities of the midwife and general practitioner.**

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## Introduction

The debate about choice in childbirth has been rekindled recently[1] and along with it the issue of place of birth.[2,3] With the gradual withdrawal of most general practitioners from intrapartum care[4] and the progressive closure of many small units in line with government recommendations choice for most women has decreased. The incidence of home birth reached a national all time low in 1987 (0.9% of all deliveries), though it has doubled since then.[5] Such low figures are, however, a recent phenomenon: 30 years ago a third of all births occurred at home. Many pressures have contributed to the deskilling of general practitioners and midwives. Community midwives also left the employ of local authorities in 1974 and became health authority employees working within a medical and hospital based environment.

An analysis of the effect of place of birth on perinatal mortality in the Northern region over the years 1981-90 showed that, though there was a strong positive correlation between unit size and perinatal mortality (the largest units having the highest perinatal mortality), this correlation disappeared when mortality was related to planned rather than actual place of delivery.[6] One other notable finding was the low perinatal mortality in the small group of mothers planning a home birth.[7] As a result of that review the coordinating group responsible for the regional perinatal mortality survey commissioned a follow up study of home births and all requests for home birth in 1993 and convened a multidisciplinary steering group to plan and supervise that study.

## Subjects and methods

Women resident in the Northern region who expected to deliver in 1993 and whose request for home birth had become known to one of the local supervisors of midwives were asked to help with the study by their local community midwife. An undertaking was given that all participants would be invited to one of four open workshops planned for 1994 to discuss and disseminate the findings. The supervisors initiated prospective registration by means of a Freefone number at Penrith New Hospital. This was staffed throughout the 24 hours by midwives, who then notified the regional survey office so that pre-piloted questionnaires could be distributed by the supervisors at the appropriate time.

Information on each case was collected by six anonymised Freepost questionnaires designed to collect factual and attitudinal predelivery and postdelivery information from the woman, her general practitioner, and her midwife irrespective of where she eventually delivered. The views summarised in this paper are based largely on a structured textual analysis[8] of the free text comments also received.

Limited retrospective information was also collected by the community midwives on all the other mothers delivering outside hospital in 1993, which was validated against the birth registration returns made to the Office of Population Censuses and Surveys (now the Office for National Statistics). Cross validation detected some births not identified prospectively (including three planned home births) but also disclosed errors in the reporting of births outside hospital to the Office of Population Censuses and Surveys and their subsequent transcription. There were 38 826 registered births in the region in the study year.

All 16 research ethics committees in the region were informed in advance about the proposed regionwide audit.

## Results

Two hundred and fifty six mothers entered the study. Five (2%) miscarried and 142 (57%) of the remainder achieved a home birth (fig 1). There were no stillbirths or neonatal deaths. Factual data were obtained for all 251 women in the study. Eighty five per cent (1067/1255) of all attitudinal questionnaires were returned, including 90% (226/251) of the questionnaires sent to midwives, 86% and 90% (216/251 and 226/251) of the antenatal and postnatal questionnaires

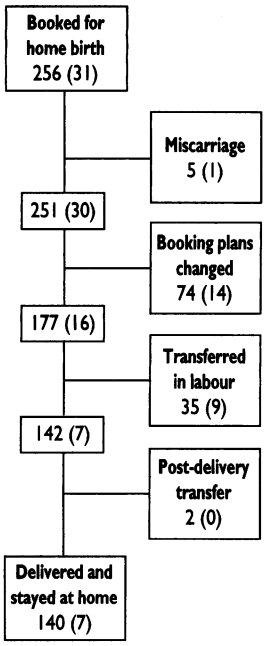


**Fig 1**—*Outcome of all women booked for home birth in 1993 (numbers of primiparous mothers in parentheses)*

sent to general practitioners, and 78% and 72% (196/251 and 181/251) of those sent to the women. The women came from a wide range of social and economic backgrounds.[9 10]

Women requesting a home birth usually approached their general practitioner before contacting a midwife, and the number of mothers dissuaded from considering home birth at that first interview is not known. All the women in the study whose request for a home birth became known to a supervisor of midwives were initially accepted for home birth by the community midwives.

