BIRTH NI










A survey of women's experience of maternity care in Northern Ireland





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National Perinatal Epidemiology Unit

NURSING + MIDWIFERY
at Queen's University

Birth NI: A Survey of Women's Experience of Maternity Care in Northern Ireland

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EXECUTIVE SUMMARY

The Survey of Women's Experiences of Maternity Care in Northern Ireland (Birth NI) is the first survey of its kind in Northern Ireland. Birth NI used a similar format to that employed by the National Perinatal Epidemiology Unit (NPEU) in their maternity care surveys and is based on their most recent 2014 survey and 'Safely Delivered" report. The questionnaire was divided into sections on experiences during pregnancy, labour and birth and after birth. There were also sections on health and well-being and on partner's involvement. A total of 2722 women completed and returned questionnaires. A response rate of 47%, with a useable response rate of 45%, was achieved, which is comparable with other recent population-based maternity surveys. In addition to presenting data on all women, findings are presented by parity throughout to highlight the impact of previous pregnancy and childbirth on experiences of care. In the final sections of this report, we have conducted further analyses to explore the key aspects of maternity care experience for women living in the most deprived areas and those currently not living with a partner to identify areas of potential unmet need.

Key Findings

Antenatal Care

- Most women (88%) realised they were pregnant by six weeks' gestation and 80% of women reported that their pregnancy was planned.
- Most women (85%) contacted their GP first and only 17% were aware that they could go straight to a midwife as their first contact.
- 86% attended a booking appointment by 12 weeks' gestation.
- On average, women had 10 antenatal checks; 5 in hospital, 3 in GP surgeries and 1 in a community health centre.
- Midwives were the health professional most commonly seen by pregnant women with 89% seeing a midwife one or more times antenatally. Half (52%) saw an obstetrician at antenatal checks.
- There was evidence of limited continuity in antenatal care, with 23% of women seeing the same midwife every time and a third seeing just one or two midwives over the course of their pregnancy. However, 31% saw five or more different midwives.
- Half of women reported having a 'named midwife' who was responsible for providing all or most of their care during pregnancy.
- Dating and anomaly ultrasound scans were reported by 95% and 99.5% of women, respectively. The average number of scans was 5.
- Most women (93%) were reassured by scans, and the majority (82%) realised the 20 week scan was to check for abnormalities.
- NHS antenatal education (Parentcraft) was offered to 70% of women. Of those

offered, half attended.

- A small minority of women (5%) attended non-NHS antenatal classes for which they paid.
- Overall, 76% of women used online websites for information about pregnancy and childbirth.
- A small proportion of women (9%) reported long-term health problems; while 27% reported that they had problems arising in the course of their pregnancy.
- Overall, almost a quarter of women attended a specialist antenatal clinic because of their health or a specific pregnancy problem (23%) and 26% of women reported attending a pregnancy day assessment unit.
- Almost all women (90%) were asked about their current emotional and mental health around the time of booking in pregnancy and 84% reported being asked about past mental health problems and family history.
- Overall, 90% of women indicated that staff always treated them with respect and kindness and talked to them in a way they could understand.
- 18% of women were aware of all four options for place of birth: at home, in a free-standing midwifery unit, in a hospital midwifery-led unit, or in a unit where the team included obstetricians.
- Just over half of women (57%) felt they had been given enough information to decide where to have their baby, a further 31% reported that they did not need this information. Most (68%) made their choice in early pregnancy.

Care During Labour and Birth

- The majority of women (55%) had a normal vaginal birth, 30% had a caesarean section, and a small percentage of women had a vaginal birth that involved the use of forceps (8%) or ventouse (7%).
- More than half of the caesarean sections (53%) were planned and carried out before the woman went into labour, 8% were planned but carried out after labour started and 39% were the result of unforeseen problems during labour.
- The vast majority of women (98%) gave birth in hospital within either a midwife-led (40%) or consultant-led unit (58%). A small minority (1%) gave birth in a midwife-led unit separate from hospital or at home (0.4%), the majority of whom had planned for a home birth.
- Most women gave birth in the NHS trust where they received their antenatal care (85%).

Labour

- Of the 68% of women who contacted a midwife or the hospital in early labour, most (86%) felt they had appropriate advice and support.
- Of the women who laboured, 51% reported that their labour started naturally.
- 52% of the women who were induced felt they had a choice about the induction of their labour.
- Other choices were evident for women who had a vaginal birth: moving around and choosing positions that were comfortable (58% most of the time), choosing where to give birth (90% on a bed, 1% on the floor, 6% in a pool) and in what position (11% squatting, kneeling or standing).
- Over a third of women who laboured reported having pethidine or a similar

analgesic for pain relief (37%), fewer (24%) had epidural or spinal anaesthesia and 8% had patient-controlled analgesia.
- The majority had the pain relief they wanted (60%).
- A third of women who had a vaginal birth reported having an episiotomy and 6% reported having a 3rd or 4th degree tear.

All Births

- Very few labouring women (13%) had one midwife caring for them through labour. Over a quarter (29%) had four or more midwives providing care.
- A high proportion of women (80%) reported not having previously met any of the midwives caring for them during labour and birth.
- Most women were helped to hold their baby shortly after the birth (92%), to have skin-to-skin contact (88%) and 67% put their baby to the breast at this time.
- Perceptions of the quality of midwifery care were high during labour and birth: the majority of women felt they were always talked to in a way they could understand (92%) and always being treated with respect (91%) and kindness (91%).
- Perceptions of medical care were similarly positive during labour and birth: doctors always talked to them in a way they could understand (84%), treated them with respect (88%) and with kindness (86%).
- Both groups of staff were slightly less likely to be reported as always listening to women (84% of midwives and 82% of doctors always listened, respectively).
- Two-thirds of women (69%) reported always being involved in decisions about their care.
- Most women and their partners (87%) were not left alone at a time when it worried them, either in labour or afterwards.
- Less than half of the women and partners who were left alone and worried were given an explanation (46%).
- Nearly half of women (44%) reported that their recent labour and birth experience was better than they had expected, nearly a third (32%) that it had gone more or less as anticipated and a quarter (24%) that it was worse than they had expected.

Care During the Postnatal Period

- The average length of postnatal hospital stay for all women was 2.1 days; 1.6 days for vaginal birth, 2.2 for instrumental births and 3.1 days for women who had a caesarean section.
- Women's views varied about their length of stay: for 74% this was 'about right', for some (14%) it was 'too short' and others (8%) it was 'too long'.
- Many women felt that hospital postnatal staff always talked to them in a way they could understand (85%), with respect (83%) and kindness (82%). A lower proportion of women reported always feeling listened to (77%).
- After discharge home, most women (87%) had the name and telephone number of a 'named midwife' or health visitor they could contact.
- Almost all of women (99%) were visited by a midwife at home: on average, women saw a midwife 4.7 times (median: 5 times).
- More than a third of women (40%) had not met any of the midwives who made home visits before and half (50%) saw three or more different midwives.
- Most women (83%) thought that there were sufficient home visits, although 12%

would have liked more; this was more commonly reported by first-time mothers.

- Just over half (53%) of women said they had decided before birth to breastfeed their baby.
- Almost three quarters (72%) tried to breastfeed their baby at least once.
- 28% of women who breastfed said they did not do so for as long as they wanted.
- 23% reported they were exclusively breastfeeding at the time of the survey (at approximately 15 weeks after the birth).
- A quarter of women (24%) said they would have liked more help with feeding their baby.
- Health professionals, particularly midwives, were the key source of information for women about infant feeding.
- Over three quarters of women (78%) had a postnatal check by their family doctor. Of those who did not, 42% had not been offered this.
- Women's health varied shortly after the birth, but by the time the baby was three months or more, most (90%) were well.
- Since the birth of their baby almost all women (93%) had been asked about their own emotional and mental health by a health professional. Of those self-identifying with a mental health problem after the birth, relatively few had received support (13%) and fewer had so far received treatment (10%).
- Most women always had confidence in the midwives caring for them after discharge (78%), but for some women this was only sometimes (20%).

Fathers and Partners

- High proportions of fathers and partners were involved in pregnancy, labour and birth. 76% were present for one or more antenatal checks, 80% for the early dating scan and 85% for the later anomaly scan, 83% during labour and 90% during the birth.
- More than a third of fathers and partners directly sought out information about pregnancy (39%) and birth (33%).
- Mothers reported that midwifery and medical staff communicated well with fathers and partners during pregnancy and labour and birth (87%).
- In the early months many new fathers and partners were directly involved in infant care a great deal: changing nappies (67%), helping when the baby cries (72%) and playing with the baby (82%).
- Since the birth, well over half of fathers (62%) had looked after the baby a great deal when the mother was out or at work.
- Two thirds (68%) of fathers and partners had been able to take paid paternity or parental leave, with a median of 13 days being taken.

The Overall Experience of Maternity Care

- Most women felt they were given information about choices regarding their maternity care (65%), while others felt this was only to some extent (28%) and a few (7%), not at all .
- Most women felt involved in making decisions about their own care (68%), and that they were given enough information (71%) and at the right time to decide (70%).
- When asked overarching questions about pregnancy, labour and birth and the

postnatal period, most women felt satisfied or very satisfied with their pregnancy care (92%), labour and birth care (91%) and postnatal care (89%).

The Experience of Different Groups of Women

Adjustment was made for maternal age, parity and type of delivery where appropriate.

- Women living in areas of high deprivation were less likely to attend antenatal classes ($p<0.05$) and to choose to breastfeed ($p<0.01$).
- Women living in areas of high deprivation were more likely to have four or more postnatal home visits ($p<0.01$) and have longer contact with their midwife ($p<0.05$).
- Women who reported not living with a partner were less likely to attend a booking appointment by 12 weeks' gestation, compared to those living with a partner ($p<0.01$).
- Women not living with a partner were less likely to choose to breastfeed, compared to those living with a partner ($p<0.01$).
- Women not living with a partner were less likely to be offered or attend antenatal classes, compared to those living with a partner ($p<0.01$).
- Women not living with a partner were less likely to always feel they were treated with respect by antenatal midwives ($p<0.05$).
- Women not living with a partner were less likely to always have confidence in labour ward staff ($p<0.05$).

The Experience of Mothers in Northern Ireland Compared to England

- More women in NI first contacted the GP when they found out they were pregnant (85%) in comparison with women in England (66%).
- Fewer saw the same midwife through pregnancy (23%) compared to 35% in England.
- More women (66%) reported giving birth in a consultant-led unit in comparison with women in England (45%).
- In NI, caesarean section rates were higher (30% v 26%) and fewer women reported that they had a caesarean section following unforeseen circumstances (39% v 54%).
- Just less than half of women in NI reported exclusively breastfeeding in the first few days after birth (49%) compared with 60% in England.
- The reported perceptions of care in NI and England were very similar; however, satisfaction with postnatal care was higher in NI.

Conclusions

This large population-based survey of women provides a detailed picture of care in Northern Ireland from a user perspective, which enhances our understanding of clinical data and ensures that women's experiences are reflected in the ongoing development of maternity services. Overall, women are largely positive about their experience of care. However, some aspects of care remain areas of concern. For example, caesarean

section rates remain high and just over half of the caesarean sections were planned and carried out before labour. Breastfeeding rates remain low and women identified a number of support mechanisms they used that could be built on in future services. The initial comparisons between NI and England show that women's experiences are largely similar. However, there are some interesting differences, and overall women in NI were less likely to report feeling involved in decision-making but were more satisfied with their postnatal care.

The experiences of women in the survey varied by parity, clinical needs and social background. This highlights the importance of listening to women's views and understanding the different perspectives that they bring. Overall, women are largely positive about their experience of maternity care, but it is also important to consider the experiences of women who were less satisfied with their care and find ways to improve the quality of care for all women and their families.

