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Survey of women's experiences of care in a new freestanding midwifery unit in an inner city area of London, England – 1: Methods and women's overall ratings of care

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ABSTRACT

Objective: to describe and compare women's choices and experiences of maternity care before and after the opening of the Barkantine Birth Centre, a new freestanding midwifery unit in an inner city area.
Design: telephone surveys undertaken in late pregnancy and about six weeks after birth in two separate time periods, Phase 1 before the birth centre opened and Phase 2 after it had opened.
Setting: Tower Hamlets, a deprived inner city borough in east London, England, 2007–2010.
Participants: 620 women who were resident in Tower Hamlets and who satisfied the Barts and the London NHS Trust's eligibility criteria for using the birth centre. Of these, 259 women were recruited to Phase 1 and 361 to Phase 2.
Measurements and findings: women who satisfied the criteria for birth centre care and who booked antenatally for care at the birth centre were significantly more likely to rate their care as good or very good overall than corresponding women who also satisfied these criteria but booked initially at the hospital. Women who started labour care in spontaneous labour at the birth centre were significantly more likely to be cared for by a midwife they had already met, have one to one care in labour and have the same midwife with them throughout their labour. They were also significantly more likely to report that the staff were kind and understanding, that they were treated with respect and dignity and that their privacy was respected.
Key conclusions and implications for practice: this survey in an inner city area showed that women who chose the freestanding midwifery unit care had positive experiences to report. Taken together with the findings of the Birthplace Programme, it adds further weight to the evidence in support of freestanding midwifery unit care for women without obstetric complications.

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Introduction

In the United Kingdom, policies about providing midwife-led care in non-hospital settings have a long history (Farr, 1872; Local Government Board, 1918). Current policy, set out in *Maternity Matters* (Department of Health, 2007), offered women in England the choice of birth at home, in a midwife led unit on or off a hospital site or team care in hospital. It also promised improved access to care for disadvantaged women. Although this and the *National Service Framework for Children, Young People and Maternity* (Department for Education and Skills, Department of Health, 2004) both offered choice, earlier (Campbell and Macfarlane, 1986, 1994) and more recent reviews (Stewart et al., 2005) found that the evidence available to inform choice was limited and came from small local studies. Long overdue large scale research, the Birthplace in England Research Programme, was commissioned to provide some of the evidence needed. It included a prospective study to compare the outcome of care in midwife-led units, at home and in consultant obstetric units (Birthplace in England Collaborative Group, 2011). The research described here was part of a project designed to assess a local innovation as well as to

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complement and collaborate with the national Birthplace research programme.

At a time when numbers of births in Tower Hamlets, a borough in a mainly deprived area of east London, were projected to increase by a third by 2021 (Tower Hamlets Primary Care Trust, 2006) the Barkantine Centre was redeveloped to serve the health and social care needs of the relatively deprived population of the north Millwall area of the Isle of Dogs. It opened on December 10th 2007 and the birth centre, situated on the top floor of this multipurpose building, opened for childbirth on January 7th 2008 (Barts and the London Maternity Service, 2012). It is a freestanding midwifery unit, designed to provide care for women with straightforward, healthy pregnancies (Rocca-Ihenacho and Herron, 2011; Rowe, R., Birthplace in England Collaborative Group obo., 2011). Women who start their care at the birth centre but develop obstetric complications are transferred by ambulance to a consultant-led obstetric unit, 2.6 miles away, less than 10 minutes by ambulance.

Other services available or based in the Centre include a children's centre, community district nursing, school nursing, mental health, health visiting, continence, dental and foot health services, a general practice, occupational therapy, a pharmacy, a women and young people's service and a café. At the planning stage of the birth centre, a steering group made up of service users and professional staff developed a business plan, which was accepted by Barts and the London NHS Trust. A multidisciplinary Birth Centre Evaluation Group, with members drawn from the Barkantine Birth Centre Steering Group, the Birth Centre Network, City University London Department of Midwifery, Tower Hamlets Primary Care Trust and Barts and the London NHS Trust was formed to plan and design the research. Health economists based at the National Perinatal Epidemiology Unit and working on the Birthplace Programme were invited to join the team.

The overall aim of the project was to assess the impact of opening a freestanding midwifery unit in a multi-ethnic inner city area. It did so by comparing the care offered to women at low risk of obstetric complications resident in Tower Hamlets before and after the opening of the birth centre and comparing birth centre care with hospital care. To do this the project team undertook research to:

(1) Assess the uptake, outcome and appropriateness of birth centre care for women in the catchment area for the birth centre, using routinely collected hospital and population-based data.
(2) Compare local women's preferences and experiences of maternity care, as well as the interventions and outcomes associated with their childbirth, by conducting surveys before and after the opening of the new birth centre.
(3) Conduct an economic evaluation of care in the birth centre.

This article describes the methods used in the survey designed to address objective two and its key findings about women's experiences of care. We also wanted to explore to what extent women felt able to make decisions about their care in pregnancy and during birth. Their experiences of specific aspects of care are described in a second paper (Macfarlane et al., submitted for publication). The economic evaluation and the analyses of routine data are being reported elsewhere.

Using surveys to evaluate maternity care

In the United Kingdom, parents and organisations representing them have long been active in expressing their views about maternity policy (Davies, 1915; Durward and Evans, 1990) and the importance of their views has been acknowledged, even if they have not inevitably been translated into practice (Jacoby and Cartwright, 1990; Green, 2012).