## OUTCOMES

### *Changed booking*

Seventy four women (29%) initially booked for a home birth later accepted hospital delivery, and in only half was there a clear obstetric reason (table 1). The alternative, "domino" delivery[11] was offered to 17 of these 74 women (domino delivery was on offer publicly in only three of the 19 units at the time).

**Table 1**—*Reasons for changing booking plans before onset of labour*

| Reason | No of women (No delivered by caesarean section) |
|---|---|
| **Specific obstetric reasons** | |
| Postmaturity (189-197 days) | 7 (1) |
| Breech presentation | 5 (4) |
| Pregnancy induced hypertension | 5 (2) |
| Suspected fetal growth retardation | 4 (1) |
| Antepartum haemorrhage | 2 |
| Low lying placenta | 2 (1) |
| High head or ?oblique lie at term | 2 (1) |
| Twin pregnancy | 1 (1) |
| Large baby (4000 g) | 1 (1) |
| Other† | 8 |
| **Non-specific reasons** | |
| General practitioner's advice | 20 |
| Partner's wish | 5 |
| Midwife's advice‡ | 3 |
| Obstetrician's advice | 2 |
| **Personal reasons** | |
| Domestic circumstances | 5 |
| Requested induction post-term because of tiredness | 2 |

† Previous antepartum bleed, retained placenta, prolapsed uterus, or cervical surgery; high parity (>4); myomectomy in early pregnancy; unexplained haematuria; abdominal pain and poor antenatal cardiotocography trace.
‡ Two women were advised to attend hospital antenatal clinic at term, then encouraged to remain in hospital; one was transferred because there were not enough community midwives.

### *Transfers of labour*

Thirty five women were transferred to hospital after the onset of labour but only 20 (12% of those still under care at home) were in established labour when transferred (table 2). Community midwives accompanied all 20 women to hospital and stayed to deliver half, six of whom were discharged home later the same day. No woman needed obstetric intervention in the first hour after admission and no baby required intubation at birth; three babies, however, were admitted to special care (one after caesarean delivery and two for prematurity).

### *Home delivery*

The 142 home births were on the whole straightforward family events, though five occurred before the midwife arrived. The women's other children were present on 24 occasions. There were three water births (including one of the unattended births). Whereas 97 of the 162 women who spent at least part of their labour at home used nitrous oxide and oxygen during labour, only 36 used an opioid analgesic. Forty nine (30%) used no prescribable pain relief at any stage, and 29 (20%) of those who delivered at home had the third stage managed physiologically. Perineal suturing was carried out on 60 (42%) of these women, and on 17 occasions this was done by the general practitioner. Five of the women had an episiotomy.

### *Neonatal care*

One baby born at home had a low Apgar score but responded rapidly when the midwife gave bag and mask resuscitation. Two babies had severe malformations (Down's syndrome and a perimembranous ventricular septal defect) but there was no evidence that home delivery delayed the diagnoses.

### *Postnatal transfers*

One woman was transferred for suturing as the midwife lacked experience. One other women was transferred to hospital, where she was given a dose of intravenous ergometrine for an "atonic uterus" after losing 400 ml blood. No woman had a postpartum haemorrhage.

### *Unplanned home births*

A further 182 unplanned births were eventually identified as having occurred outside hospital in 1993 (including nine stillbirths and three neonatal deaths); 148 of these women had booked for hospital delivery but 34 had made no plans for professional care during

**Table 2**—*Reasons for transfer to hospital after onset of labour*

| Reason | Total | Primiparous women | Induced or augmented labour | Forceps | Caesarean section |
|---|---|---|---|---|---|
| **Problems before established labour** | | | | | |
| Preterm labour (<37 weeks) | 4 | 0 | 1† | 0 | 0 |
| Pre-labour rupture of membranes (>12 hours) | 10 | 3 | 10 | 0 | 2 |
| No community midwife available | 1 | 1 | 0 | 0 | 0 |
| **Problems in first stage of labour** | | | | | |
| Compound or face presentation | 2 | 0 | 0 | 0 | 2 |
| Disproportion | 1 | 0 | 0 | 0 | 1 |
| Possible fetal distress | 2 | 0 | 0 | 0 | 0 |
| Intrapartum bleeding | 2 | 0 | 0 | 0 | 0 |
| Slow progress | 12 | 5 | 7 | 3 | 0 |
| **Problem in second stage of labour** | | | | | |
| Slow progress | 1 | 0 | 1 | 0 | 0 |

† Induced because of pre-labour rupture of membranes.

labour. Eighteen of these 182 births occurred in a car or ambulance on the way to hospital.

