



Change over time in women's views and experiences of maternity care in England, 1995–2014: A comparison using survey data



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ABSTRACT

Background: there have been changes in maternity care policy over the last 20 years and women's experience, continuity and satisfaction with care have become more prominent. However there has been no research examining changes over time in women's reported experience.

Methods: this study used secondary analysis of data collected in four postal surveys of maternity care experiences in 1995, 2006, 2010 and 2014. In each case women who had delivered in a specified time period in England were randomly sampled and sent a questionnaire three months after the birth. Women were excluded if they were aged less than 16 years or their infant had died. The majority of questions were comparable over the different surveys. Descriptive statistics and adjusted odds ratios are presented.

Findings: in the antenatal period, an increasing proportion of women had early first contact with a healthcare professional, screening for Down's syndrome, both dating and anomaly scans and the total number of ultrasound scans increased over the period. The proportion of women given explanations about screening and choice regarding interventions during labour and birth both appear to have increased. In the postnatal period, length of hospital stay declined over time but the proportion of women who considered their length of stay too short remained constant. The number of postnatal home visits also declined and there was a substantial increase in the proportion of women who would have liked more visits. Overall satisfaction with care remained high especially for care during pregnancy, labour and birth.

Conclusions: despite fewer antenatal checks, shorter hospital stays and fewer postnatal home visits, women were generally very positive about their care in pregnancy, labour and birth, and the postnatal period. Maternity care has changed in many respects, with earlier contact with health professionals, more scans and more information. However, reduced continuity of care and a need for support in the early weeks with a new infant was expressed by many women and are issues that may be contributing to some of the dissatisfaction expressed.

Introduction

Changing Childbirth, published in 1993 (Department of Health, 1993), represented a watershed in maternity care in England. Prior to this, women had little say in their care, which tended to be highly medicalised and treated as normal only in hindsight (McIntosh and Hunter, 2014). *Changing Childbirth* and the Maternity Services Report of the previous year, the *Winterton Report* (Department of Health, 1992), enshrined the concept of woman-centred care, reversed official policy that hospital was always the safest place to give birth, and highlighted the importance of humanised, responsive care and the three 'Cs': choice, continuity and control (McIntosh and Hunter, 2014).

The aims of *Changing Childbirth* have been only partially achieved, due to some extent to resource constraints. In addition, the rising birth rate, higher maternal age at first birth, increasingly complex health and social care needs of the childbearing population and increasing rates of medical intervention have put maternity services under considerable, and continuing, pressure. The evidence base has improved over the years which has, in turn, influenced priorities and increased the number of guidelines for good practice. Policy documents subsequent to *Changing Childbirth*, including the *National Service Framework for children, young people and maternity services* (Department of Health, 2004), *Maternity Matters* (Department of Health, 2007), *Midwifery 2020* (Chief Nursing Officers of England Northern Ireland Scotland and

Abbreviations: BME, Black and minority ethnic group; ONS, Office for National Statistics; HCP, Healthcare professional; NS, Not significant

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Wales, 2010), the Annual Report of the Chief Medical Officer in England (Chief Medical Officer, 2015), and the National Maternity Review (NHS England, 2016) have continued to put woman-centred care at the heart of policy. Government policy now favours choice for all women in the manner of their maternity care and there is an ever-increasing focus on continuity of care and carer, satisfaction, and quality of care as perceived by the women using the maternity services. Surveys of women's experiences of care, including the Audit Commission review of 1995 (Audit Commission, 1997; Garcia, 1998) and the later Healthcare Commission and Care Quality Commission (CQC) surveys (Healthcare Commission, 2007; Care Quality Commission, 2010, 2013, 2015) have highlighted national variations and inform the Department of Health's strategy for monitoring progress in these areas.

Throughout this period there have been significant changes to the structure of British society which are relevant to maternity services. These include the increasing number of women from black and minority ethnic (BME) groups, and women born outside the UK, many with limited English (Office for National Statistics, 2015). Also, over this time period women's partners have become increasingly engaged in pregnancy, childbirth and childcare (O'Brien and Shemilt, 2003) with implications for women's expectations, experience and satisfaction with maternity services and affecting their transition to parenthood more broadly. Similar changes have been observed in other developed countries (Smallet al., 1999; Chote et al., 2011).