CHAPTER 1: INTRODUCTION

The Survey of Women's Experiences of Maternity Care in Northern Ireland (Birth NI) is the first survey of its type to be conducted in Northern Ireland. The questionnaire is based on that developed by the National Perinatal Epidemiology Unit (NPEU). The NPEU survey of women's experience of maternity care was first conducted in 2006[1] . Two further surveys followed in 2010[2] and 2014[3], providing valuable benchmarking information on women's experience of care over time in England. Conducting this survey for the first time in Northern Ireland provides important baseline data and a useful point of comparison for other regional user experience initiatives, such as 10,000 Voices[4], regional/local audits, as well as comparison data with other countries.

The Strategy for Maternity Care in Northern Ireland 2012-2018[5] sets out the current strategic direction for maternity care based on population needs, changing evidence of best practice and the principles outlined in Transforming Your Care[6]. Birth NI provides valuable data, from a population-based sample of women that are directly relevant to the key outcomes of this strategy, current maternity care policy and guidelines[7,8] including effective communication and quality of maternity care, effective local access to antenatal care, improved experiences for mothers and babies and appropriate information and advice. The survey also provides information on the experiences of women from potentially vulnerable groups, by identifying if their experiences differ from that of other women in Northern Ireland.

High quality maternity care has women's needs and that of her family at its core, with health professionals providing optimal choices, information and support. Data on

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[1] Redshaw et al. Recorded Delivery: a national survey of women's experience of maternity care 2006. Oxford: NPEU, 2007.
[2] Redshaw et al. Delivered with Care: a national survey of women's experience of maternity care 2010. Oxford: NPEU, 2010.
[3] Redshaw & Henderson. Safely delivered: a national survey of women's experience of maternity care 2014. Oxford: NPEU, 2015.
[4] http://www.publichealth.hscni.net/publications/10000-voices-improving-patient-experience
[5] DHSSPSNI. A Strategy for Maternity Care in Northern Ireland 2012-2018. DHSSPSNI, 2012.
[6] HSC. Transforming Your Care-A Review of Health and Social Care in Northern Ireland. HSC, 2011.
[7] National Institute of Excellence. Antenatal Care for Uncomplicated Pregnancies: London: NICE, 2008.
[8] National Institute of Excellence. Postnatal Care up to 8 weeks after birth. London: NICE, 2006.

demographic and clinical aspects of care can be obtained from a number of sources, however, information on other aspects of care, such as communication, can only be adequately assessed by asking women using the service. We need to hear from women: what information they received and if they were happy with it; if they were treated with respect; did they know their caregivers at different stages of pregnancy, birth and after birth; and to describe their perspective and experience of care. The survey provides detailed information on women's experiences at each stage of care and there is also a series of questions on partners covering their reactions to the pregnancy, presence at key events during pregnancy, labour and birth, and involvement in caring for the baby afterwards.

Building on the aims of the NPEU survey, the key research questions of Birth NI were:

- What is current practice in the provision of maternity care in Northern Ireland? This includes clinical aspects of care and aspects of service provision and organisation associated with that care.
- What are the key areas of concern for women who receive maternity care in Northern Ireland?
- Do the experiences of women from potentially vulnerable groups differ from that of other women and in what way?
- How do women's experiences and perceptions of care in Northern Ireland compare with those of women in England?

CHAPTER 2: METHODS

2.1 Survey

The twenty-six page questionnaire was divided into sections on experiences during pregnancy, labour and birth and after birth. There was also a section on maternal health and well-being and one on partner's involvement. Structured question formats were largely used. It was possible however, for women to provide open text responses to add clarification on specific points if they wished and also to express their views about the different phases of care in their own words. Details of the questionnaire's content and organisation can be found in Appendix A.

The survey was reviewed by members of the Advisory Committee (Appendix B) and some minor revisions were included to ensure that it reflected the current care options in Northern Ireland for example, types of antenatal care and methods of analgesia. A pilot study was not undertaken, as the survey was of a similar length, structure and content to the survey recently conducted in England by NPEU[9].

2.2 Sample

Using birth registration details, 6123 eligible births were identified as occurring between 01 October 2014 and 31 December 2014 by the Northern Ireland Statistics and Research Agency (NISRA). Checks were made by NISRA for notification of any maternal or infant deaths in the months following birth registration.

2.3 Data Collection

Questionnaires (n=6123) were posted out by NISRA in three batches, depending on month of birth. The first two batches were sent out in January 2015, with a third batch in February 2015. The questionnaire packs included an invitation letter and an information leaflet with the study contact details, a sheet with information in 19 different languages and a Freephone contact number, as well as the questionnaire. Women had

[9] Redshaw & Henderson. Safely delivered: a national survey of women's experience of maternity care 2014. Oxford: NPEU, 2015.

the option of choosing one of three methods for response:

- The postal questionnaire, which could be completed and returned to the School of Nursing and Midwifery, Queen's University Belfast.
- An online questionnaire, which could be completed using a link from the Queen's University website and an individual login.
- On the telephone, with the assistance of an interpreter, if needed.

Completed questionnaires were returned by post to the School of Nursing and Midwifery and logged using a unique reference number. The online questionnaire was accessed by women using their unique reference number and password. Online return information was provided weekly by Paramount Web Technology. With the tailored reminder system the unique reference numbers from all returned questionnaires were then regularly emailed to NISRA to prevent inappropriate reminders being sent out. A reminder letter was sent two weeks after the initial mail out of the questionnaire and, if no response had been received, a second copy of the questionnaire was sent out after 4 weeks.

Ethical approval for the study was obtained from the NRES Committee East Midlands – Nottingham 1 (REC reference 14/EM/1256).

2.4 Rate of Response

Of the 6123 live births initially identified by NISRA, 5989 were classified as eligible for the study. Women who had experienced a multiple birth were asked to complete a questionnaire for the first-born only; the other siblings were excluded from the sample. The additional exclusions (n=134) were due to 99 multiple infant births who were not first born, 32 questionnaires returned to sender, two addresses outside the UK/Ireland and one maternal death. Of these eligible births, a response rate of 47% (n=2834) was achieved with a usable response rate of 45.4% (n=2722). A total of 6% (n=173) of usable responses were completed online. The response rate is comparable with other recent population based surveys in the UK [10,11,12] .

NISRA provided simple aggregate data for respondents and non-respondents. These

[10] Redshaw & Henderson. Safely delivered: a national survey of women's experience of maternity care 2014. Oxford: NPEU 2015.
[11] Care Quality Commission. National findings from the 2013 survey of women's experiences of maternity care. London: CQC, 2013.
[12] Care Quality Commission. Survey of women's experiences of maternity care: statistical release. London: CQC, 2015.

summary statistics related to the birth (month of birth, health and social care trust of birth, place of birth, gender of infant, and a singleton or multiple birth), mother (number of previous live births, marital status), and for both parents (age, country of birth, social class and level of deprivation relating to home address, income and education). These data enabled comparison of group proportions from respondents and non-respondents. In brief, the comparison shows some evidence of response bias, with significant difference in proportions observed for a number of variables (detailed in Appendix C). These included higher proportions of respondents having no previous live births, being of a higher social class and living in areas of lower deprivation compared to non-respondents. Lower proportions of respondents were observed for those who were not married, were younger in age, resided in the most deprived area quintiles and gave birth in the Belfast Health and Social Care Trust (BHSCT), compared to non-respondents.

2.5 Analysis

Data are presented for the respondents in total, and by parity. Due to missing data on parity (n=39) the totals for primiparous and multiparous women vary from the totals included for all women throughout the report. Simple descriptive statistics (including mean, median and proportions) were computed and proportions compared using Chi-squared tests, as appropriate. Statistical significance for univariable analyses was set at $p<0.01$ (** indicates $p<0.01$ in tables and figures).

In Chapter 8, regression analyses are presented for two particular groups of women on selected outcomes (those from the most deprived areas and women living without partners). The selected outcomes focused on issues that reflect service aspects and perceptions of the quality of care (detailed in Appendix D). Initial univariable regression analyses were conducted to explore differences between women from the most deprived areas and women living without partners. All differences are significant at $p<0.05$ or $p<0.01$. Results in this section are a crude comparison of the responses to the questionnaire from these sub-groups and it is recognised that these groups overlap to variable degrees. Therefore, further multivariable regression analyses were also undertaken to adjust for some of the factors that could have contributed to the observed differences between the groups in the crude analysis. These factors were maternal age, parity and mode of delivery.

In Chapter 9, a comparison of the findings of this survey with the findings of the NPEU

2014 ‘Safely Delivered’ survey conducted in England are presented. No formal statistical analysis was carried out. However, observed differences of 5% or more in the experience of respondents to the Northern Ireland survey and the England survey are highlighted.

Qualitative data from free text responses that were available on postnatal care have been included in the report to provide additional insight into women’s perceptions of their recent maternity care experiences.

2.6 The Women Who Responded

Summary data describing the characteristics of respondents and their infants are presented in Appendix C. Data on parity show that 56.8% (n=1545) of respondents had given birth previously and the average age of respondents was 31 (sd: 5; range: 14-54). In total, 71.4% (n=1944) of respondents were married, although only half of the un-married mothers were living without partners.

The average gestational age at birth of the infants of respondents was 39 weeks (sd: 2; range: 23-50). A small minority of infants were born at less than 37 weeks’ gestation (6%, n=164). The average birthweight was 3509 grams (sd: 566g; range: 692-6435g). 4.3% (n=116) had a birth weight of less than 2500 grams. At the time of completing the survey, the average age of the infants was 15 weeks (sd: 3.5; range: 2-29). Similar characteristics of respondents and their infants have been reported in surveys conducted in England[13,14,15,16].

[13] Redshaw et al. Recorded Delivery: a national survey of women’s experience of maternity care, 2006. Oxford: NPEU, 2007.
[14]Healthcare Commission. Towards Better Births; a review of maternity services in England. London: Healthcare Commission, 2008.
[15] Redshaw, M. & Henderson, J. Safely delivered: a national survey of women’s experience of maternity care, 2014. Oxford: NPEU, 2015.
[16] Care Quality Commission. 2015 survey of women’s experiences of maternity care. Statistical release. London: CQC, 2015.

CHAPTER 3: ANTENATAL CARE

Antenatal care covers all the care a woman receives from when she discovers she is pregnant until she goes into labour. This time of sustained contact with health professionals provides a valuable opportunity to optimise health and well-being for women and their families through support, monitoring, education and, when there are complications, intervention. Therefore, early access to care is important. Most women (88%) realised they were pregnant by 6 weeks' gestation and a few women took considerably longer to become aware of their pregnancy (Table 1). Ninety four percent confirmed their pregnancy using a home pregnancy test (n=2566), 17% (n=471) saw a doctor for confirmation and 2.5% (n=69) had their pregnancy test confirmed by a midwife.

Table 1. Number of weeks' gestation when women first realised they were pregnant

Number of weeks	Mean	S.D.	Median	Range
Primiparous	4.7	2.3	4	1-37
Multiparous	5.0	2.9	5	1-41
All Women	4.9	2.6	4	1-41

Around 80% of women reported that their pregnancy was planned, with no observed difference by parity (Table 2). For 128 women (4.7%), pregnancy was as a result of infertility treatment.

Table 2. Number (%) of women who reported their pregnancy was planned

Pregnancy Planned	N	%
Primiparous	919	79.6
Multiparous	1211	80.7
All Women	2130	80.2

3.1 First Contact with a Health Professional

One of the objectives of the Northern Ireland Maternity Strategy is to facilitate women

making early direct contact with a midwife[17]. Only 17% (n=457) of women were aware that they could go straight to a midwife, rather than their GP, as a first point of contact for their pregnancy care. Women who had a previous pregnancy were significantly more aware of this than first-time mothers (21% versus 12%, respectively). Table 3 details the health professional first seen by women about their pregnancy care.

Table 3. Health professional first seen about pregnancy care

Health Professional	Primiparous Women		Multiparous Women		All Women	
	N	%	N	%	N	%
GP**	1008	86.6	1249	82.9	2257	84.5
Midwife**	95	8.2	172	11.4	267	10.0
Other	61	5.2	85	5.6	146	5.5

***Difference by parity p<0.01*

The timing of first contact with a health professional was earlier for first-time mothers (median: 6 weeks), than for those who had previously given birth (median: 7 weeks) (Table 4). Ninety-eight percent of women had seen a health professional by 12 weeks' gestation.