VIEWS ON HOME BIRTH

*Mothers*

Questionnaires and comments from the mothers at the post-study workshops (attended by about 100 mothers) disclosed that, though hospital birth was acceptable to most mothers, their experience of home birth was very different. Eighty five per cent (188/221) of women who had previously delivered in hospital preferred the home birth even though 66% (146) had found the hospital experience not unpleasant. Only one woman who had a home birth said she would opt for hospital delivery next time. This woman had almost delivered on her own after an extremely rapid labour. Of women in the study who planned further children, 91% (136/149) said they would opt for a home birth again (including four who were delivered by caesarean section).

*"Although my previous two hospital deliveries were very positive they did not compare to the delight of giving birth at home. It was just so right."* This view of one mother was also evident in the comments made by women who spent part of their labour at home but transferred for delivery. Half of these women commented spontaneously on the value of being allowed to undertake some of their labour at home, and none commented adversely. One commented that had she been booked for a hospital delivery she would still have had to face a journey while in active labour. Another wrote: "I required a caesarean section for failure to progress. However, I did labour at home for which I am grateful. It was probably as good an experience as possible."

Table 3 summarises the most common comments made by the mothers. Concern that it would be less easy to retain control over what was happening in a hospital setting was the most frequent theme of the spontaneous comments before delivery and also the most strongly endorsed statement in the attitudinal questionnaire. Though this issue was raised less often in the open ended questions after delivery, the structured part of the questionnaire showed the issue to have retained its primacy.

**Table 3**—*Content analysis of comments made by women. Results expressed as numbers of mothers using certain phrases when answering open ended questions in two questionnaires†*

| | No of mothers |
|---|---|
| **Reasons expressed before delivery for preferring home birth** | |
| More in control | 154 |
| Prefer to be at home | 146 |
| More natural | 123 |
| Partner more involved | 110 |
| Less intervention | 108 |
| Less stress for baby | 102 |
| No need to leave other children | 91 |
| Safer at home | 40 |
| No transport worries | 11 |
| **Reasons expressed after delivery for preferring home birth** | |
| Relaxed | 61 |
| In control | 37 |
| Natural, non-clinical | 19 |
| Peaceful, calm | 19 |
| Private | 18 |
| Joyful celebration | 17 |
| Confident | 16 |
| Welcome for baby at home | 15 |
| Safer at home | 10 |

† Taken from all 193 antenatal questionnaires returned and 131 postnatal questionnaires returned by mothers who experienced labour or delivered at home.

*Midwives*

Three quarters of the midwives had been qualified more than 10 years. Half had attended fewer than six home births, and 11 had never attended a home birth. In 65 (26%) cases, however, the midwife knew the mother from a previous pregnancy. Midwives made 102 positive and 48 negative comments about home birth. They believed home birth enabled them to practise their role to the full but they had a range of practical concerns: the need for "on call" support and for better communication (mobile phones), for practice in suturing, and for training in resuscitation. Health authorities had differing policies with regard to the need to have two midwives present for every delivery. Lack of adequate and easily portable nitrous oxide-oxygen equipment was mentioned by mothers and midwives alike. Some midwives had felt vulnerable and isolated and that they lacked support from managers and supervisors.

*General practitioners*

Many general practitioners were equivocal in their approach to home birth. Though 71% (153/216) of those responding to the questionnaire thought home birth was a reasonable option for some women, only 89 (41%) of these were considered suitable for home birth by their general practitioner. Only 63% (136) of general practitioners said they were prepared to give cover for home birth, and 28 (11%) women changed their general practitioner in order to have a doctor supportive of home birth. Concern about possible complications and the adequacy of flying squad support[12] predominated, though concern was also expressed about the disruption home birth caused to other work in the practice and the impact on other partners in the practice (as in Nottinghamshire).[13]

In the event, general practitioners participated in 51 (36%) home births; however, only 16 midwives mentioned the general practitioner as actually being present at delivery.