There have been changes to obstetric clinical practice over this time period, most notable the increase in rates of caesarean delivery from 12.4% in 1990–91 to 26.5% in 2014–15 in England (Health and Social Care Information fCentre, 2015). Alongside this, rates of episiotomy have declined from 24.0% to 15.2%, and the proportion of births managed by an obstetrician has increased from 24.5 to 38.9% (Health and Social Care Information Centre, 2015). However, partly in response to the findings of the Birthplace study (Birthplace in England Collaborative Group et al., 2011), the number of midwife-led birth centres (both freestanding and alongside) has increased (National Audit Office, 2013).

Throughout this period, surveys of women's views of their care have been undertaken but no studies have examined how women's views have changed over time. The aim of this study was to assess these changes within the context of a changing service in England. The surveys were approved by Trent Multi-Centre Research Ethics Committee (06/MREC/16) and by the Yorkshire & The Humber – Humber Bridge Multi-Centre Research Ethics Committee (14/YH/0065).

Methods

Surveys of women's views of maternity care have been conducted by, or in association with, the National Perinatal Epidemiology Unit in 1995, 2006, 2010 and in 2014 (Redshaw et al., 2006; Garcia, 1998; Redshaw and Heikkilä, 2010; Redshaw and Henderson, 2015). These all followed broadly the same methods. The Office for National Statistics (ONS) randomly selected women from birth registrations within a specified time period (see Table 1) after exclusion of women aged less than 16 years and those whose infant had died. Women were sent a self-completion postal questionnaire, with Freepost return, at approximately three months postpartum which asked about their experience of care during pregnancy, labour and birth, and about the postpartum period, as well as sociodemographic details. The four surveys covered broadly the same material but varied slightly in the questions. The questionnaire sent in 1995 had no reminders but the other three used a tailored reminder system such that up to three reminders were sent to women who had not responded. All the surveys gave women the option of completing questionnaires by telephone interview, using an interpreter if necessary. The 2010 and 2014 questionnaires also included an option to complete it online.

Table 1

Details of sampling, response rates, and sociodemographic characteristics of respondents in the 4 surveys.

	1995	2006	2010	2014
Period of birth of babies whose mothers were sampled	June–July 1995	1 week in Mar 2006	2 weeks in Oct–Nov 2009	2 weeks in Jan 2014
Number sampled	3570	4800	10,000	10,000
Number usable responses	2406	2966	5333	4571
Usable response rate [†]	67%	63%	55%	48%
<i>Sociodemographic characteristics of respondents</i>				
<i>Age group[*]</i>				
16–19	3.7	3.9	2.9	4.0
20–24	16.2	15.4	13.2	17.2
25–29	32.9	23.9	24.9	28.4
30–34	32.7	32.7	33.2	29.9
35–39	12.1	20.5	20.6	16.1
40+	2.4	3.6	5.2	4.4
<i>Parity[*]</i>				
Primiparous	42.3	41.0	50.1	49.9
Multiparous	57.7	59.0	49.9	50.1
<i>Left school aged 16 or less or, in 1995, with no qualifications[*]</i>				
	12.3	28.3	23.4	16.9
<i>Ethnicity[*]</i>				
White	91.9	87.4	85.7	83.9
Mixed	–	1.4	1.9	2.0
Asian	3.1	6.9	7.4	10.0
Black	2.1	3.6	3.9	3.6
Chinese/other	2.2	0.7	1.2	0.5

[†] Response rate calculated after exclusion of non-deliverable surveys from denominator.

^{*} $p < 0.001$.

In this study women's responses to questions about their care and their perceptions of care are compared over the 19 year period covered by the surveys. Where there were differences in the wording of the questions in the different questionnaires this is noted. Descriptive statistics are presented; odds ratios and 95% confidence intervals were calculated adjusting for parity, ethnicity, age and level of education. Statistical tests were conducted using Stata version 13.

Findings

Table 1 gives details of the number of women sampled, the usable response rates, and the sociodemographic characteristics of respondents. Response rates declined over the period 1995 to 2014 from 67% to 48%. In all years there was significant under-representation of women who were young, ethnic minority, and either 'economically inactive' or living in a deprived area (Garcia, 1998; Redshaw et al., 2006; Redshaw and Heikkilä, 2010; Redshaw and Henderson, 2015). It is clear from Table 1 that the women responding to the surveys came increasingly from older groups and those who were primiparous, although the ethnic diversity of the respondents increased in line with that seen in the general population. Overall, eight per cent of women completed the survey online. They did not differ from other women except that they were significantly more likely to live in the London area and to be born outside the UK.