Table 4. Weeks pregnant at first contact with health professional

Number of weeks	Mean	S.D.	Median	Range
Primiparous	6.6	2.5	6	1-24
Multiparous	7.3	2.6	7	2-28
All Women	7.0	2.6	7	1-28

3.2 Booking Appointment

Most women (86%) had attended a booking appointment by 12 weeks' gestation, with no difference between first-time mothers and those who had given birth previously

[17] DHSSPSNI. A Strategy for Maternity Care in Northern Ireland 2012-2018. DHSSPSNI, 2012.

(Table 5). The booking appointment is usually the first official antenatal appointment where women are generally seen by a midwife and have their medical and obstetric history recorded along with a number of antenatal assessments. A previous report indicates an increasing number of mothers attending early booking appointments in Northern Ireland[18].

Table 5. Weeks pregnant at booking appointment

Number of weeks	Mean	S.D.	Median	Range
Primiparous	10.6	2.8	11	1-38
Multiparous	10.9	2.6	11	1-34
All Women	10.8	2.7	11	1-38

3.3 Antenatal Checks

Almost all women had antenatal checks (99%, n=2689), although there was a broad range on the reported number of checks (Table 6). Overall, the median was 9, with first-time mothers having a significantly higher number of checks than women who had given birth previously (p<0.01).

Table 6. Number of antenatal check-ups

Number of Checks	Mean	S.D.	Median	Range
Primiparous Women	10.3	5.4	9.5	1-70
Multiparous Women	9.3	4.4	9.0	1-47
All Women	9.7	4.9	9.0	1-70

Current guidelines recommend 10 appointments for primiparous women and 7 for multiparous women in uncomplicated pregnancies [19] . Almost three quarters of multiparous women had at least 7 appointments (73%) and half of primparous women

[18]DHSSPSNI. A Strategy for Maternity Care in Northern Ireland 2012-2018. DHSSPSNI, 2012.
[19] National Institute of Excellence. Antenatal Care for Uncomplicated Pregnancies London: NICE, 2008.

had at least 10 appointments (50%).

The Maternity Strategy for Northern Ireland states that for women with straightforward pregnancies antenatal care will be provided primarily by the midwife in the local community (Objective 12)[20]. Hospital clinics were reported as the most common location for antenatal checks followed by GP surgeries (Table 7).

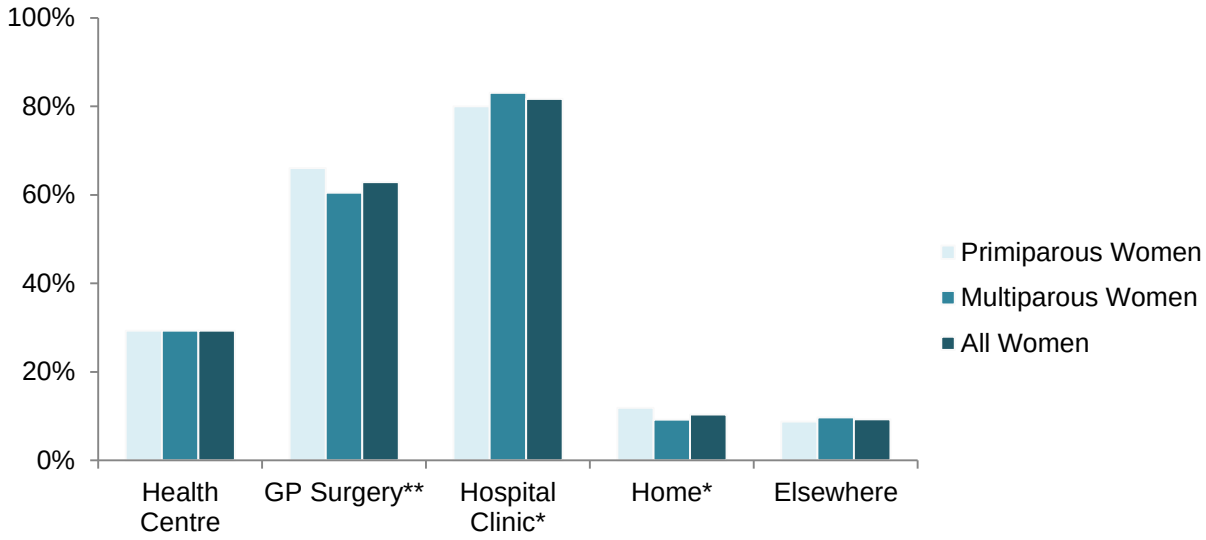
Table 7. Place of antenatal checks

Place of Antenatal Check	Number of Checks				
	Total (%)	**Mean**	**S.D.**	**Median**	**Range**
Community Health Centre	3777 (15%)	1.4	2.7	0	0-20
GP Surgery	7376 (29%)	2.8	3.1	2.0	0-20
Hospital Clinic	11803 (47%)	4.5	4.0	4.0	0-40
At Home	879 (3%)	0.3	1.3	0	0-15
Other e.g. Private clinic	1441 (6%)	0.5	2.2	0	0-40
All locations	25276	9.6	5.0	9.0	0-70

Overall, 82% of all women had at least one antenatal check-up in hospital (n=2153) with a slightly higher proportion of multiparous women attending hospital check-ups than first-time mothers. First-time mothers had a higher proportion of check-ups at home and a higher proportion of check-ups in GP surgeries (Figure 1).

[20] DHSSPSNI. A Strategy for Maternity Care in Northern Ireland 2012-2018. DHSSPSNI, 2012.

Figure 1. Proportions (%) of mothers having at least one antenatal check by location



**Difference by parity p<0.05 **Difference by parity p<0.01*

Midwives were the health professional most commonly seen at antenatal check-ups, with 90% seeing a midwife one or more times (Table 8). Just over a half of all women (51%) saw an obstetrician at least once, although this varied by parity (first mothers 46% v multiparous women 55%; *p*<0.01).

Table 8. Health professionals seen at antenatal check-ups

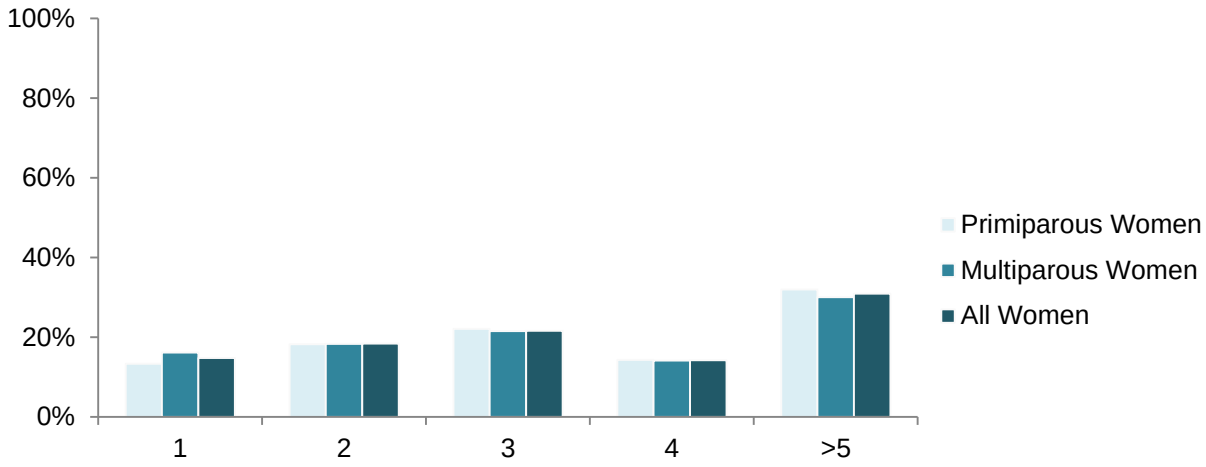
Professional	Primiparous Women		Multiparous Women		All Women	
	N	%	N	%	N	%
Midwife	1048	90.7	1336	89.2	2384	89.9
GP	251	21.7	297	19.8	548	20.7
Obstetrician**	529	45.8	826	55.1	1355	51.1
Other	59	5.1	81	5.4	140	5.3

***Difference by parity p<0.01*

Of the 2418 women who saw a midwife, 43% (n=1033) a substantial proportion only saw a midwife for their antenatal check-ups 47% (n=490) of whom were first-time mothers

and 39% (n=527) were multiparous (p<0.01). There was evidence of limited continuity in antenatal care, with less than a quarter of women (23%) seeing the same midwife every time (n=601). A third (33%) saw one or two midwives (n=854), 36% saw three or four (n=919), and 31% (n=792) saw five or more different midwives (Figure 2). Of those who saw more than one midwife, 70% (n=1321) said they did not mind who they saw.

Figure 2. Proportion of women who saw different numbers of midwives for check-ups



NICE recommends that all women have a named midwife[21]. Half of respondents (n=1355) reported having the name and contact details of a "named midwife" who was responsible for providing and coordinating their care, with nearly one in ten (9.6%, n=259) unsure if they did or not. This was equally distributed across groups by parity.

3.4 Antenatal Scans

Routine pregnancy care in Northern Ireland involves at least two scans: a dating scan and an anomaly scan. Ninety nine percent of women reported having some kind of scan; 95% reported having a dating scan and 99.5% an anomaly scan, with no observed differences in parity (Table 9). The majority of women felt that the reasons for the scan were clearly explained to them; 93% for a dating scan and 98% for an anomaly scan, again with no difference in parity. The majority of women realised that the 20 week scan

[21] National Institute of Excellence Quality Standard [QS22]: Quality Statement 2- Services continuity of care. London: NICE, 2012.

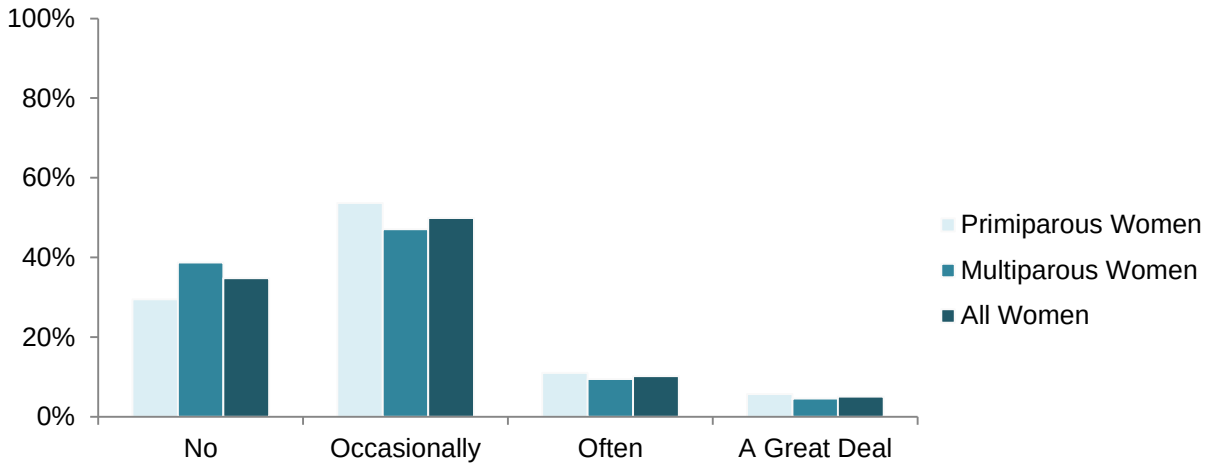
was to check for abnormalities (82.4%) and most women (93%) reported that it was reassuring to have a scan. The average number of scans was 5 (median: 4; range: 0-35).

Table 9. Number of dating and anomaly scans by parity

Scan	Primiparous Women		Multiparous Women		All Women	
	N	%	N	%	N	%
Dating Scan	1093	95.4	1418	95.1	2511	95.2
Anomaly Scan	1153	99.7	1481	99.3	2634	99.5

Women were asked if they had worried about their baby's movement. Overall, a third (35%) did not worry at all, half (50%) worried occasionally and 15% worried often or a great deal. Of those who worried, 55% contacted a health professional. Overall, first-time mothers were significantly more likely to worry compared with women who had previously given birth (71% vs 61%, $p<0.01$).