Some women seem to believe that it is mandatory to have a general practitioner's approval before they can proceed with home delivery, but only one third of women who commented had been given any option about place of birth by their general practitioner. One woman tried 12 different doctors and could not find one prepared to provide intrapartum care; she continued to search even though she had already had one home birth without a general practitioner present. Only nine women (3.6% of all women studied) had a home birth as well as a supportive general practitioner and a midwife they already knew.

## Discussion

This study concentrates on the experiences of women requesting home birth wherever they ultimately delivered but, uniquely, it also examines the attitudes of the midwives and general practitioners. Women who might have wanted a home birth but were deterred at an early stage were not part of the study. Probably many requests never came to the attention of a supervisor of midwives. Possibly 10% of women might be interested in delivering at home.[7]

Women whose formal requests for a home birth were noted had obstacles placed in their way. Though women wanted the support of their general practitioner, only a minority had a doctor who thought their request was appropriate. For most women it was never a proffered option. Comments about the hostile response to any request for home birth confirm the anecdotal reports of

consumer groups such as the Association for the Improvement in Maternity Services and the National Childbirth Trust and evidence to the Expert Maternity Group.[1] In addition, many women who had booked a home birth were later transferred to hospital for delivery, both before and after the onset of labour. Despite the small number of primiparous women in this study, this happened almost twice as often as in other British studies of women booked for home birth[14 15] or birth in a unit staffed only by midwives and general practitioners.[16-18]

Some women chose home birth because they felt in control and some because they felt more relaxed in familiar surroundings. Other studies have highlighted similar factors.[19-21] Though attempts are being made to try to simulate home birth in hospital—a midwife known to the patient arranging delivery in a non-clinical environment close to a specialist unit—some women will continue to choose home birth. Transfer rates have also been high in most British studies of the above forms of care with[22] or without[23-25] general practitioner participation. Delivery proved uneventful for the 17 women in this study offered a domino birth,[11] but most judged this a very second best compromise. However homely hospital is made, the principle of freedom of choice remains, as acknowledged by the Royal College of Obstetricians, the Royal College of Midwives, and the Royal College of General Practitioners.[26]

General practitioners fear complications, which is one reason women find it difficult to obtain a home birth. This may partly result from their hospital experience of abnormal and problematical labour. Probably it also arises from a misunderstanding of their role and of the accountability of midwives as well as from an exaggerated idea of what is expected of general practitioners, who despite obstetric training are unlikely to have maintained their skills. Midwives identified a lack of support from managers and general practitioners and a lack of adequate equipment (mobile phones and adequate nitrous oxide) and confidence (suturing and neonatal resuscitation). They also reported an unacceptable lack of consultation when a change of booking was advised by another professional. None the less, when general practitioner and midwife worked together as a team each valued the relationship.

When the midwife rated the general practitioner as supportive there was a higher rate of home delivery (66 of 94 cases; 70%) than when the general practitioner was rated as unsupportive (45/83; 54%). It is not clear whether this difference was due to the negative impact of an unsupportive general practitioner or the positive impact of a supportive one. Though home birth is sought by only a minority of women, it is an option that is treasured and pursued tenaciously. As one woman wrote, "It is not for everyone, but freedom of choice is priceless."

This work has helped to identify why some women still value giving birth at home as well as some of the factors that prevent them achieving this. Women readily accepted genuine obstetric problems as a reason for transfer, but professional unease and antipathy not related to the particular pregnancy were not as readily accepted. Professionals need to be better informed, better educated, more tolerant, and better supported if this priceless freedom is to be maintained.