Questionnaire surveys have been used to ascertain parents' views at national level since the mid twentieth century in the United Kingdom (Joint Committee of the Royal College of Obstetricians and Gynaecologists and the Population Investigation Committee, 1948; Cartwright, 1979, 1983, 1986a, 1986b, 1987; Jacoby and Cartwright, 1990). Many more surveys have been done at local level and after a review of such surveys found them to be of variable quality (Garcia, 1981) model questionnaires were developed (Garcia, 1989; Mason, 1989; Craig, 1998). National or large scale surveys have been done in many other countries (Brown and Lumley, 1994, 1997; Declercq et al., 2002; Waldenstrom et al., 2004; Declercq et al., 2006; Chalmers et al., 2008; Dzakpasu et al., 2008; Declercq et al., 2013). In France there is a statutory requirement for hospitals to assess the level of satisfaction of all their patients (Laberère and François, 1999), whereas in England health care organisations are now required to ask their users a question about whether they would recommend a service to their family and friends, despite concerns about the appropriateness of this question for assessing public services (Appleby, 2013). Regular national surveys have been conducted in the UK, building on work undertaken at the National Perinatal Epidemiology Unit to develop a more standardised and validated survey instrument (Garcia et al., 1998; Hundley et al., 2000; Redshaw et al., 2007; Healthcare Commission, 2008; Redshaw and Heikkila, 2010; Care Quality Commission, 2010, 2013).

Most of these surveys used postal questionnaires, although some smaller studies used face to face interviews. Studies in the 1980s found that response rates were higher for face to face interviews generally and women born in Africa and Asia, those with problems with speaking English and those with partners in manual occupations were less likely to respond to postal questionnaires (Jacoby and Cartwright, 1990). Telephone interviewing was not widely used in the United Kingdom before the 1980s because of the relatively low levels of telephone coverage in less advantaged social groups, although it was used earlier in the United States where telephone coverage was higher (Marcus and Crane, 1986). Although telephone interviews have been more widely used in recent years in the UK, the ever growing use of mobile phones and the increasing numbers of subscribers who are not listed in directories means that they cannot be used as sampling frames (Boland et al., 2006), but telephone interviews are still feasible if participants are recruited via other routes.

Surveys and questionnaires have been used for a number of different purposes in the evaluation of maternity care. These have included local and national studies of women's view of maternity care in general, studies of specific aspects of care including preferences for place of birth or methods of care and to compile outcomes for randomised trials (Jacoby and Cartwright, 1990; Campbell and Macfarlane, 1994; Campbell and Garcia, 1997; Declercq and Chalmers, 2008). Problems have been identified with general questions about overall satisfaction with care. These include both methodological problems with the construction of questions (Sawyer et al., 2013) and women's tendency to appreciate the care with which they are familiar, while also having low expectations of choice and being unable to comment on options which were unavailable or which they were not offered (Riley, 1977; Porter and Macintyre, 1984; Jacoby and Cartwright, 1990; van Teijlingen et al., 2003). High rates of overall satisfaction have been combined with much lower levels of satisfaction with specific aspects of care to provide summaries which are limited in informational value.

Most surveys have been administered postnatally but the extent to which women answering questionnaires postnatally are able to recall their impressions of the antenatal period has

been questioned (Green et al., 1998). For this reason, some projects have adopted a staged approach, using questionnaires issued antenatally, postnatally and later in childhood (Green et al., 1998; Green et al., 2003; Waldenstrom et al., 2004; Zasloff et al., 2007).

Most surveys have been restricted to women speaking the official language of the country in which the survey was carried out thus excluding those migrant women who are not fluent in the language of the host country. This is inappropriate in Tower Hamlets, where many women of childbearing age do not speak English fluently. In some more recent surveys, including the surveys undertaken by Picker for the Healthcare Commission (Picker Institute, 2007), women who do not speak English have been offered the option of a telephone interpreting service, but this is unwieldy and raises questions about both the accuracy of translation and whether the same words and concepts are expressible in different languages. Standard procedures have been developed, using translations checked by 'back translation' for use in cases where the questionnaires are standard instruments to be translated for use many times (Liu et al., 2011).

Resources are unlikely to be available to do this in one-off surveys where an unknown number of different languages are likely to be involved. Further problems can arise if the language concerned is, like Sylheti, an unwritten dialect. A pre-existing maternity questionnaire was translated into Sylheti and checked using back translation (Duff et al., 2001) but it could not be readily adapted for this project. The Canadian Maternity Experiences Survey used a different approach, translating key survey terms rather than the whole questionnaire into the main languages spoken by migrant women. Interviews were conducted by interviewers fluent in these languages, referring to the glossaries (Kingston et al., 2011).

In Tower Hamlets, previous postal surveys of women receiving maternity care had low response rates (Picker Institute, 2007; Healthcare Commission, 2008). It was therefore decided to use telephone interviews instead and to recruit women at antenatal clinics.

Methods

Design

A two phase design was used. The first stage of the interview survey, described in Box 1 as the Phase 1 survey, was designed to ascertain women's views of the care available to them and the choices they made before the centre opened in January 2008. It started in March 2007 and antenatal interviews ended in September 2007. Postnatal interviews took place from June 2007 to March 2008. The second survey, described as Phase 2 in Box 1, was undertaken in late 2008 and 2009 after the birth centre opened in order to assess its impact. This left a seven month gap after the birth centre opened to give it time to become established. The data from the two surveys were then compared to assess the impact of the birth centre on women in the population. Each survey consisted of one telephone interview in late pregnancy and a second after the baby was born.