Figure 3. Proportion of women who were worried about baby's movement



3.5 Antenatal Information and Education

There is a growing range of information sources for women during pregnancy and not all of them are reliable or evidence-based. NHS antenatal education (Parentcraft) classes are, therefore, potentially an important source of information and support.

Almost three quarters of women (70%) were offered classes (Table 10), more commonly first-time mothers (93%) than women who had previously given birth (53%). Of those who were offered, half (n=924) attended classes and these were predominantly primiparous women. Thirty percent of women did not want to attend NHS classes, again more commonly mothers who already had children, compared with first-time mothers (44% versus 13%, respectively; $p<0.01$). A minority of women attended paid antenatal classes (5%, n=128), with 92 (73%) of these women being first-time mothers.

Table 10. Proportions of women offered and attending antenatal classes

Antenatal Classes	Primiparous Women		Multiparous Women		All Women	
	N	%	N	%	N	%
Offered	1080	92.8	794	52.7	1874	70.1
Attended**	827	71.3	97	6.4	924	34.7

***Difference by parity p<0.01*

The majority of women reported using online websites for information about pregnancy and childbirth (76%). These included a variety of websites for information about pregnancy and birth, most commonly 'BabyCentre' (28%) and 'the NHS website' (17%). A variety of other pregnancy and birth websites and apps were also used, some with opportunities for signing up for product information and samples, for example, 'Bounty' (12%) as well as discussion forums, such as 'Netmums' (7%).

3.6 Women with Complex Pregnancies

Women with more complex pregnancies may be managed in different ways, with specialist clinics, day assessment units and admissions to hospital. A total of 9% of women (n=232) reported having a long-term health problem which had made the pregnancy difficult or complicated. Of these, 210 women (91%) reported receiving additional or specialist care for this reason. Most commonly-reported problems included hypothyroidism, diabetes, asthma and back pain. A total of 707 (27%) women reported specific pregnancy-related problems affecting them or their baby; the most frequently reported included threatened preterm birth, concern about the position of the placenta, and maternal blood pressure.

Overall, almost a quarter of women reported that they attended a specialist antenatal

clinic because of their health or a specific pregnancy problem (23%). This was more common among those women who had previously given birth compared with those who were first-time mothers (60% compared with 40%; $p<0.05$). Just over a quarter of women attended a pregnancy day assessment unit (26%, n=689). The mean number of attendances for day assessments was 2.4 (median: 2 visits; range: 1-38).

Women were also asked about admission to hospital and overnight stays for observation or treatment during their pregnancy that was separate from labour, planned caesarean section, or any induction procedure. Overall, 511 (19%) women had overnight stays for reasons which included bleeding, hyperemesis, high blood pressure, suspected pre-eclampsia, and suspected preterm labour. The mean number of admissions for overnight stays was 3 (median: 2), and the mean length of stay was 3 nights (median: 1). There was no significant difference by parity in these statistics.

3.7 Maternal Well-being

Women were asked if they had a health professional they could talk to about personal or sensitive issues during their pregnancy. Over half of women (53%) reported 'always', with an additional third (33%) indicating that they had this to some extent, and 14% of women reporting not having this at all. No differences were evident by parity.

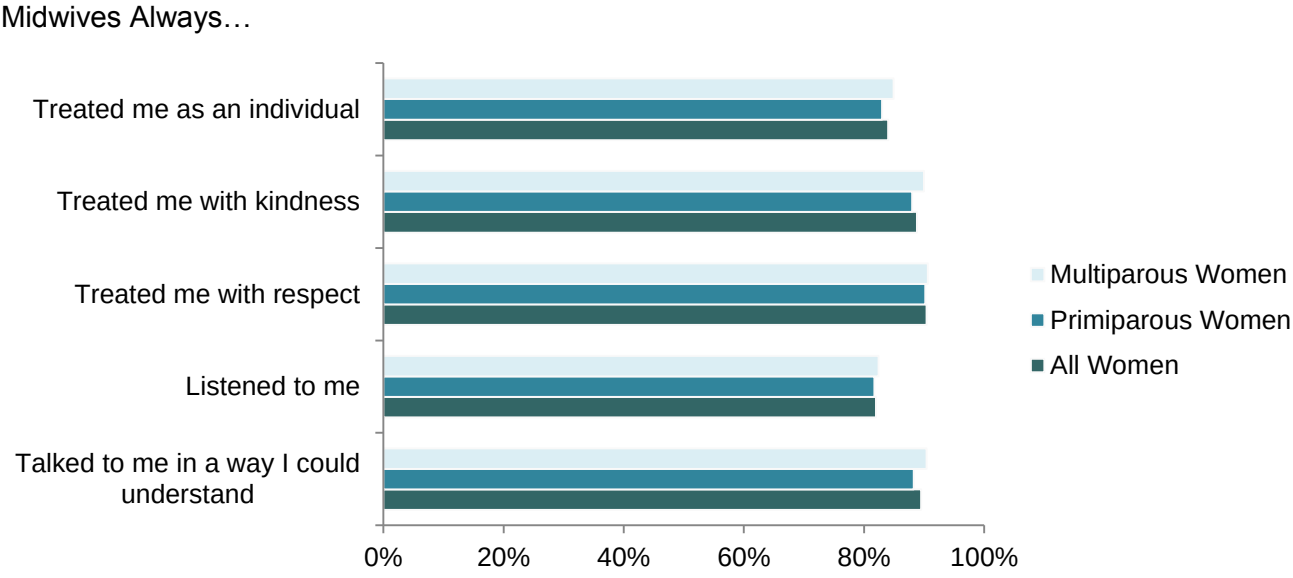
Current guidance supports early identification and treatment of women's mental health problems in pregnancy either at her first contact with primary care or at her booking appointment and during early postnatal care[22,23]. Almost 90% of women (n=2338) had been asked about their mental health and 84% had been asked about past mental health problems/any family history of mental ill-health. A total of 522 (19%) women reported that they had a mental health problem during their pregnancy and 24% of these women reported that they received support, 27% advice and 45% were offered treatment. The most common forms of treatment mentioned were medication and counselling.

[22] Knight et al. Saving Lives, Improving Mothers' Care: Lessons learned to inform future maternity care from the UK and Ireland Confidential Enquiries into Maternal Deaths and Morbidity 2009-2012. Oxford: NPEU, 2014.
[23] National Institute for Health and Care Excellence. Antenatal and postnatal mental health: clinical management and service guidance. London: NICE, 2014.

3.8 Women's Perceptions of Antenatal Care

Perceptions about care indicate that large proportions of women were positive about their antenatal midwifery care. Women were most likely to report always being talked to in a way they could understand (90%), always being treated with respect (90%) and with kindness (89%) by midwifery staff (Figure 4).

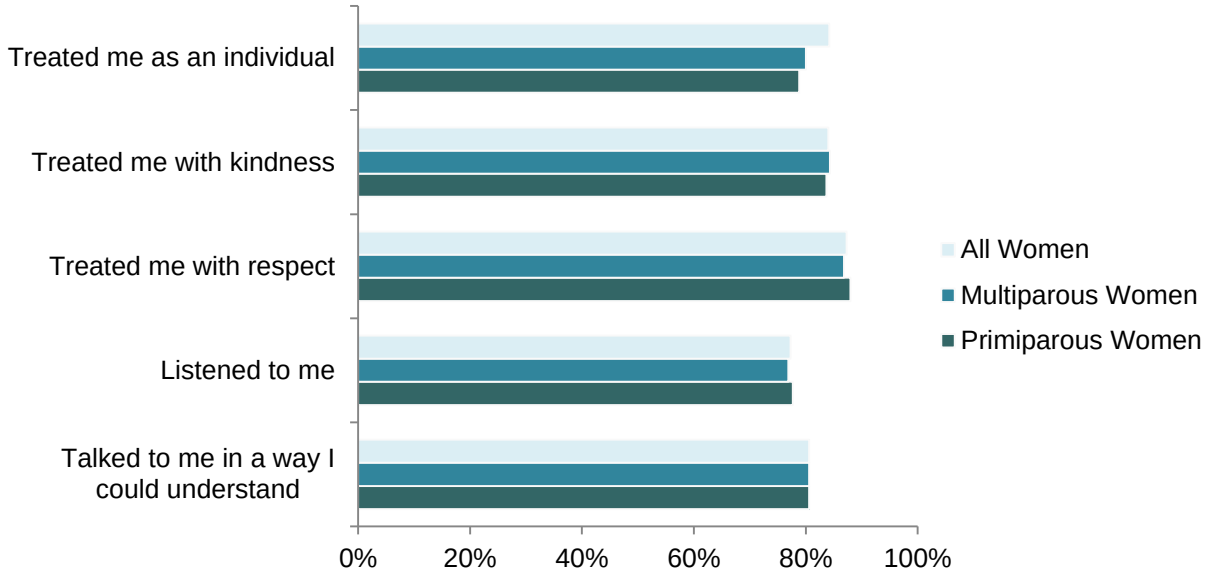
Figure 4. Women's perceptions of antenatal midwifery care



Overall perception of interpersonal aspects of medical care were also very positive. This was slightly less positive than that reported for midwifery staff with fewer women always feeling talked to in a way they could understand (81%) and feeling listened to (77%) (Figure 5). However, more than three-quarters of women always felt treated well in all respects, again with no observed differences by parity.

Figure 5. Women's perceptions of antenatal medical care

Doctors Always…



3.9 Choice and Place of Birth

Choice and individualised care is considered central to maternity care and features in both policy and guidelines[24, 25]. Women were asked what options they were aware of for where they could give birth and 36% reported being aware of the option of giving birth at home. Thirty four percent were aware they had a choice of giving birth in a freestanding midwifery-led unit (MLU) or birth centre separate from the hospital, 69% were aware of midwifery-led units within hospitals and 75% reported a consultant–led in a hospital maternity unit as an option. Overall, 18% (n=465) indicated that they were aware of all possible places for giving birth; however, not all women would have had

[24] DHSSPSNI. A Strategy for Maternity Care in Northern Ireland 2012-2018. DHSSPSNI, 2012.
[25] Maternity Matters: Choice, Access and Continuity of Care in a Safe Service. London: Department of Health, 2007.

access to all four choice options locally in their Trust at the time of the survey.

Table 11. When was choice made about where to have baby

When	Primiparous Women		Multiparous Women		All Women	
	N	%	N	%	N	%
Early Pregnancy	763	66.2	1021	69.1	1784	67.8
Mid Pregnancy	96	8.3	59	4.0	155	5.9
Late Pregnancy	42	3.6	40	2.7	82	3.1
At the Start of Labour	33	2.9	39	2.6	72	2.7

The majority of women (68%) reported that they made their choice about where to have their baby early in pregnancy (Table 11). However, a small proportion (3%) reported that they made their choice at the start of labour. More than half the women in the survey felt that they had enough information from either a midwife or doctor to help them decide where to have their baby (57%). This is similar to the proportion of women reporting that they received enough information in the Care Quality Comission 2015 survey[26]. A further 829 (31%) reported that they felt that they did not need this information. As choice of place of birth may be influenced by the availability of epidural anaesthesia, women were asked if they were aware that not all hospitals have a 24 hour epidural anaesthesia service. Less than half of respondents (44.7%) were aware that epidurals were only available in hospitals with a 24 hour epidural service, more commonly first-time mothers (47% versus 43%), $p<0.05$.

[26] Care Quality Commission. 2015 Survey of women's experiences of maternity care. Statistical release. London: CQC, 2015.