Tables 2–4 show the proportions of women who received various components of antenatal, intrapartum and postnatal care, their views of their care, and odds ratios of change over time with 1995 as the reference year (or 2006 if no data were available for 1995) adjusted for maternal age, parity, low level of education and ethnicity. Almost all results were highly statistically significant due partly to the size of the combined dataset. To ease interpretation and focus on the actual differences, only *non-significant* results are indicated as such (NS).

Antenatal care

A steadily increasing proportion of women had their first contact

Table 2

Women receiving aspects of antenatal care in 1995, 2006, 2010 and 2014 (all differences statistically significant unless indicated).

	Year				Odds ratios (95% CI) of change compared to 1995 (or 2006 if no data for 1995) adjusted for age, parity, low level of education, and ethnicity						
	1995	2006	2010	2014	1995	2006		2010		2014	
	N=2406	N=2966	N=5333	N=4571							
	%	%	%	%	OR	OR	(95% CI)	OR	95% CI	OR	95% CI
Antenatal care											
1st visit by 10 weeks	79.5	83.9	87.9	96.2	1.00	1.44	(1.24, 1.67)	1.92	(1.68, 2.20)	6.83	(5.63, 8.29)
Offer of Down's screening	73.8	88.0	98.3	99.0	1.00	2.76	(2.31, 3.29)	21.25	(16.48, 27.41)	39.90	(28.18, 56.49)
Given reasons for Down's screening	92.0	88.9	92.8	95.4	1.00	0.70	(0.56, 0.88)	1.11	(0.90, 1.38)	1.87	(1.47, 2.37)
Had Down's screening	62.0	64.1	76.6	81.5	1.00	1.05	(0.92, 1.20)	1.84	(1.63, 2.08)	2.39	(2.10, 2.72)
Dating scan	31.1	86.3	89.8	95.1	1.00	14.42	(12.50, 16.64)	21.41	(18.75, 24.45)	50.26	(42.21, 59.84)
Dating scan reasons given	27.5	93.4	92.0	94.8	1.00	40.01	(33.09, 48.37)	31.58	(27.29, 36.54)	55.83	(46.80, 66.59)
Anomaly scan	68.7	96.6	98.5	99.1	1.00	14.45	(11.44, 18.24)	33.92	(26.27, 43.80)	62.31	(43.32, 89.64)
Anomaly scan reasons given	64.6	93.3	95.1	97.3	1.00	8.10	(6.77, 9.70)	11.04	(9.41, 12.96)	20.88	(16.83, 25.91)
4 or more scans in total	23.2	32.9	35.6	44.2	1.00	1.58	(1.39, 1.79)	1.77	(1.58, 1.99)	2.55	(2.27, 2.86)
Antenatal classes offered		71.5	68.5	65.0	–	1.00		0.73	(0.66, 0.82)	0.62	(0.55, 0.69)
Antenatal classes attended		36.7	40.2	30.6	–	1.00		0.80	(0.71, 0.90)	0.50	(0.44, 0.56)
Antenatal classes paid for		5.5	11.6	13.5	–	1.00		1.91	(1.56, 2.33)	2.19	(1.80, 2.68)
Option of home birth	17.4	37.3	65.5	58.7	1.00	3.13	(2.74, 3.58)	10.06	(8.89, 11.39)	7.35	(6.48, 8.33)
Treated with respect by midwives*		94.8	95.8	89.8	–	1.00		1.22	(0.98, 1.53)	0.47	(0.38, 0.57)
Treated with respect by Doctors*		94.6	95.8	85.6	–	1.00		1.34	(1.08, 1.67)	0.32	(0.27, 0.39)
Overall satisfied with antenatal care (NS)		86.4	87.5	88.1	–	1.00		1.07	(0.93, 1.22)	1.13	(0.98, 1.31)

HCP Health care professional NS Not significant.

* Change to wording of question 2006, 2010 agree/disagree; 2014 always, sometimes, not at all.

Table 3

Women receiving aspects of intrapartum care in 1995, 2006, 2010 and 2014 (all differences statistically significant unless indicated).