Ethics approval

An application was made to the City and East London Ethics Committee for ethics approval in November 2006. The Committee decided that the study was a service evaluation and therefore did not need formal ethics approval.

Design of questionnaire

Two questionnaires were designed, each drawing on the questionnaires used in two well-designed surveys of women's experiences, the 'Greater Expectations' (Green et al., 2003) and 'First class delivery' (Garcia et al., 1998) surveys. These two projects both used postal surveys, but the questions were selected and adapted for use in a survey involving two telephone interviews lasting about 30 minutes each. Most of the questions were pre-coded, but women were able to add 'free-text' comments at the end of the interview as well as in response to specific questions.

For non-English speaking women, the questionnaires were administered by bilingual interviewers. Bilingual research assistants were employed to conduct interviews in English, Sylheti and Bengali and the Trust's bilingual health advocates interviewed a small number of women in Somali and Urdu. For other languages the interview was done via three-way interview over the phone using a commercial interpreting service. The most common language spoken by non-English speaking women was Sylheti, a dialect of Bengali, which is not a written language. The questionnaires were administered via a telephone interview and the researchers conducting the interview had a printed copy of the questionnaire with the participant's ID number. The free text was written in specific spaces on the questionnaire. Inter-rater variability was minimised by agreement between the researchers carrying out the interviews about how to pose questions and write answers.

The antenatal questionnaire included questions relating to demographic and socio-economic information, the women's awareness of choices for place of birth including options outside the borough and their preferences and expectations about their labour. The postnatal questionnaire aimed to gather information about their experiences and how these matched up with expectations and preferences, as well as any suggestions they had for improving care. Because of concerns about the adequacy of explicit measures of satisfaction, we decided to include questions about evidence-based elements of care, which all women should be offered. This included asking if the midwife who looked after them in labour had discussed their birth plan with them, explained possible positions to adopt in labour, and showed them positions for birth.

The draft questionnaires were piloted in September 2006 with 10 local mothers. The women selected for the pilot agreed to be interviewed face to face. They helped to clarifying some questions by shortening them and advised us to eliminate others, which

Box 1–Timing of field work.

Phase	Recruitment	Antenatal	Postnatal
Phase 1, before opening of the birth centre	March to September 2007	March to September 2007	June 2007 to March 2008
Phase 2, after opening of the birth centre	August 2008 to March 2009	August 2008 to April 2009	March 2009 to January 2010

were unclear to them. Questions and answers were shortened. Agreement was reached about homogeneity of interviewing among the researchers conducting the interviews.

The questionnaires were further adapted in February 2007 to facilitate translation into Bengali, as there were questions which could not be directly translated. The questionnaire was then piloted over the phone with 10 more women whose consent had been obtained in the local antenatal clinic. No further changes were needed so their telephone interviews were retained for subsequent analysis.

Following analysis of phase one, further changes to the questionnaires were made to help in the preparations for phase two. The analysis of phase one made us realise that many women were not aware of having options and this made the analysis more difficult than expected. For instance questions such as 'Were you able to choose the position for giving birth?' or 'Were you able to choose how to deliver the afterbirth' did not make any sense to some women, who were not aware of having the possibility of choosing. As they did not know their options and the midwife did not inform them, they thought lying on the bed was the only way of giving birth and active management was the only way to deliver the placenta.

In phase two we changed the questions to more be more specific: 'Did the midwife, who looked after you in labour, discuss all the possible positions you could use for giving birth?', 'Were you able to choose the position for giving birth?', 'Where did you give birth?', 'Which position did you gave birth in?'. Questions about the third stage were modified to 'Were you given enough information about how to give birth to the placenta (the afterbirth)?', 'How did you deliver the placenta?', 'Was this the way you planned it?'.

Sample selection

Women recruited for the survey were those who had straightforward pregnancies and satisfied the eligibility criteria developed by the Trust for birth centre care summarised in Box 2 and set out in detail in the Trust's clinical guidelines.

It was assumed that women who live nearest would be the main users of the facilities at the birth centre so we therefore recruited women who were registered with general practices in the local areas of Stepney and Bow and those who had booked to deliver at the birth centre. As there was no single key comparison which could have been used to calculate a sample size, it was based on practical considerations, including the availability of funding. Past data from the local child health system were used to estimate the numbers of pregnant women living in the area who would satisfy the criteria for birth centre care. On this basis, we planned to recruit up to 350 women for the pre-implementation survey and up to a further 350 for the second survey after the birth centre opened. As there was insufficient funding for a sample of this size in the Phase 1 pre-implementation survey, which was funded from a separate source, the sample size was restricted to 250.

Box 2–Eligibility criteria for use of the freestanding birth centre. *Source*: Barts and the London Trust Guideline (2008).