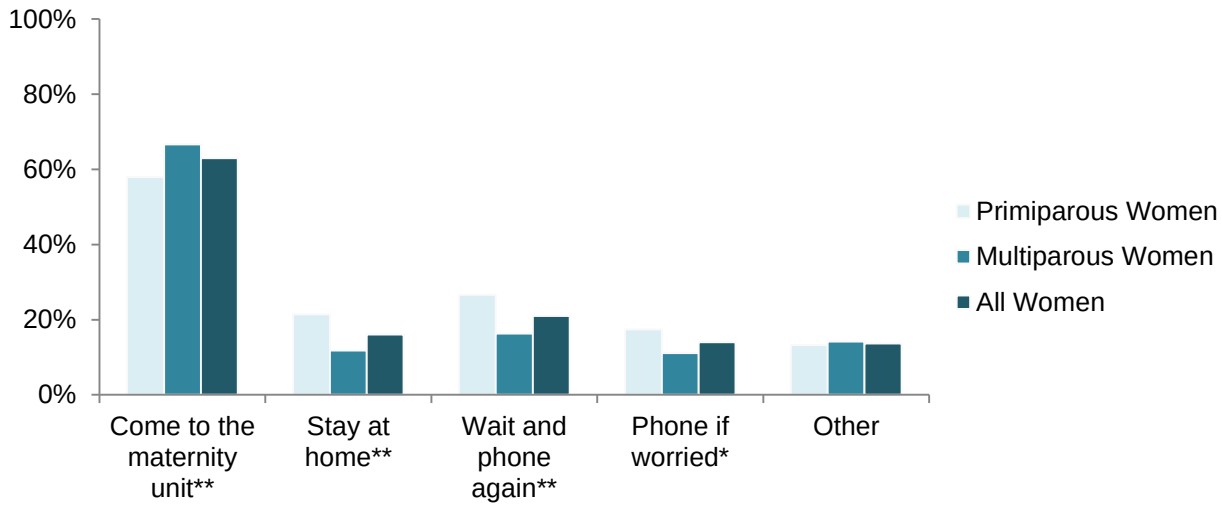
CHAPTER 4: CARE DURING LABOUR AND BIRTH

Women were asked about their care during early labour, interventions, and details of the staff caring for them and their perceptions of their care. They were also asked about clinical aspects of care including monitoring, methods of pain relief and induction, position for birth, type of delivery, episiotomy, perineal damage and repair.

4.1 Care in Early Labour

Most women (81%) reported that they experienced labour. In early labour two-thirds of these women (68%) contacted a midwife or the hospital. The majority of women who contacted a midwife or the hospital (86%, n=1282) felt they had received appropriate advice and support. However, some (14%, n=208) did not feel they were given the advice and support needed at this time. More than half (64%) were told to come into the hospital or maternity unit. However, first-time mothers were more likely to be told to stay at home, to wait and phone again, or to phone if they were worried (Figure 6).

Figure 6. Advice given to women when they contacted a midwife / hospital at the start of labour



**Difference by parity p<0.05; ** p<0.01*

Just over half of women who laboured reported that they started labour naturally (51%) with no difference by parity. A third of women (33%) said that they had one or more

membrane sweeps to help start labour. Women were also asked about a range of induction methods. More first-time mothers had a vaginal gel or pessary (36% compared with 27%; $p<0.01$), a drip to induce labour (25% versus 14%; $p<0.01$) or an amniotomy (21% compared with 18%; $p<0.05$). Of the women who had their labour induced, 52% felt that they had a choice in the matter, with multiparous women significantly more likely to report having a choice (60% compared to 45% of primiparous women; $p<0.01$).

Augmentation of Labour

Women were also asked about augmentation of their labour. Overall, 44% of women reported that during labour they had their waters broken to 'speed up…..labour' (amniotomy), and 38% had a drip to augment the labour. First-time mothers were significantly more likely to have these interventions than mothers who had previously given birth. In particular, primiparous women were twice as likely to have a drip to augment labour compared to multiparous women (52% versus 25%; $p<0.01$).

Monitoring During Labour

Of the women who laboured (n=2195), 4% reported no monitoring at all, 6% had occasional checks by pinard and 32% reported that a sonicaid was used. The most common form of monitoring was via a belt around the abdomen reported by women to be used intermittently (30%) or continuously (48%) during labour. A relatively small proportion of all labours (11%) involved continuous monitoring with a scalp clip attached to the baby's head. Continuous monitoring was more often used with women who had not previously given birth (58% compared to 44%; $p<0.01$). These figures are in keeping with the number of women who said they had some form of induction procedure, as current guidelines recommend continuous monitoring when induction of labour takes place[27].

Pain Relief

More than half of the women who laboured (including some who went on the have a caesarean section birth) reported that they had been able to move around and choose the position that made them most comfortable most of the time (n=56%) and a further

[27] National Institute of Excellence Induction of Labour Guideline (CG70). London: NICE, 2008

27% were able to do so some of the time.

A range of methods was reported to have been used for pain relief during labour. Most commonly, women reported using gas and air (91%), followed by natural methods, such as breathing techniques and massage (59%). Over a third of women who laboured reported having pethidine or similar analgesic for pain relief (37%) and 24% reported having an epidural, 11% used a TENS machine, 10% used a birthing pool and 8% used patient controlled analgesia (Remefentanil). Pain relief methods were recoded into 'non-pharmacological pain relief', 'gas and air' and 'pharmacological'. First-time mothers used more pain relief methods in all categories compared to women who had previously given birth (Table 12).

Table 12. Pain relief methods in relation to parity

In Those Who Laboured	Primiparous Women		Multiparous Women		All Women	
	N	%	N	%	N	%
Non-pharmacological**	734	73.6	705	61.8	1439	67.3
Gas and Air**	927	93	1028	90.1	1955	91.4
Pharmacological**	721	72.3	483	42.3	1204	56.3

***Difference by parity p<0.01*

The majority of women (60%) definitely received the type of pain relief they wanted, a quarter (25%) said this was only to some extent and a small proportion (10%) reported they did not get the pain relief they would have liked. Two thirds of women (67%) received pain relief when they wanted it.

4.2 Birth

Place of Birth

The majority (98%) of women gave birth in hospital, in a consultant-led unit (57.9%) or a midwife-led unit (40.3%). A small minority (0.9%) gave birth in a midwife-led unit separate from a hospital, at home (0.4%), or elsewhere (0.5%). The majority of women who gave birth at home had planned to do so. Women were also asked whether the place of birth was in the area or Trust where they had received antenatal care and this was the case for the majority of women (85%).

Mode of Delivery

Just over half of respondents had a vaginal birth (55%), 15% had an instrumental delivery (Forceps or Ventouse) and 30% had a caesarean section (Table 13). The caesarean section rate is comparable with data for the same period taken from the HSC NI Maternity Dashboard (Total caesarean sections - 30%)[28]. First-time mothers reported higher levels of instrumental vaginal birth (27%) compared to women who had given birth before (6%).

Table 13. Mode of delivery

Mode of Delivery	Primiparous Women		Multiparous Women		All Women	
	N	%	N	%	N	%
Normal	476	41.6	970	64.4	1446	54.6
Forceps**	183	16.0	36	2.4	219	8.3
Ventouse**	134	11.7	51	3.4	185	7.0
Caesarean Section	351	30.7	449	29.8	800	30.2

***Difference by parity p<0.01*

Women were asked if they had felt pressure from a health professional to have a particular procedure or type of birth. Few women (5%) reported feeling pressure to have their baby in a consultant-led unit, to have an epidural for pain relief (2%) or to have a caesarean birth (4%). Some women felt pressure to have continuous fetal monitoring (7%), to give birth on a bed (7%) or to have their labour induced (7%).

Vaginal Births

Just over half (58%) of women who reported having a vaginal delivery were able to move around and chose the position that made them most comfortable for most of their labour. The majority gave birth on a bed (90%). A small proportion gave birth on a mat or mattress on the floor (1%) or in a pool (6%), or other (3%). Women were also asked what position they were in when their baby was born. While many (42%) gave birth sitting or lying with their legs supported by their midwife of partner, almost a third (28%) had

[28] HSC NI Maternity Dashboard. DHSPSSNI, 2014.

their legs in supports or stirrups, most commonly those who needed instrumental assistance (76% of forceps and 73% of ventouse deliveries). Small proportions of women reported that they gave birth while lying flat (14%), standing/squatting/kneeling (11%) or on their side (5%).

A third of all women who had a vaginal birth reported having an episiotomy (33%), 4% reported they did not know or could not remember, and a small number who went on to have a caesarean had also been given an episiotomy. For instrumental births, episiotomy was used in the majority of cases (94% for forceps and 80% for ventouse). A total of 5.5% of women reported a serious third or fourth degree tear defined as 'a serious tear which involved my back passage'. This is twice the number of third or fourth degree tears reported in the HSC Maternity Dashboard for the same time period (2.7%).[29]

Women were asked when the baby's cord was cut or clamped. Two thirds of women reported the cord was clamped and cut immediately after the birth; 34% stated it was clamped or cut after a delay of a minute or more.

Caesarean Section

Just over half of caesarean section births were planned and carried out before labour (53%), and over a third (39%) as a consequence of unforeseen problems in labour (Table 14).

Table 14. Proportions of women with different types of caesarean section

Type of Caesarean	Primiparous Women		Multiparous Women		All Women	
	N	%	N	%	N	%
Planned and no labour	118	34	310	69.4	428	53.3
Planned, carried out after labour had started	20	5.8	41	9.2	61	7.7
Resulting from unforeseen problem in labour**	209	60.2	96	21.5	315	38.4

***Difference by parity p<0.01*

[29] HSC NI Maternity Dashboard. DHSPSSNI, 2014.

As with the NPEU survey in England, women giving birth for the first time were significantly more likely to have a caesarean following unforeseen problems in labour (60% versus 21%)[30]. More than one reason could be given for a caesarean; the most common were previous caesarean (33%), failure to progress (24%), fetal distress (20%), breech presentation (14%) and concern about the mother's health (16%). For some women, caesarean birth occurred where unforeseen problems had arisen during labour and attempts to deliver the baby were reported using ventouse (5%) and forceps (2.5%) as unsuccessful. A total of 2% of women having a Caesarean section indicated that maternal preference was the sole reason for wishing to have their baby born this way.

Of all women who had a caesarean birth, almost all (91%) received epidural or spinal anaesthesia and, for almost all of the 9% of women having a general anaesthetic, this was associated with a caesarean following unforeseen problems arising during labour.

Half of the women having a caesarean (52%) felt they were definitely involved in the decision-making around their caesarean birth, particularly where the procedure was planned. Where the caesarean followed unforeseen problems during labour, women were less likely to say they were involved, nevertheless, the majority (82%) felt that they were involved at least to some extent in the decision.

Transfers

Some women planned to give birth in one location, for example, at home or in a midwife-led unit, but were transferred during labour to hospital for medical reasons or epidural anaesthesia. Nine percent of women reported that they were transferred, although some of these were from a midwifery unit to an obstetric unit in the same hospital. A total of 5% of women (half of all transfers) were between hospitals, between birth centre and hospital or between home and hospital, travelling an average distance of 6 miles (median: 7 miles; range: 1-100 miles).

Reasons for transfer varied. Of those who had been transferred, 42% indicated that staff

[30] Redshaw & Henderson. Safely delivered: a national survey of women's experience of maternity care 2014. Oxford: NPEU, 2015.

were concerned about the baby, 31% about slow progress of labour, 18% of women wished to have an epidural for pain relief, and for 17% there were concerns about the woman's own health. Transfers were significantly more common among first-time mothers (13% compared to 5% in women who had given birth before, $p<0.01$), particularly where there was slow progress in labour or the woman wished to have an epidural.

4.3 The Baby

The majority of women had singleton births (98%), with a small minority (1%) having twins or triplets. Although data were only provided for the first multiple, birthweight was inversely related to multiplicity ($p<0.01$). The majority of babies were >2500g, 16% (n=439) weighed more than 4000g and a small proportion 4% (n=116) weighed less than 2500g. As with birthweight, a similarly small proportion (6.2%, n=164) of babies were preterm (born before 37 weeks' gestation). Twelve percent (n=94) of all preterm infants were delivered by caesarean section.