### Key messages

- The increasing number of women who request delivery at home view birth as a family event over which they want some control
- Women sought support from their general practitioners, which when given was associated with a lower rate of transfer to hospital; most doctors declined to give support, however, because they were concerned about possible complications
- A change to hospital care was common before labour (29%), though in half of these cases there was no obstetric reason for transfer
- Transfer in labour was also common (14%), but on no occasion was obstetric intervention required in the first hour after transfer; women transferred appreciated having spent part of their labour at home
- Midwives found their statutory obligation to help with home births generally rewarding but were sometimes concerned by lack of equipment and professional support

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# Collaborative survey of perinatal loss in planned and unplanned home births

Northern Region Perinatal Mortality Survey Coordinating Group

See editorial by Spencer and Fox and pp 1302, 1309, 1313

## Abstract

***Objective*—To document the outcome of planned and unplanned births outside hospital.**

***Design*—Confidential review of every pregnancy ending in stillbirth or neonatal death in which plans had been made for home delivery, irrespective of where delivery eventually occurred. The review was part of a sustained collaborative survey of all perinatal deaths.**

***Setting*—Northern Regional Health Authority area.**

***Subjects*—All 558 691 registered births to women normally resident in the former Northern Regional Health Authority area during 1981-94.**

***Main outcome measure*—Perinatal death.**

***Results*—The estimated perinatal mortality during 1981-94 among women booked for a home birth was 14 deaths in 2888 births. This was less than half that among all women in the region. Only three of the 14 women delivered outside hospital. Independent review suggested that two of the 14 deaths might have been averted by different management. Both births occurred in hospital, and in only one was management before admission of the mother judged inappropriate. Perinatal loss to the 64 women who booked for hospital delivery but delivered outside and to the 67 women who delivered outside hospital without ever making arrangements to receive professional care during labour accounted for the high perinatal mortality (134 deaths in 3466 deliveries) among all births outside hospital.**

***Conclusions*—The perinatal hazard associated with planned home birth in the few women who exercised this option (<1%) was low and mostly unavoidable. Health authorities purchasing maternity care need to address the much greater hazard associated with unplanned delivery outside hospital.**

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## Introduction

Home birth is uncommon in the United Kingdom and uncertainty exists about its safety.[1 2] Almost all mortality figures available nationally[1] provide merely a single global figure for planned and unplanned home births, though the constituent rates differ greatly.[3] The only recent figures for planned home birth in England and Wales relating to 1979[4] and 1993[5] provide an inaccurately low estimate of risk because it was not possible to account for those mothers who originally booked to have a home delivery but ended up delivering in hospital. This report records the outcome of planned and unplanned births outside hospital to residents in the former Northern Regional Health Authority area between 1981 and 1994.

## Methods

Records have been kept of every stillbirth and neonatal death to a woman normally resident in the Northern region, irrespective of where delivery took place, since clinicians in the area served by the former Northern Regional Health Authority launched their collaborative maternity survey in the second half of 1980.[6] Information was collected on where every woman had initially booked for delivery as well as where delivery took place. Notifications were cross validated against birth and death registration data compiled by the Office of Population Censuses and Surveys (now the Office for National Statistics) and 70 perinatal deaths identified between 1981 and 1994 that did not seem to have been registered as such by local registrars of births, marriages, and deaths; eight were concealed births to women who were never traced. This report uses the pre-1993 definition of stillbirth throughout and is concerned with the pre-1994 regional health authority boundary.

A total of 134 perinatal deaths occurred to women delivering outside hospital between 1981 and 1994 and all were treated as "home" births, though five actually took place in an ambulance, three in another person's house, and two in a general practitioner's surgery; 13 others were to women who were never traced. Additional information was collected on each death, including details of antenatal, intranatal, and postnatal care and results of any necropsy. Every stillbirth or neonatal death to a woman booked for home delivery at any time during pregnancy (irrespective of where delivery actually occurred) was also subjected to independent confidential review by clinicians from a different health district with access to copies of all the relevant unanonymised case records. Using the same approach as currently used in the United Kingdom confidential enquiries into maternal deaths, panels decided whether any aspect of the woman's professional care was substandard and whether any avoidable factor was present (that is, whether the pregnancy might have had a different outcome if a different strategy had been adopted).

### DENOMINATOR DATA

Whereas detailed, contemporaneously collected information was available on every death, denominator data were harder to assemble. Information on the total number of births outside hospital was available each year from the Office of Population Censuses and Surveys but it was not known how many of these were planned home births.

Information had been collected retrospectively on a random sample of 100 women delivered outside hospital in 1983 and on all women delivered outside hospital in the region in 1988.[7] Contemporaneous data were also collected on every delivery outside hospital during