- Singleton pregnancy
- Vertex presentation
- Spontaneous onset of labour
- Pregnancy from 37 to 42 completed weeks of gestational age
- Spontaneous rupture of membranes under 24 hours
- No relevant medical history – none of the specific conditions listed in Trust's guideline
- Uncomplicated pregnancy – none of the complications listed in Trust guideline

Recruitment and consent

To recruit women to the survey, the bilingual researchers and the health advocates attended the antenatal clinics in the community and at the birth centre. They approached eligible women attending antenatal appointments at approximately 28–30 weeks of gestation and invited them to participate. They provided printed information in English and where the women's first language was not English, verbal explanations of the study in the relevant language. The women were given two to four weeks to decide whether to participate in the study. Formal records were not kept of the uptake, but in general, women were keen to talk to the research team.

Those who agreed were asked to return the signed informed consent form to the midwife at the following appointment. Participants were contacted by an own-language interviewer by telephone on two occasions, the first at between 34 and 38 weeks of pregnancy and the second at least two months after giving birth, at a time to suit their convenience.

Analysis

Statistical analysis

Responses to the surveys were analysed using SPSS versions 16.0, 18 and 19. Where women took part in both antenatal and postnatal interviews, their responses were linked and the analyses reported here are based on these linked datasets. The linked data records were compared with the full set of antenatal interviews to check for response bias.

Cross-tabulations were used to explore relationships between women's expectations, experiences, the care they received and their degree of satisfaction with aspects of their care. Statistical tests were carried out using CIA Confidence Interval Analysis and OpenEpi Version 3.01. χ^2 tests were used for contingency tables and 95 per cent confidence intervals were calculated for differences between proportions. If adjoining cells contained small numbers, they were combined for statistical testing.

The key results are based on women interviewed both antenatally and postnatally. Although the aim was to analyse the data on an 'intention to treat' basis, this was modified to some extent. As recruitment was based on criteria applied in late pregnancy analyses of antenatal care, and some analyses of care at the onset of labour and method of childbirth and general views of care were based on the original choice of place of birth given in the antenatal interview. Because of selective referral of women's bookings from the birth centre to the hospital for elective caesarean section or induction, information about labour care was also tabulated by planned place of birth at the beginning of labour care and restricted to women whose labour started spontaneously. Women who had emergency caesareans were excluded from tabulations about care at birth and management of the third stage. Women who transferred from the birth centre to the hospital in labour were asked about the care they received in both places. Each individual table specifies which women were included.

Qualitative analysis

Free-text answers were analysed thematically by one member of the research team. Categories and subcategories were created and organised interpretively without use of computer software.

Findings

Response rates

Overall, 259 women were recruited in Phase 1 and 361 in Phase 2. Response rates to the antenatal component were over 80 per cent in each phase, as Table 1 shows. Despite some attrition at the postnatal stage, the overall response rates were about two-thirds of the women originally recruited. In Phase 1, there were nine informants who had booked for home birth or birth in other hospitals and there were 11 in Phase 2. These women were excluded from the analysis.

Characteristics of respondents

Table 2 shows the characteristics of women who were interviewed both antenatally and postnatally. It shows that women who initially booked for birth centre care were more likely to be in their thirties or early forties, but less likely to have previous children than those who booked for the hospital in phase two. The latter difference became wider, as primiparae were more likely to transfer to hospital care in late pregnancy. Those who booked at the birth centre were more likely to be living with their husband or partner and less likely to be living with other adults with or without their partners compared to those who booked for hospital. Of those who booked for the hospital, about two-thirds described their ethnicity as Bangladeshi, compared with only a quarter of those who booked for the birth centre. Over half described themselves as White British or Other White, mainly from Eastern Europe, while White women were in a minority of the group booked for the hospital at each phase. Nearly two-fifths of women who booked for the hospital were interviewed in languages other than English, as Table 2 shows, compared with only two women booked for the birth centre. Despite this, nearly half of the women who booked for the birth centre said English was not their first language. This was much higher than at the hospital, where only a quarter of respondents said English was their first language.

To check for selective attrition, the distributions of characteristics of women who were re-interviewed postnatally were compared with all those originally interviewed antenatally in the same phase and no significant differences were detected. Although the numbers concerned were very small, most of the women who were initially interviewed in languages other than English or Sylheti/Bengali could not be re-contacted for interview postnatally. In Phase 1, three women had been interviewed in Urdu, two in Somali and one in Portuguese and in Phase 2, three women had been interviewed in Polish, one in Pashtun, one in Cantonese and one in Japanese.

Women's views of care

Women's overall experiences of care in labour and birth

Women were asked to give an overall rating of their care. As shown in Table 3, these were tabulated both according to their initial choice of place of birth and also, for women with spontaneous onset of labour, according to where they began labour care. In the main, these were positive. Among women who originally planned to deliver at the birth centre, 61.5 per cent rated it as very good, 30.8 per cent rated it as good and only 2.6 per cent as poor or very poor. In contrast, only 18.8 per cent of women who initially chose the hospital rated their care as very good, 46.4 per cent rated it as good, whereas 25.0 per cent rated it as just OK and 9.9 per cent as poor or very poor in Phase 2.

Differences were more marked when the comparisons were restricted to women with spontaneous onset of labour, 76.0 per cent of those who started care at the birth centre rated their care as very good, compared with 21.2 per cent who started care at the hospital, as Table 3 shows. Among those starting labour care at the birth centre, 98.6 per cent said they found the staff were always kind and understanding compared with 60.6 per cent at the hospital.