Early Contact

Contact with the baby soon after birth is both beneficial and reassuring for women and their babies. Thus, respondents were asked about holding their baby, having skin-to-skin contact and breastfeeding their baby shortly after the birth. Most women were helped to hold their baby (92%), have skin-to-skin contact (88%) and put their baby to the breast (67%) soon after the birth. First-time mothers were more likely to hold, have skin-to-skin contact with their baby, and breastfeed at this time than women who had previously given birth. Small proportions of women were not offered the possibility of these activities (1-4%), some were not well enough and a very small number did not wish to have this kind of contact. Women whose baby was admitted to a neonatal unit were significantly less likely to hold (59% vs 94%), have skin-to-skin contact (53% vs 91%) or to breastfeed (35% vs 69%) at this time.

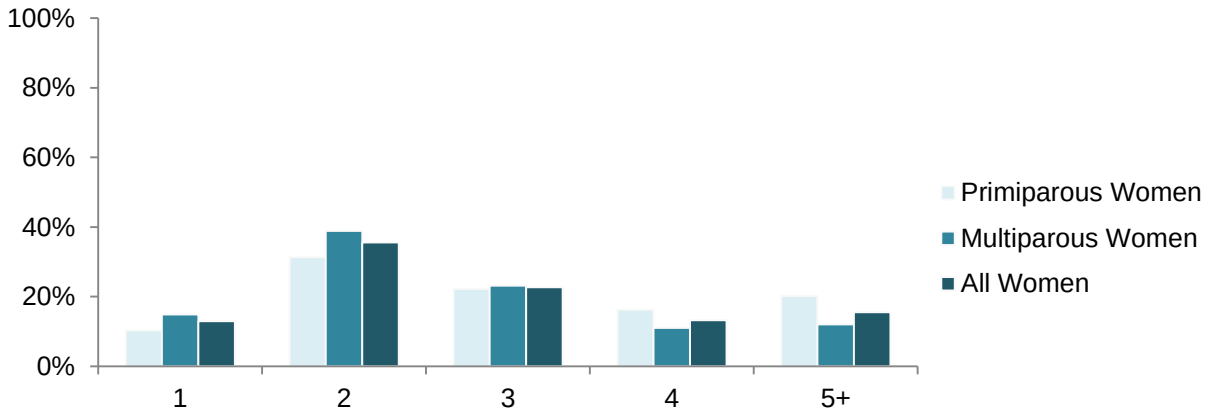
4.4 Staff Caring for Women During Labour and Birth

Continuity of carer and 'one-to-one' care during labour has been highlighted as an important aspect of care during childbirth[31] and women were asked about the staff who

[31] Hodnett et al. Continuous support for women during childbirth. Cochrane Database Syst Rev.

had looked after them at this time. As detailed in Figure 7, relatively few labouring women had just one midwife caring for them during labour (13%) and just over a quarter had at least four or more midwives (29%). First-time mothers were significantly more likely to have four or more midwives ($p<0.05$). However, the number of midwives caring for women during labour and birth was related to type of delivery; 20.4% of normal deliveries, 36.2% of caesarean sections and 44.1% of instrumental vaginal deliveries had four or more midwives ($p<0.01$). The majority of normal vaginal births were attended by a midwife only (93%). A small proportion of mothers had previously met all the midwives providing care in labour (5%), more had met some of them (15%); however, a high proportion (80%) had not met any of them before. First-time mothers were slightly less likely to have previously met any of the midwives caring for them during labour (16% compared with 22%, $p<0.01$).

Figure 7. Proportions of women having different numbers of midwives providing care during labour and birth



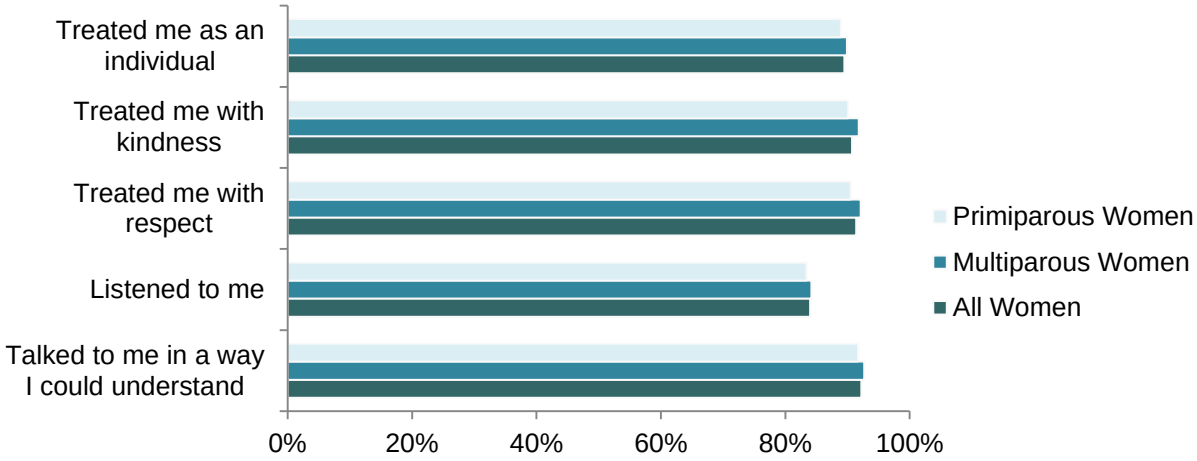
The survey included a range of questions about the way in which women were cared for during their labour and birth: about trust and confidence, communication with staff, being treated with kindness and respect and about being left alone at a time when it worried them. The majority of women (85%) always felt they had confidence and trust in the staff caring for them at this time, a further 14% said they sometimes felt this and 1% reported

2013; 7:CD003766.

they ‘rarely’ or ‘never’ felt confidence or trust. The proportions were similar for first-time mothers and women who had given birth previously.

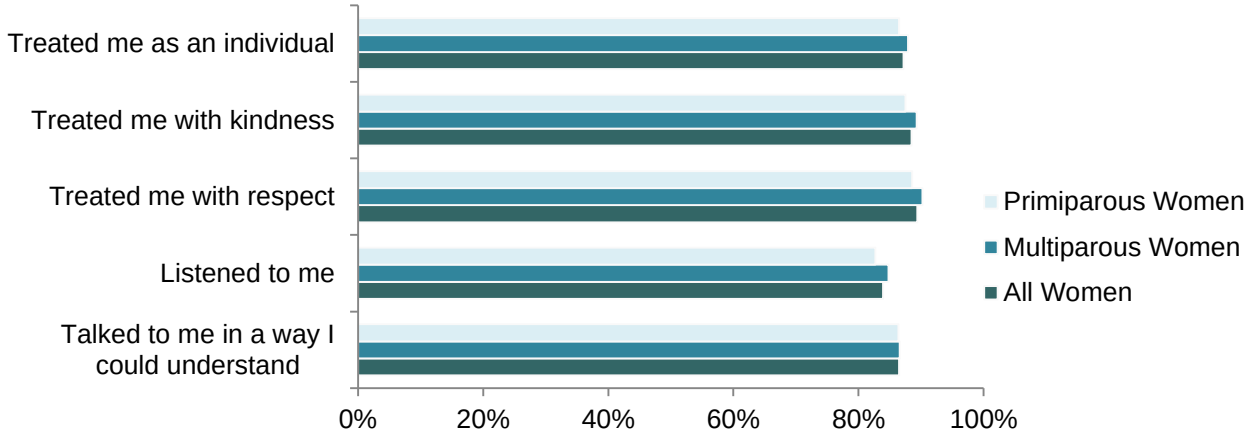
Similar questions to those described previously in Chapter Three about interpersonal aspects of care from midwifery and medical staff during pregnancy were also asked about care during labour and birth. Almost all women reported that midwives talked to them in a way they could understand (92%), treated them with respect (91%) and with kindness (91%) and as an individual (89%) (Figure 8). A slightly lower proportion said they were listened to by midwives (84%).

Figure 8. Women’s perceptions of midwifery care during labour and birth



Perceptions of interpersonal aspects of care in relation to the medical staff were similarly positive (Figure 9), with many indicating that doctors talked to them in a way they could understand (84%), treated them with respect (88%) and with kindness (86%). As with care provided by midwives, mothers were less likely to report medical staff as always listening to women (82%). However, small proportions of women (1-3%) reported that for both groups of staff they were not treated well regarding all the aspects of care listed.

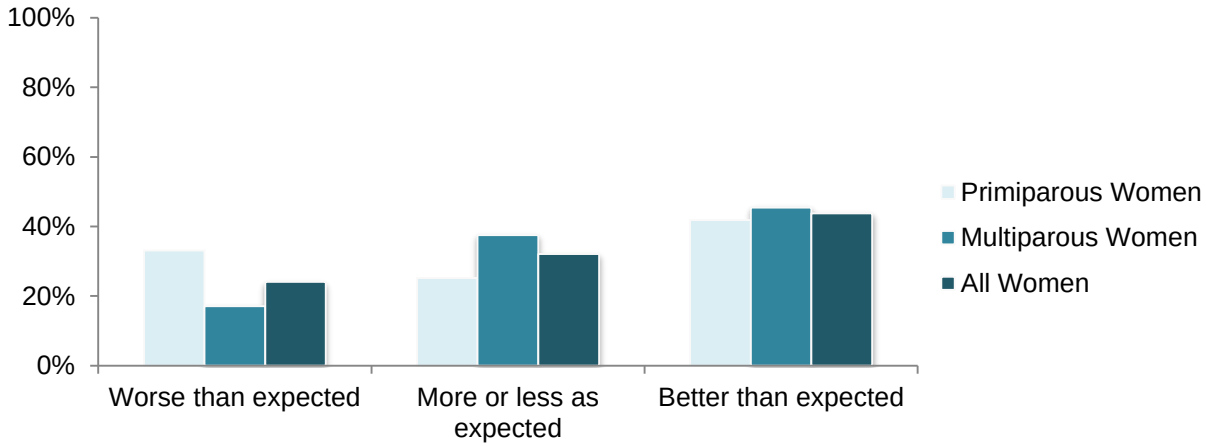
Figure 9. Women's perceptions of care from doctors during labour and birth



Women were also asked 'Were you (and/or their husband, partner or companion) left alone at a time when it worried you?'. While 87% of women were not left alone at all, some were left alone at a time when it worried them during labour (7.5%) and a few were left alone and worried shortly after the birth (3.5%) or both (2%). There was no difference between this for first-time mothers and women who had previously given birth. Almost half of the women who were left alone (46%) were given an explanation, with no difference between first-time mothers compared with women who had given birth previously. Women were also asked about being involved in decisions about their labour and birth care. Over two thirds reported always being involved (69%), a quarter (24%) reported sometimes being involved and a few women reported not being involved at all (5%). Very few (1%) said that they did not need or wish to be involved in decision-making at this time.

Around a third (32%) of women reported that labour and birth went more or less as expected, a quarter worse (24%) and 44% better than they had expected (Figure 10). Significantly more women giving birth for the first time rated the experience as worse than expected (33% compared with 17% in women who had given birth before, $p<0.01$).

Figure 10. Women's experience of labour and birth in relation to expectations



4.5 Babies Needing Specialist Care

Overall, 7.9% of mothers (n=197) had babies who required care in a neonatal unit. Reasons for admission included preterm birth (38%), breathing difficulties (34%), feeding problems (19%) and for observation (20%). Other less common reasons included infection, jaundice, hypoglycaemia and congenital anomalies. Duration of stay in the neonatal unit averaged 12 days (median: 7 days) and ranged from less than one day to 94 days. A small number of mothers (n=6) had babies who were still in a neonatal unit at the time of the survey.

Women were asked a number of questions in relation to their experience of neonatal care. The majority of women (77%) reported that the equipment and procedures were always explained to them, for an additional 14% this happened sometimes, and for 9% this rarely or never happened. High proportions of mothers also reported that their baby's problems were always discussed with them (82%), however, 15% said this happened sometimes and, for 3%, this rarely or never happened.