	Year				Odds ratios (95% CI) of change compared to 1995 (or 2006 if no data for 1995) adjusted for age, parity, low level of education, and ethnicity						
	1995	2006	2010	2014	1995	2006		2010		2014	
	N=2406	N=2966	N=5333	N=4571							
	%	%	%	%	OR	OR	(95% CI)	OR	95% CI	OR	95% CI
Induction of labour	28.6	26.9	22.1	23.7	1.00	0.88	(0.77, 1.00)	0.66	(0.58, 0.74)	0.73	(0.65, 0.83)
Choice regarding induction	39.9	58.8	60.1	57.5	1.00	2.22	(1.80, 2.73)	2.50	(2.07, 3.03)	2.27	(1.86, 2.76)
Able to move around in labour	47.2	54.2	53.5	52.2	1.00	1.38	(1.22, 1.55)	1.40	(1.26, 1.55)	1.34	(1.20, 1.50)
Delivered other than on a bed		10.2	12.5	16.8	–	1.00		1.27	(1.07, 1.51)	1.77	(1.48, 2.13)
Standing, squatting or kneeling for delivery	5.7	14.7	13.9	14.8	1.00	3.32	(2.64, 4.18)	3.18	(2.56, 3.95)	3.37	(2.67, 4.25)
Fewer than 3 midwives cared for woman during labour	65.2	57.4	54.7	52.3	1.00	0.74	(0.66, 0.84)	0.70	(0.63, 0.78)	0.64	(0.57, 0.72)
Had met at least some of midwives before	48.5	32.7	19.3	14.9	1.00	0.49	(0.44, 0.56)	0.25	(0.22, 0.28)	0.18	(0.16, 0.21)
Partner present†	93.3	96.8	89.8	90.7	1.00	2.41	(1.83, 3.15)	0.71	(0.58, 0.86)	0.90	(0.73, 1.10)
Left alone and worried	42.6	19.9	24.4	18.2	1.00	0.34	(0.30, 0.39)	0.44	(0.39, 0.49)	0.29	(0.26, 0.33)
Treated with respect by Midwives‡		94.4	94.6	88.9	–	1.00		1.02	(0.83, 1.25)	0.46	(0.38, 0.56)
Treated with respect by Doctors‡		94.1	93.8	87.6	–	1.00		0.91	(0.73, 1.13)	0.40	(0.33, 0.49)
Overall satisfied with care during labour and birth (NS)		86.5	86.7	88.6	–	1.00		1.07	(0.93, 1.22)	1.13	(0.98, 1.31)

HCP Health care professional NS Not significant

* Change to question – 2010 questionnaire asked about partner presence during labour but not during birth.

† Change to wording of question 2006, 2010 agree/disagree; 2014 always, sometimes, not at all.

Table 4

Women receiving aspects of postnatal care in 1995, 2006, 2010 and 2014 (all differences statistically significant unless indicated).

	Year				Odds ratios (95% CI) of change compared to 1995 (or 2006 if no data for 1995) adjusted for age, parity, low level of education, and ethnicity							
	1995	2006	2010	2014	1995	2006	2010		2014			
	N=2406	N=2966	N=5333	N=4571								
	%	%	%	%	OR	OR	(95% CI)	OR	95% CI	OR	95% CI	
Length of hospital stay 3 days or more	46.7	34.8	30.6	28.7	1.00	0.52	(0.46, 0.59)	0.38	(0.34, 0.42)	0.35	(0.31, 0.39)	
Length of stay too short (NS)	12.6	13.1	12.0	12.2	1.00	1.02	(0.86, 1.21)	0.93	(0.80, 1.09)	0.93	(0.80, 1.09)	
3 or more home visits by midwife after discharge		90.5	75.9	62.2	–	1.00		0.33	(0.29, 0.39)	0.18	(0.15, 0.21)	
Would have liked more visits	6.9	18.3	23.9	23.5	1.00	2.73	(2.25, 3.31)	3.81	(3.19, 4.54)	3.60	(3.01, 4.31)	
Always had confidence and trust in midwives	75.2	68.9	68.6	68.7	1.00	0.70	(0.61, 0.79)	0.72	(0.64, 0.80)	0.74	(0.66, 0.83)	
Had met at least some of the midwives before	80.5	77.5	67.3	59.6	1.00	0.91	(0.79, 1.05)	0.54	(0.48, 0.61)	0.39	(0.35, 0.45)	
Last visit at more than 14 days	26.1	32.8	35.9	45.9	1.00	1.32	(1.16, 1.50)	1.41	(1.26, 1.58)	2.10	(1.87, 2.36)	
Received enough help with settling baby		45.8	35.4	60.7	–	1.00		0.71	(0.63, 0.80)	2.06	(1.82, 2.34)	
Received enough help with baby's crying		45.7	37.3	55.6	–	1.00		0.76	(0.67, 0.86)	1.66	(1.46, 1.88)	
<i>Infant feeding – HCPs always provided...</i>												
consistent advice	32.9	33.6	39.1	43.7	1.00	0.97	(0.84, 1.11)	1.29	(1.14, 1.46)	1.58	(1.39, 1.80)	
practical help	36.9	32.5	37.8	43.8	1.00	0.80	(0.69, 0.91)	1.01	(0.89, 1.15)	1.33	(1.17, 1.51)	
active support and encouragement	40.8	37.1	41.6	48.5	1.00	0.82	(0.72, 0.93)	1.00	(0.72, 0.93)	1.33	(1.18, 1.50)	
Staff showed respect*	77.8		91.0	76.3	–	1.00		2.95	(2.57, 3.39)	0.93	(0.82, 1.04)	
Overall satisfied with postnatal care	81.1	79.8	76.2	77.3	1.00	0.92	(0.80, 1.06)	0.77	(0.68, 0.87)	0.82	(0.72, 0.94)	