Comparisons of experiences of care in labour were restricted to women with labours of spontaneous onset, as women who originally planned to deliver at the birth centre but who were induced or had an elective caesarean would have been transferred to the hospital. There were considerable differences in the continuity of midwifery care for women with labours of spontaneous onset starting care in the two settings, as Table 4 shows. In Phase 2, 42.7 per cent of women who started care at the birth centre were cared for by a midwife they had already met, compared with only 4.8 per cent at the hospital. Among women who started care at the birth centre, 87.8 per cent reported one to one care from a midwife, compared to 51.0 per cent at the hospital. Similarly, two-thirds of women who started labour care at the birth centre had the same midwife with them all the time compared with just under half of those who started care at the hospital in Phase 2. Women who said they did not have the same midwife were asked if this was because of a shift change. This was the case for just under a third of the women at the hospital who had a change of midwife and just over a half of those at the birth centre.

Higher proportions of mothers with previous children and all mothers starting care at the birth centre reported that they had a birth plan and they were more likely to report that it had been useful, as Table 4 shows.

In Phase 2, 78.6 per cent of women with no previous children who planned to give birth at the birth centre reported having made birth plans compared with 62.2 per cent at the hospital, as Table 4 shows. Just over half of the women who intended to give birth at the birth centre reported that they found the birth plans very useful, compared with just over a quarter of those who started care at the hospital. Among women who started labour at the birth centre and transferred to the hospital, the proportion who found the birth plan useful was lower than for women who remained at the birth centre.

Women were asked whether staff supported their choices in labour. The perception of staff support was very much higher, almost universal, at the birth centre. Among women who transferred from the birth centre to the hospital, about three quarters felt their choices were strongly supported by birth centre staff, but only about half felt this level of support from hospital staff.

In Phase 2, women were asked some more specific questions. Among women with spontaneous labour starting labour care at the birth centre, nearly all said they always felt their privacy was respected and that they felt they were treated with respect and dignity compared with significantly lower but still substantial proportions of women starting care at the hospital, as Table 5 shows. In addition, higher levels of cleanliness were reported at the birth centre.

In parallel with the opening of the birth centre, there were some changes at the hospital between phases 1 and 2. As Table 3 shows, the proportions of women rating the hospital care as very good fell, although the proportions rating it good increased along with the proportions rating it as just OK. There was also a

Table 1
Response rates in each phase of the survey.

	Phase 1	Phase 2
Number of women recruited	259	361
Number interviewed antenatally	212	298
Percentage response	**81.9**	**82.5**
Number interviewed postnatally	172	236
Percentage of women interviewed antenatally	**81.1**	**79.2**
Overall percentage response	**66.4**	**65.4**

Table 2
Characteristics of participants interviewed postnatally by intended place of birth at time of antenatal interview.

	Intended place of birth, numbers			Intended place of birth, percentages		
	Phase 1	Phase 2		Phase 1	Phase 2	
	Hospital	Hospital	Birth centre	Hospital	Hospital	Birth centre
Age, years						
16–20	11	8	3	6.7	5.4	4.0
21–25	52	45	8	31.9	30.2	10.7
26–30	48	55	24	29.4	36.9	32.0
31–35	42	31	33	25.8	20.8	44.0
36–41	10	10	7	6.1	6.7	9.3
Total replies	163	149	75	100.0	100.0	100.0
Comparison between hospital in phases 1 and 2; $\chi^2=2.489$, $p=0.647$, 4df						
Comparison between hospital and birth centre in phase 2, $\chi^2=18.42$, $p=0.00102$, 4df						
Women with previous children	90	89	32	55.2	58.9	43.2
Total stated	163	151	74	100.0	100.0	100.0
Difference between hospital in phases 1 and 2 = −3.7, 95% CI, −14.5, 7.2						
Difference between hospital and birth centre in phase 2 = 15.7, 95% CI, 1.8, 28.8						
Women living with						
Husband/partner	107	101	63	65.6	70.1	84.0
In a house with no other adults	7	16	4	4.3	11.1	5.3
Other adult family members	15	11	4	9.2	7.6	5.3
Partner and other adult family members	33	16	3	20.2	11.1	4.0
Partner and friends	1	0	1	0.6	0.0	1.3
	163	144	75	100.0	100.0	100.0
Partner and other family members and partner and friends combined						
Comparison between hospital in phases 1 and 2: $\chi^2=9.65$, $p=0.0218$, 3df						
Comparison between hospital and birth centre in phase 2: $\chi^2=5.25$, $p=0.154$, 3df						
Ethnic origin						
White British	12	20	27	7.4	13.3	36.0
Other white	16	16	15	9.8	10.7	20.0
Mixed	4	1	2	2.5	0.7	2.7
Black	6	5	3	3.7	3.3	4.0
Indian	1	8	3	0.6	5.3	4.0
Pakistani	2	0	1	1.2	0.0	1.3
Bangladeshi	114	96	19	69.9	64.0	25.3
Other	8	4	5	4.9	2.7	6.7
Total stated	163	150	75	100.0	100.0	100.0
Comparison between, White British, Other White, Bangladeshi and all other groups combined						
Comparison between hospital in phases 1 and 2: $\chi^2=6.59$, $p=0.0862$, 3df						
Comparison between hospital and birth centre in phase 2: $\chi^2=31.6$, $p<0.00001$, 3df						
Language of interview						
English	91	89	73	56.2	59.3	97.3
Sylheti	45	26	2	27.8	17.3	2.7
Bengali	25	33	0	15.4	22.0	0.0
Urdu	1	0	0	0.6	0.0	0.0
Polish	0	2	0	0.0	1.3	0.0
Total	162	150	75	100.0	100.0	100.0
Comparison between proportions of interviews in English						
Difference between hospital in phases 1 and 2 = −3.2, 95% CI, −13.9, 7.7						
Difference between hospital and birth centre in phase 2 = −38.0, 95% CI, −46.2, −28.0						
Women with English as their first language		37	40		25.2	53.3
Total replies		147	75		100.0	100.0
Difference between hospital and birth centre in phase 2 = −28.2, 95% CI, −40.7, −14.7						