Most mothers whose baby had been admitted to the neonatal unit had been able to touch their baby at birth (63%), a further 27% within one day, and 10% were only able to do so during the first week of birth or later. Slightly lower proportions of mothers were able to hold their baby at birth (56%), 23% within a day, and 21% not being able to hold their baby until they were several days old, or later.

A marker for neonatal units in supporting families is to enable parents to stay overnight while their baby is in the unit[32]. Women were therefore asked if, during their baby's stay, they had stayed in the hospital overnight after they themselves had been discharged home. Nearly half of mothers (46%) had stayed overnight, with an average stay of 4.4 nights (median: 3).

[32] Redshaw and Hamilton. Family centre care? Facilities, information and support for parents in UK neonatal units. Arch Dis Child Fetal Neonat Ed 2010; F260-F264.

CHAPTER 5: POSTNATAL CARE

The postnatal period begins with the birth of the baby and is an important time to support women as they recover from childbirth and begin to get to know their baby. For the majority of women, care after birth starts in hospital and is normally provided by a midwife who will monitor a woman's health and well-being, and provide advice and support on breastfeeding and parenting skills. Care then transfers to the community when women return home with their baby. NICE guidelines on postnatal care outline the routine care that every women and her baby should receive in the first 6-8 weeks after birth, and identify when additional care may be needed [33].

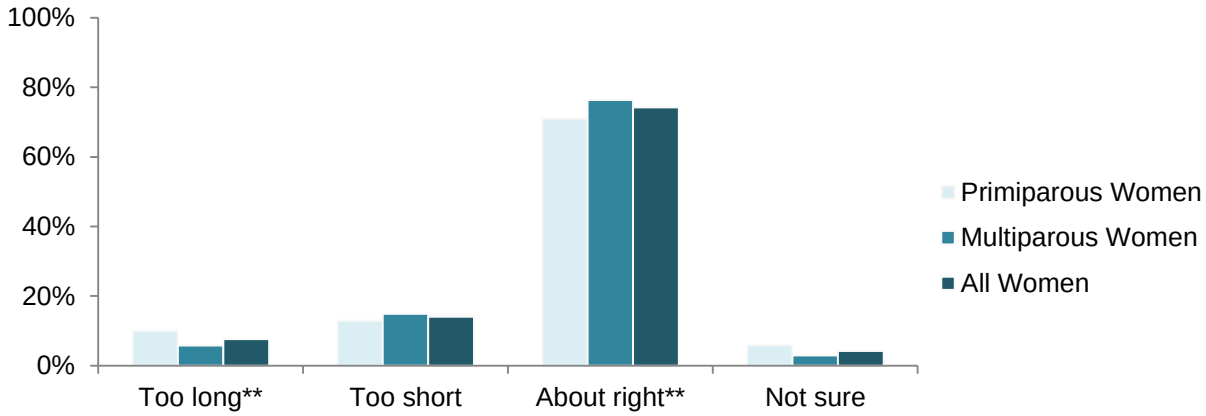
5.1 Postnatal Care in Hospital

While the majority of women give birth in hospital, the length of time that women stay in hospital varies. Overall, the mean length of stay was 2.1 days (median: 2; range: 1-25 days). Women having their first baby (mean: 2.1; median: 2 days) were likely to stay slightly longer, compared with women who had previously given birth (mean: 1.9; median: 1 day; $p<0.01$). As expected, women who had instrumental or operative deliveries had longer postnatal stays in hospital; 2.2 days for instrumental delivery compared with 1.6 days for women having a normal vaginal birth ($p<0.01$). Women who had caesarean births stayed for an average of 3.1 days.

Women's views about their length of postnatal hospital stay varied (Figure 11). Most (74%) found it 'about right', for some (14%) it was too short, fewer (8%) found it 'too long' and a small proportion (4%) were not sure. First-time mothers were more likely to describe their stay as too long (10% versus 6%) and women who had previously given birth described it more often as 'about right' (71% for primiparous women compared with 74% for multiparous) $p<0.01$.

[33]National Institute of Excellence. Postnatal care up to 8 weeks after birth. London: NICE 2006.

Figure 11. Women's views on length of hospital stay



***Difference by parity p<0.01*

As with earlier sections of the survey, women were asked about the quality of interpersonal and communication aspects of their postnatal care. Most women felt that staff always talked to them in a way they could understand (85%), with respect (83%) and kindness (82%), 79% always felt treated as an individual and 77% always felt listened to. However, women were slightly more critical of this aspect of their care than of other phases of maternity care, particularly in relation to always being listened to and treated as an individual. Very small proportions of women were critical of these aspects of care (1-3%), feeling that they were not treated well at all.

Women were asked if there was anything else they would like to say about their postnatal care in hospital with the opportunity to provide responses in their own words. As indicated previously, women were more negative of this phase of their maternity care compared with antenatal or intrapartum care. While women reported many positive experiences of postnatal care, there were specific areas where women perceived their care as inadequate. This was particularly evident in relation to support for breastfeeding, as well as provision of more general support and advice for first-time mothers. Staffing issues were also identified by women as impacting on the quality of their care and the ability of staff to provide support.

Women's responses about positive experiences of care:

'I had a very positive experience and feel that my baby and myself

were well looked after' Mum who had given birth before, age group 35-39

'All midwives that I came into contact with were very friendly. They always were able to answer all my questions and reassured me about various things' First time mum, age group 25-29

'Can't praise the staff enough. All were brilliant & I can't rate the care I received highly enough' First time mum, age group 25-29

'Excellent care given by post natal staff and paediatric doctors - even though it was a holiday period (Christmas) they explained everything about our care and made sure I understood' Mum who had given birth before, age group 25-29

Although some women reported they were supported well and encouraged to breastfeed, the majority of free text responses in this section relating to breastfeeding support highlighted women's perceptions about the lack of available support. The examples demonstrate that this was often perceived to be related to a lack of time or inconsistent advice:

'After all the emphasis on breast feeding I found postnatal help lacking so much that my baby didn't latch properly causing pain at every feed and leading me and baby being distressed' First time mum 30-34

'As I was breastfeeding I feel I was left to my own devices. More support would have been appreciated, although I understand the demands' First time mum age group 30-34

'Better breastfeeding support needed and more consistent breastfeeding advice needed. Each midwife gave me different advice' First time mum age group 30-34

'During my stay on the ward I felt there was a lack of support with breastfeeding and generally how to care for my newborn. I felt I was left to get on with everything myself. Midwives only entered my room to give medications. I felt embarrassed to press the call button as I was bothering them.' First time mum age group 30-34

'I did not receive adequate support to help with breastfeeding. I understand why the statistics are quite low. Only that I was very determined, I could have given up quite easily as no-one was very supportive at this difficult time' Mum who had given birth before, age group 30-34

In particular, responses from first-time mothers suggested they did not feel well supported or prepared for discharge home:

'An assumption was made that I knew how to feed my baby, change his nappy and bathe him. I felt very concerned as I was a first time mum and was sent home very quickly without any real guidance' First time mum, age group 30-34

'It was one of the most lonely experiences of my life. I felt that I was an annoyance when I pressed the bell for assistance. As a first time mum and breastfeeding I needed more support especially after an emergency section' First time mum, age group 35-39

'I had to buzz several times to ask questions being a new mum. I felt quite alone and overwhelmed. I did not like the postnatal stay' First time mum, age group 30-34

'I felt like I wasn't given enough support as a first time mum by some of the midwives on the ward. Some of them were very condescending and unhelpful' First time mum, age group 30-34

Several women noted the impact of staffing levels and busy ward environments on their care:

'It was very obvious that the midwives were extremely busy -on a few occasions we could not find anyone to ask questions but on ringing the bell someone always came eventually. The staff were very good but there was clearly not enough of them to cope with the work load.' First time mum, age group 25-29

'At times I felt like 'a number'. Not all staff giving a personal

experience-it was a busy period in the hospital so this could be the reason.' Mum who had given birth before, age group 25-29

'Found staff were trying to do their best but were very under pressure most of the time. Staff were very apologetic that they did not have more time to spend with me. I did not receive good support with breastfeeding as staff did not seem to have time and were very pushed/short staffed' First time mum, age group 20-24

'I had my other daughter 4 yrs ago and there is such a big change regarding staff. The midwives are run off their feet, compared to the care I received before. Not enough credit given to them.' Mum who had given birth before, age group 30-34

'Midwives were rushed off their feet. Very busy and consumed with paperwork' Mum who had given birth before, age group 35-39

'Midwives were just too busy to show & give advice on breastfeeding - we buzzed for help three times during the day and although they were pleasant they were clearly too busy' Mum who had given birth before, age group 30-34

5.2 Postnatal Care at Home

After discharge home from hospital, 87% had the name and telephone number of a 'named' midwife or health visitor they could contact. However, 10% indicated that they did not have this information and 3% were unsure, with no difference by parity. Almost all (99%) women were visited at home by a midwife, with a few visiting a midwife clinic (n=7), or were visited by a public health nurse (n=3). A small number also reported that they did not want a midwife to visit (n=2) or had changed address (n=1). Three mothers reported that they not been offered a home visit at all.

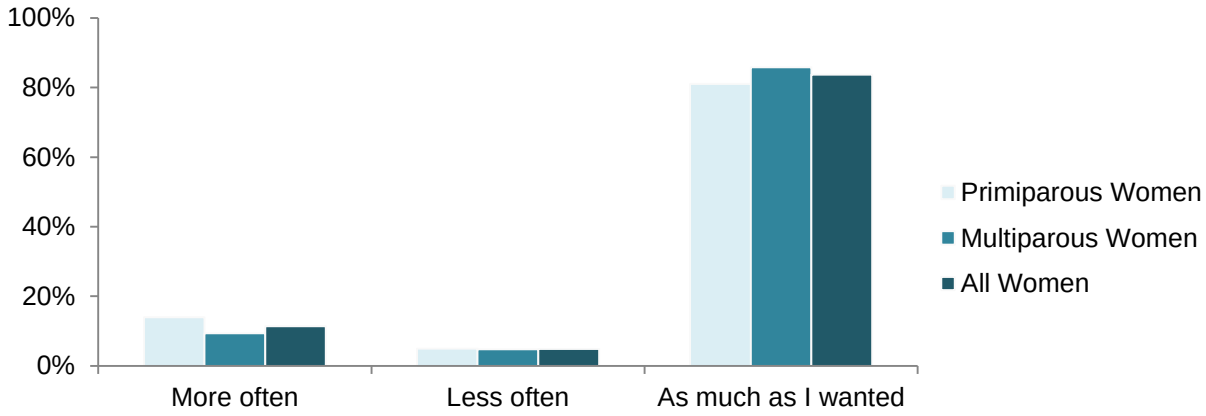
On average, women saw a midwife at home 4.7 times (median: 4) with no difference between the numbers of visits to women with their first baby and those who had previously given birth. Contact with maternity support workers was minimal: 183 (0.07%) women reported they were visited by a maternity support worker and they were seen on average once (1.4 times). Combining the data on home visits by a midwife and visits by a maternity support worker, the mean number of postnatal home visits was 5.4 (median:

5). Phone contact with either a midwife or maternity support worker occurred an average of only one occasion (median: 0).

On average, first-time mothers were seen up to 26 days (median: 14 days) following the birth, and 22 days for experienced mothers (median: 14 days), although contact for some women was considerably longer than this (range: 1-147 days). The evidence on continuity in relation to this phase of care is mixed: many women (50%) reported seeing just one or two midwives for their postnatal visits, however, half saw three or more midwives in the course of postnatal visiting. More positively, over half the women (60%) had met some or all of the midwives they saw at this time previously.

Women were asked about their views of the number of postnatal visits they had received. Most women (83%) felt they had sufficient home visits from midwives (Figure 12). A small number of women would have liked more visits (11.5%) and 5% said they would have liked fewer visits. First-time mothers were significantly more likely to say they would have liked more visits ($p<0.01$).