HCP Health care professional NS Not significant.

* Change to wording of question 2006, 2010 agree/disagree; 2014 always, sometimes, not at all.

with a healthcare professional before 10 weeks of pregnancy (Table 2). Similarly, the offer and uptake of Down's screening also increased steadily although the manner of screening changed from blood tests (the triple test) to combined nuchal screening. The proportion of women who reported receiving explanations about Down's screening increased from 89% in 2006 to 95% in 2014. Similarly for dating and anomaly scans, increasing proportions of women reported receiving explanations and having the scans (Table 2). Dating and anomaly scans are now carried out for the vast majority of women and the total number of pregnancy ultrasound scans has increased over the period. Between 1995 and 2014 the proportion of women having four or more scans during their pregnancy nearly doubled from 23% to 44%.

Conversely, the offer and uptake of NHS antenatal classes has declined. Questions about antenatal education were not asked in the 1995 survey, but in 2006 71% of women (88% of primiparous women) were offered classes and 37% attended (61% of primiparous women), compared to 65% offered and 31% attended in 2014. Increasing proportions of women reported that they paid for antenatal classes.

Women were increasingly aware of the option of a home birth although this may not have been a realistic option for all women. Overall, women were satisfied with their care with no significant variation across the years, and reported that both midwives and doctors treated them with respect. The wording of the questions about 'respect' changed in 2014 from agreeing or disagreeing that they were shown respect, to indicating that respect was shown 'always', 'sometimes', or 'not at all'.

Care during labour and birth

Changes over time in care during labour and birth are shown in Table 3. Some interventions in labour appear to be declining. Medical induction of labour (defined here as having a gel, pessary or drip to start labour) declined from 29% to 25%. Women increasingly reported having a choice regarding induction of labour, especially between 1995 and 2006, and more women reported being able to move around in labour to find a comfortable position, deliver on a mat on the floor, or

in water, and have an upright position (standing, squatting or kneeling) for birth. Fewer women reported being left alone and worried during labour or shortly after the birth and the woman's partner was present for labour in the vast majority of cases. However, fewer of the midwives were known to the woman beforehand, and a greater number of midwives were involved in labour care. Almost all women reported being shown respect during labour and childbirth and were satisfied with their care with no significant change over time.

Postnatal care

Changes over time in postnatal care are shown in Table 4. Length of postnatal hospital stay has declined appreciably over the study period. The proportion of women with a length of stay of three days or more declined from 47% in 1995 to 29% in 2014. Despite this, the proportion of women who considered their length of stay too short remained a constant 12–13%.

Concurrent with the decline in postnatal length of stay, the number of home visits by community midwives has also fallen. The proportion of women who received three or more home visits fell from 91% in 2006 to 62% in 2014, a declining proportion of women reported having met at least some of the midwives before, there was a substantial increase in the proportion who would have liked more visits, and between a third and half of women reported not receiving enough help with their infant's crying or settling their infant. However, an increasing proportion of women also reported that their last visit was at more than 14 days and these later visits tended to be targeted at women who had delivered by caesarean section and those reporting greater postnatal morbidity including mental health problems (data not shown).