significant decrease in the proportions of women reporting that staff were kind and understanding, as Table 4 shows, along with a decrease in the proportions of women cared for by a midwife they had already met but there was no change in the proportion who had the same midwife with them all the time in labour. There was no change in the proportion of women who had a birth plan but the proportion who found it of no use decreased.

Comments made in response to open questions

A considerable number of more wide ranging comments were made in response to free text questions.

Common themes emerging from the analysis of these included staff communication skills, a sense of being supported, listened to and cared for, continuity of carer and involvement of the birth supporter by the midwife. Women in both environments and also women who transferred to hospital in labour valued positively these features of the care they received.

A woman said about the birth centre:

> They were so super! They discussed my progress not with numbers i.e. how many hours to go or how many centimetres I was dilated but with positive encouragement and listening to me. They were so supportive and understanding to me and to

Table 3
Women's overall views of care.

	Numbers			Percentages		
	Phase 1	Phase 2		Phase 1	Phase 2	
	Hospital	Hospital	Birth centre	Hospital	Hospital	Birth centre
(a) Overall rating by place of booking at time of antenatal interview						
How do you rate the care you received while having your baby						
Very good	68	21	72	41.2	18.8	61.5
Good	52	52	36	31.5	46.4	30.8
Just OK	22	28	6	13.3	25.0	5.1
Poor	13	5	1	7.9	4.5	0.9
Very poor	10	6	2	6.1	5.4	1.7
Total stated	165	112	117	100.0	100.0	100.0
Comparison of proportions of good and very good combined						
Difference between hospital in phases 1 and 2 = 7.5, 95% CI, −3.4, 18.6						
Difference between hospital and birth centre in phase 2 = −23.7, 95% CI, −37.0, −16.8						
(b) Overall rating by planned place of birth at the onset of labour care for women with spontaneous onset of labour						
How do you rate the care you received while having your baby						
Very good	51	22	57	41.5	21.2	76.0
Good	41	47	15	33.3	45.2	20.0
Just OK	18	27	3	14.6	26.0	4.0
Poor	6	5	0	4.9	4.8	0.0
Very poor	7	5	0	5.7	4.8	0.0
Total stated	123	104	75	100.0	100.0	100.0
Comparison of proportions of good and very good combined						
Difference between hospital in phases 1 and 2 = 8.5, 95% CI, −3.4, 20.2						
Difference between hospital and birth centre in phase 2 = −29.7, 95% CI, −39.5, −18.7						
(c) Rating of care in labour by planned place of birth at the onset of labour care for women with spontaneous onset of labour						
When giving birth were the staff kind and understanding?						
Yes, always	97	63	72	80.2	60.6	98.6
Sometimes	17	36	1	14.0	34.6	1.4
Rarely	3	3	0	2.5	2.9	0.0
Never	4	2	0	3.3	1.9	0.0
Total stated	121	104	73	100.0	100.0	100.0
Comparison of proportions of yes, always						
Difference between hospital in phases 1 and 2 = 19.6, 95% CI, 7.7, 31.0						
Difference between hospital and birth centre in phase 2 = −38.1, 95% CI, −47.7, −27.4						

my partner. They really helped me so much and gave me such a positive attitude and encouragement the whole way through.

Another woman highlighted the long-term importance of their experience at the birth centre:

It was better than very good service. The privacy and physical space really helped, I didn't feel crowded. Giving birth there made a huge difference to me throughout the following months. It helped me not feeling scared unlike after the previous experience.

The group of women who gave birth at the birth centre were very pleased with the involvement with decision-making. The only negative comments came from a few women who wanted to be able to access the birth centre in early labour and felt not listened to by the midwife on the phone:

The only problem was not being allowed to come into the birth centre when I thought I should be there. I didn't like that they were not listening, believing me when I called on the phone.

There were positive comments about hospital birth as well:

The midwife was excellent, really supportive, kept me at ease. She was very hands on, gave me a massage. She stayed with me throughout which was really nice of her. It was a really good experience.

On the other hand negative experiences in hospital were linked with lack of support:

The midwife was not supportive or encouraging during labour. She would not allow me to try different positions and she was not listening to me about my back problems. She also said negative things about me after the baby was born.

Being rushed and lack of time by the hospital midwife affected the women negatively:

The midwives were not so good; they were screaming and too rushed. They were very busy and kept rushing around and I didn't like that at all.

A few women felt some doctors lacked communication skills and empathy:

The doctors stood there and chatted among themselves instead of me. I hated my experience … .

If women had to transfer, continuity of carer and good communication between the birth centre and the hospital staff was perceived as very important. A woman said:

The midwife at the birth centre was absolutely phenomenal, fantastic, brilliant. She was calm, she stayed with me after her shift finished, she accompanied me to hospital for my postnatal care.

Table 4
Continuity of midwifery care in labours of spontaneous onset.