An increasing proportion of women reported receiving consistent advice, practical help and active support and encouragement from staff with infant feeding. Overall satisfaction with postnatal care remained fairly constant over the period at around 80%, although lower than that for antenatal and intrapartum care at around 87%.

Discussion

This study found many positive changes in maternity care provision over the years 1995 to 2014 including earlier initiation of antenatal care, women being able to move around in labour to find a comfortable position, giving birth in an upright position, not necessarily on a bed, and increased flexibility in provision of postnatal care.

Earlier initiation of care is a reflection of the technology which now allows women to identify their pregnancy from the first day of a missed period (NHS Choices, 2015a). This is important as currently the window of opportunity for combined nuchal testing for Down's syndrome is only 10 to 14 weeks' gestation although other tests are available beyond this (NHS Choices, 2015b). The increase in number of ultrasound scans is likely to relate to the increasing sophistication of ultrasound equipment, increasing maternal morbidity, as well as women's preferences and expectations (Garcia et al., 2002; Mace et al., 2012).

However, despite these positive changes, there has also been a reduction in continuity of carer, both during labour and in the postnatal period, which may have implications for the course of labour (Hodnett et al., 2013) and for support of women's emotional and mental health after birth. Continuity of carer based on mutual trust and respect has been highlighted in the recent National Maternity Review as a particularly important component of care (NHS England, 2016).

Women also reported significantly less hospital and community postnatal care provision now than in the past, as has been commented on elsewhere (Scrivens and Summers, 2001). Although there was no significant change over time in women indicating that they would have liked to stay in hospital longer, a greater proportion of women would have liked more home visits from the midwife, and between a third and half of women indicated that they did not receive enough help with settling their infant or the infant's crying. The pattern of postnatal care appears to be changing with more care provided in clinics or drop-in centres and less in the woman's home, and the healthcare provider may be a maternity care assistant rather than a midwife.

Despite these problems with postnatal care, increasing proportions of women reported that they received consistent advice and support with infant feeding reflecting the work that has been put into this aspect of care (Perez-Escamilla et al., 2016). Overall, the vast majority of women said that staff treated them with respect, although less so in the postnatal period compared to antenatal and intrapartum care, and overall, women indicated consistently high satisfaction with their care.

Strengths and limitations

Particular strengths of this study include the large numbers of women who responded to the questionnaires and the fact that the questions were broadly the same over the different surveys allowing for fair comparison.

The principle limitation is the response rate which declined over the years from 67% to 48% with younger, unmarried women, those living in deprived areas, and women born outside the UK being less likely to respond. However, there were still appreciable numbers of women in all these groups and their views are represented. Respondents were increasingly older and primiparous as shown in Table 1. However, when analyses were restricted to these groups the results were largely unchanged. Declining response rates have also been reported in other similar surveys (Healthcare Commission, 2007; Care Quality Commission, 2010, 2013, 2015).

A further possible limitation is that women may be unclear about some aspects of their care, however, in the main the evidence suggests that women remember the salient events of pregnancy and childbirth well (Quigley et al., 2007; Bat-Erdene et al., 2013).

Conclusions

Women's perceptions of their care in pregnancy, labour and birth, and the postnatal period were generally very positive. Many aspects of the planning and provision of care have improved considerably since 1995, such as the development of flexible, but targeted care pathways, improved information and explanations relating to antenatal screening, options regarding place of birth, and choice regarding induction of labour. Healthcare professionals are reported to be respectful and overall satisfaction is high. However, some components of care have been reduced, such as access to antenatal education, length of postnatal hospital stay, and number of postnatal home visits. Whereas women were apparently unconcerned by a shorter length of hospital stay, an increasing proportion of women, almost a quarter in 2014, indicated that they would have liked to see a health professional more after hospital discharge and that they needed more help and support. Recognition of the importance of the transition to parenthood and the early months of parenting would suggest that this is an area where improvements could be made.

Conflict of interest

Neither of the authors has any conflict of interest.

Availability of data and materials

The datasets supporting the conclusions of this article are currently undergoing further analysis and will be made publically available in due course.

Authors' contributions

MR conceived the idea, JH did the analyses and drafted the manuscript, both authors revised the manuscript.

Consent for publication

No individually identifiable data were used in this study.

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