	Numbers			Percentages			Comparisons, hospital		Comparisons, Phase 2	
	Phase 1	Phase 2		Phase 1	Phase 2		Phase 2 and Phase 1		Birth centre and hospital	
	Hospital	Hospital	Birth centre	Hospital	Hospital	Birth centre				
Analyses by planned place of birth at the onset of labour care for women with spontaneous onset of labour										
							Difference	95% CI	Difference	95% CI
Women cared for by a midwife she had already met										
	19	5	32	15.3	4.8	42.7	10.6	2.6, 18.4	−37.9	−49.5, −25.8
Total replying	124	105	75							
Women who had one to one care all the time in labour										
	–	53	65	–	51.0	87.8			−36.9	−47.9, −23.6
Total replying	–	104	74	–						
Women who had the same midwife with them all the time in labour										
	60	51	50	49.2	48.6	66.7	0.6	−12.2, 13.4	−18.1	−31.5, −3.4
Total replying	122	105	75							
Use of birth plan										
Women who had a birth plan										
No previous children	27	23	33	50.9	62.2	78.6	−11.2	−30.2, 9.4	−16.4	−35.2, 3.6
Previous children	19	26	19	26.8	38.2	59.4	−11.5	−26.3, 4.0	-21.1	−39.6, −0.3
All	46	49	49	37.1	46.7	66.2	−9.6	−22.0, 3.2	19.5	−33.0, −4.8
Women replying										
No previous children	53	37	42							
Previous children	71	68	32							
All	124	105	74							
Was it useful?										
Yes, very	10	14	27	27.0	27.5	51.9	Excluding 'I don't know'			
Yes, a little	11	24	19	29.7	47.1	36.5	χ^2	***p* and df**	χ^2	***p* and df**
No	13	8	4	35.1	15.7	7.7	5.00	$p=0.0822$	5.88	$p=0.0529$
I don't know	3	5	2	8.1	9.8	3.8		2 df		2 df
Total replying	37	51	52	100.0	100.0	100.0				

Table 5
Differences between the hospital and birth centre in Phase 2.

	Numbers		Percentages	
	Phase 2		Phase 2	
	Hospital	Birth centre	Hospital	Birth centre
Analyses by planned place of birth at the onset of labour care for women with spontaneous onset of labour				
Did you feel your privacy was respected during labour and birth				
Yes, always	78	70	74.3	93.3
Most of the time	17	2	16.2	2.7
Sometimes	6	1	5.7	1.3
Not at all	4	1	3.8	1.3
Other	0	1	0.0	1.3
Total stated	105	75	100.0	100.0
Comparison of proportions of yes, always				
Difference between hospital and birth centre in phase 2 = −19.0, 95% CI, −28.9, −8.1				
While giving birth, were you treated with respect and dignity?				
Yes, definitely	65	71	62.5	97.3
Yes, to some extent	34	2	32.7	2.7
No	5	0	4.8	0.0
Total stated	104	73	100.0	100.0
Comparison of proportions of yes, definitely				
Difference between hospital and birth centre in phase 2 = −34.8, 95% CI, −44.6, −23.8				
Did you find the room clean?				
Yes, very clean	40	71	38.5	94.7
Fairly clean	60	3	57.7	4.0
Not very clean	4	1	3.8	1.3
Not at all clean	0	0	0.0	0.0
Total stated	104	75	100.0	100.0
Comparison of proportions of yes, very clean				
Difference between hospital and birth centre in phase 2 = −56.2, 95% CI, −65.6, −44.0				

In contrast, another woman brought up her partner's negative experience in the hospital after the transfer:

> My partner wasn't kept informed by the midwife during the emergency situation. He felt lost, panicky, didn't know what was happening whether the baby was safe etc. No one really 'looked after' my partner.

Lack of communication between the birth centre and hospital influenced experiences of transfer negatively:

> The birth centre couldn't communicate with hospital midwives. It felt tense. The labour experience was very random. I didn't enjoy my labour at all. I feel regret and resentment towards it. Talking to the bilingual researcher helped. Maybe all ladies should be able to talk to somebody about their experience and what went wrong or right. Having a baby is very traumatic and wonderful. It is psychological and it is so good to talk through the experience with someone after the birth.

Discussion

Women's experiences varied considerably depending whether they gave birth at the birth centre or at the hospital. Even though the two groups were not homogeneous, the women expressed very similar views about the factors which influenced their experiences. Women who used the birth centre reported positive views of feeling listened to, supported and cared for by the midwives. They appreciated the home-like environment at the birth centre. Nonetheless women did not report negatively on the hospital's poor physical environment at a time when its maternity unit was still housed in an old building in bad condition. In contrast, the negative experiences of the hospital they reported were directly linked to staff attitudes and lack of communication skills. Women in both groups reported dissatisfaction with their birth experience if they felt they were not listened to, not involved with decision-making or informed and if the midwife was rushing. Although no previous study of free-standing units has used comparative surveys, these findings are in line with those of a wider range of studies of women's wishes for and experiences of labour care in the UK (Lavender et al., 1999; Saunders et al., 2000; Green et al., 2003; Walsh, 2006a, 2006b) and other countries (Esposito, 1999; Overgaard, 2012).

The level of continuity of carer in labour differed between the two settings. Within the hospital group there was more likely to be changes of midwives during labour care for reasons other than shift changes and a lower level of one-to-one care. Women who transferred to the hospital from the birth centre still reported a positive experience if the communication between staff was smooth, meaning they felt involved in the decision making and kept informed as well as feeling reassured about safety. The women's comments suggested that those who transferred from the birth centre to the hospital had a better experience if the birth centre midwife remained with them. If communication with the hospital staff was good and the birth centre midwives were still involved in the decision-making, this could result in continuity in philosophy of practice, even if not of carer. These findings echo those of the organisational case studies undertaken as part of the Birthplace Programme (McCourt et al., 2011).

The only reservation expressed about birth centre care related to early labour and perceptions of delays in admission. In view of the policy of increasing the numbers of births at the birth centre to 600 per year, implemented since the survey was undertaken, this issue could have become more relevant and affect the overall positive experience of care in the birth centre. Similar findings have been reported in a recent national study of alongside midwifery unit care (McCourt et al., 2014).

Study limitations

This study had a number of limitations. First, it was designed on the assumption that the birth centre would mainly be used by women living in the surrounding E14 postal district and recruitment therefore focussed on antenatal clinics in this area as well as at the birth centre. It was subsequently made clear that the facilities were available to all Tower Hamlets residents and then, later on, a limited number of women from outside the borough were accepted. Thus while any woman resident in Tower Hamlets who booked at the birth centre was invited to participate, the characteristics of this group may have differed from those of the women satisfying birth centre criteria who were recruited to the study at other local antenatal clinics and who chose to deliver at the hospital. The intention was to use the routine data about all births in the Trust and to borough residents to adjust statistically for these differences. This was not possible, however, because of severe problems with the quality and completeness of the new hospital and community routine data systems.

In an area with a highly mobile population, there was inevitably some loss to follow up between the antenatal and postnatal interviews. This reduced the potential value of the two stage design in this context. On the other hand, despite the loss to follow up, the overall response rates were over 65 per cent, a level which is considered to be more than adequate for surveys of this type. In particular, they were very much higher than the 33.5 per cent response rate in the single stage postal survey undertaken in 2007 by Picker Institute Europe as part of the Healthcare Commission's Review of Maternity Services (Picker Institute, 2007; Healthcare Commission, 2008). The high response rates at each stage reflected local women's interest in taking part.

The majority of interviews in languages other than English were in Sylheti, a dialect of Bengali, which is not a written language. This made it impossible to follow conventional practice of producing a written translation and then a back translation into English. On the other hand, informants interviewed in Sylheti/Bengali spontaneously commented that they were glad to have had the opportunity to talk about their experiences in their own language. In contrast, when three-way interpretation had to be used for languages for which a bilingual interviewer was not available, this was found to be unwieldy. This applied to only a very small number of women, most of whom we were unable to contact postnatally, possibly as a consequence of the high level of mobility in the local population.

Only a quarter of the women initially choosing the birth centre were Bangladeshi, compared with nearly two-thirds who chose the hospital. This low initial take-up inevitably attracted adverse comments and staff made attempts to improve it. Subsequent audit by birth centre midwives showed that use by the Bangladeshi population increased as the birth centre became established. On the other hand, the proportion of women who were white, 56.0 per cent, varied markedly from the 91.6 per cent reported as white for all freestanding midwife-led units in Birthplace (Birthplace in England Collaborative Group, 2011). Despite this difference, the results of the survey suggest that this form of care is well appreciated by the ethnically diverse population of women living in this area of East London.

Conclusions

This survey in an inner city area showed that women who chose birth centre care had positive experiences to report. Women

who satisfied the criteria for birth centre care and who booked antenatally for care at the birth centre were significantly more likely to rate their care as good or very good overall than corresponding women who received care initially at the hospital. Women who started labour care at the birth centre were significantly more likely to be cared for by a midwife they had already met, have one to one care in labour and have the same midwife with them throughout their labour. They were also significantly more likely to report that the staff were kind and understanding, that they were treated with respect and dignity and that their privacy was respected. The women's views highlighted the profound impact of staff attitudes and communication skills on their birth experiences. This, coupled with the findings in the Birthplace Programme that free standing birth centres had similar levels of safety for babies and lower intervention rates for women compared to consultant obstetric units (Birthplace in England Collaborative Group, 2011), adds further weight to the evidence in support of birth centre care for women without obstetric complications. These findings about women's experiences generally should be interpreted in the light of the information about their experience of specific aspects of care, described in the second of these two articles. They also raise questions about whether and how the skills and philosophy practised in the birth centre can be transferred to hospital settings.

Conflicts of interest

We have no conflicts of interest.

Contributors

Alison Macfarlane was Principal Investigator and Carol Dossett was the administrator for the project as a whole. Lucia Rocca-Ihenacho and Carolyn Roth devised the questionnaires and Lucia Rocca-Ihenacho and Zohra Khanam revised them for Phase 2. Zohra Khanam, Shazna Matin, Lucia Rocca-Ihenacho and the Barts and the London Trust health advocates recruited and interviewed the women. Zohra Khanam and Carol Dossett entered the data and Lyle Turner cleaned and linked the data and did the primary statistical analyses. Alison Macfarlane did further analyses and she and Lucia Lucia Rocca-Ihenacho drafted the original paper. Alison Macfarlane redrafted it as two papers and she and Lucia Rocca-Ihenacho revised these. All authors approved the final version submitted for publication.

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