Figure 12. Women's views about how frequently they saw a midwife for postnatal home visits

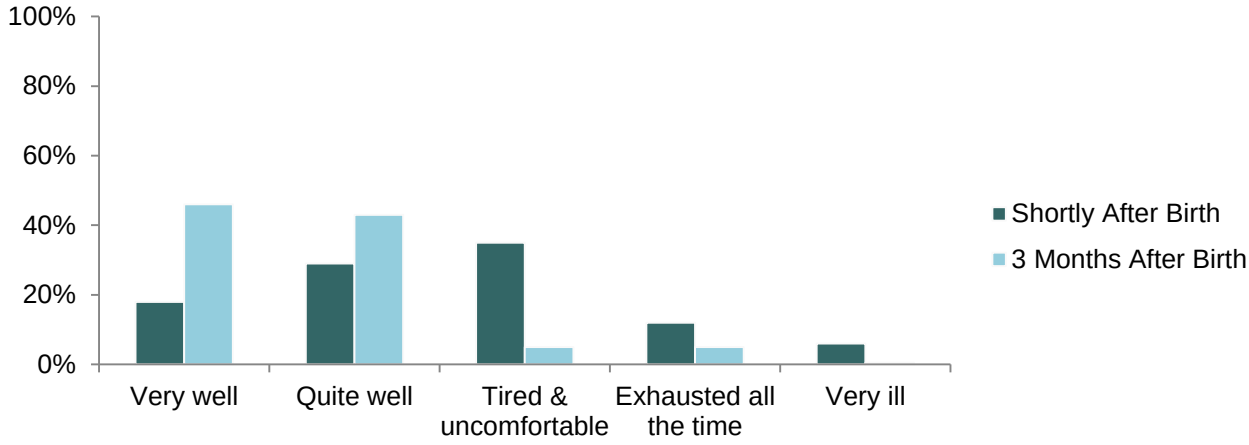


The survey also included questions about mother's sense of trust and confidence in the midwives they saw after going home. Over three quarters (78%) always had trust in the midwives and 20% sometimes did so. A small proportion (2%) reported rarely or never having trust and confidence in midwives making postnatal visits.

5.3 Health and Well-being After Birth

Women were asked about their health and well-being in the first few days after the birth and then at the time of the survey. Their health varied considerably in the early days after the birth (Figure 13). However, almost all women (90%) described themselves as very well or quite well at the time of the survey, an average of 15 weeks after the birth.

Figure 13. Women's health shortly after birth & three months after birth



A woman's maternity care is usually completed by the midwife around 10 days postnatal, although it can extend up to 28 days and culminates in the recommendation to have a postnatal appointment with their GP or obstetrician around 6-8 weeks[34]. Over three quarters of women reported having a check between 4-8 weeks (78%), with little difference between first-time mothers and women who had previously given birth. Of those who did not have a check (n=590), 19% of women said they did not wish to do so and 38.5% gave another reason including having a check with an obstetrician, having a check outside of the 4-8 week timeframe, not finding a suitable time, being told they did not need to have one or their baby still being in hospital. However, 42% (251/590) reported that a postnatal check of their health had not been offered to them.

Almost half of women in the survey (49%) had talked to a health professional afterwards about what happened during their labour and birth. Of these, 14% had talked to a doctor

[34] DHSSPSNI. A Strategy for Maternity Care in Northern Ireland 2012-2018. DHSSPSNI, 2012.

or midwife present during the labour or birth; 28% to a doctor or midwife who was not present for the labour or birth; 19% to their GP and 32% to their health visitor. Almost all of women (93%) reported that they had been asked about their emotional and mental health since having their baby, with no difference in parity. Of those women who self-identifying as having a mental health problem since birth, 13% had received support, 15% advice and 10% had received treatment. The treatments included medication, counselling and cognitive behaviour therapy.

5.4 Infant Feeding

53% of respondents said they had decided before the birth to breastfeed. This was more common among women who were first-time mothers (59% compared with 43% in multiparous women; $p<0.01$), although the same proportion of both groups (84%) reported that their midwife had discussed infant feeding with them during pregnancy.

Almost three quarters of women had tried to breastfeed their baby at least once (72%). During the first few days, 49% of women reported feeding their baby breast milk exclusively (52% in the Infant feeding survey 2010)[35], a further 17% used breast milk and formula milk. The number of women reporting that they were exclusively breastfeeding when babies were more than three months old was 23%, with a further 8% of mothers partially breastfeeding at this time. In 2013 17.3% (n=4163) of women in NI were recorded on the Child Health System at 3 months as engaging in any breastfeeding[36]. Of the women who breastfed their baby, however, 28% said they did not do so for as long as they wanted. In relation to the provision of breastfeeding help (Table 15); while small proportions of women in this study did not want advice, practical help or encouragement (1-4%), almost half felt they were always given these and a further substantial proportion (37%) felt that they received these to some extent.

[35] Infant Feeding Survey 2010. Health and Social Care Information Research Centre, 2012.
[36] HSC PHA Health Intelligence briefing-Breastfeeding in Northern Ireland-November 2014

Table 15. Help with infant feeding from midwives and other carers

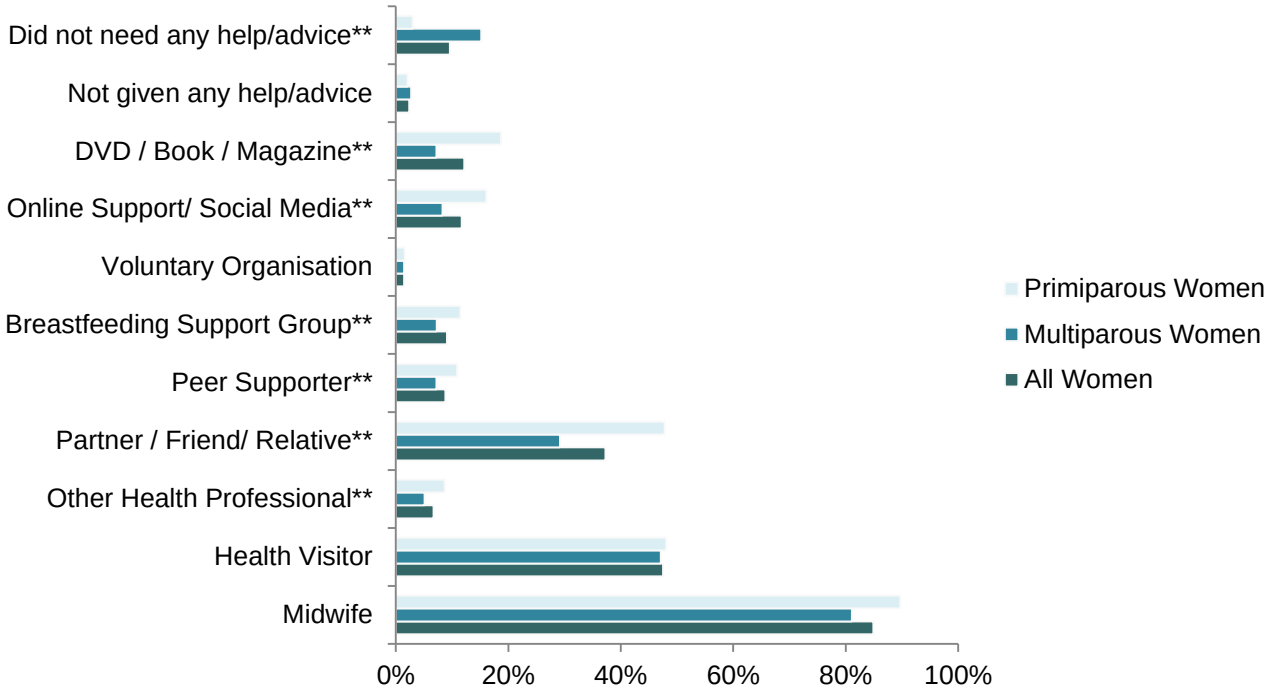
Support for Infant Feeding	Primiparous Women		Multiparous Women		All Women	
	N	%	N	%	N	%
Consistent Advice*						
Yes, always	498	43	719	48	1217	46
Yes, generally	452	39	532	36	984	37
No	188	16	185	12	373	14
Don't know	16	1	15	1	31	1
Didn't want this	5	0.5	47	3	52	2
Practical Help*						
Yes, always	525	45	679	4	1204	46
Yes, generally	444	38	531	36	975	37
No	161	14	178	12	339	13
Don't know	15	1	14	9	29	1
Didn't want this	13	1	88	6	101	4
Active Support/Encouragement*						
Yes, always	542	47	732	49	1274	48
Yes, generally	439	38	537	36	976	37
No	149	13	138	9	287	11
Don't know	18	2	18	1	36	1
Didn't want this	8	1	63	4	71	3

*Difference by parity p<0.01

Women were asked about sources of help and advice regarding infant feeding (Figure 14). Some reported not needing any help or advice at all, most often women who had given birth previously (15% compared with 3%). However, about a quarter of women (24%) would have liked more help with feeding their baby, which is similar to findings from a review of antenatal education in NI [37]

[37] Glass K. Review of Antenatal Education Final report prepared for the Public Health Agency. Ipsos MORI 2014

Figure 14. Sources of advice, support and information about infant feeding



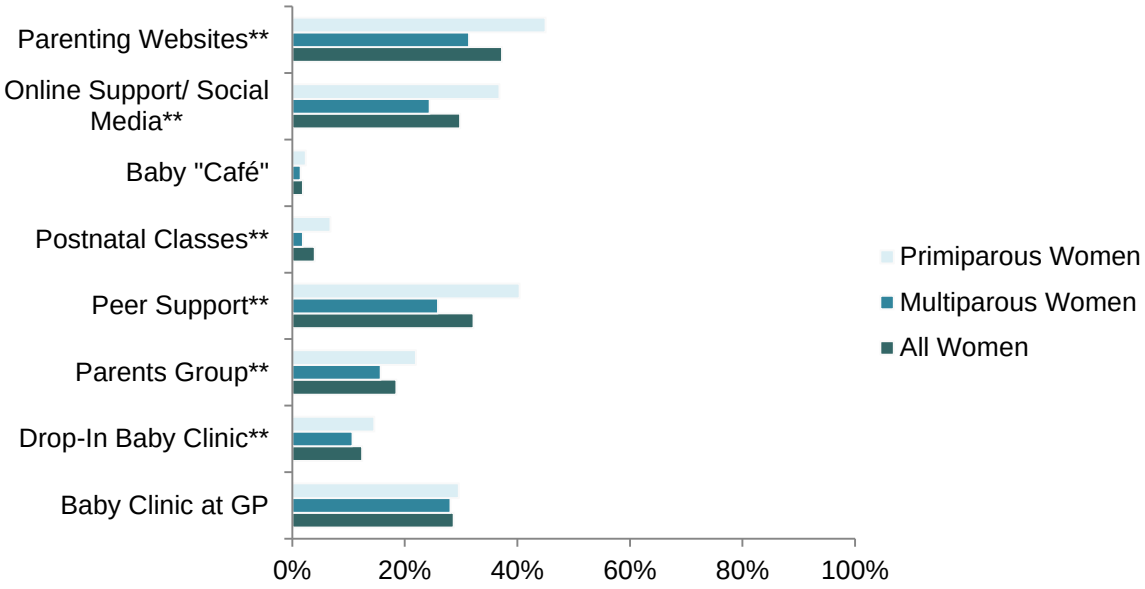
*Difference by parity * p<0.05; ** p<0.01*

While health professionals were a key source of information, particularly for first-time mothers, they were also more likely to use the diverse sources listed: including peer support (11% compared with 7% in multiparous women), online support (16% compared with 8%), DVDs and written materials (19% compared with 7%), breastfeeding support groups (11% compared with 7%), as well as family and friends (48% compared with 29%).

5.5 Sources of Information and Use of Postnatal Services

Respondents were also asked about more general sources of advice, support and information in the broader context of continuing postnatal support and information (Figure 15). Apart from parenting websites, the services used most commonly were peer support (32%), online support (30%) and GP-based baby clinics (29%). Almost half of women, particularly first-time mothers, used social media and online support.

Figure 15. Proportion of women using postnatal support services



***Difference by parity p<0.01*

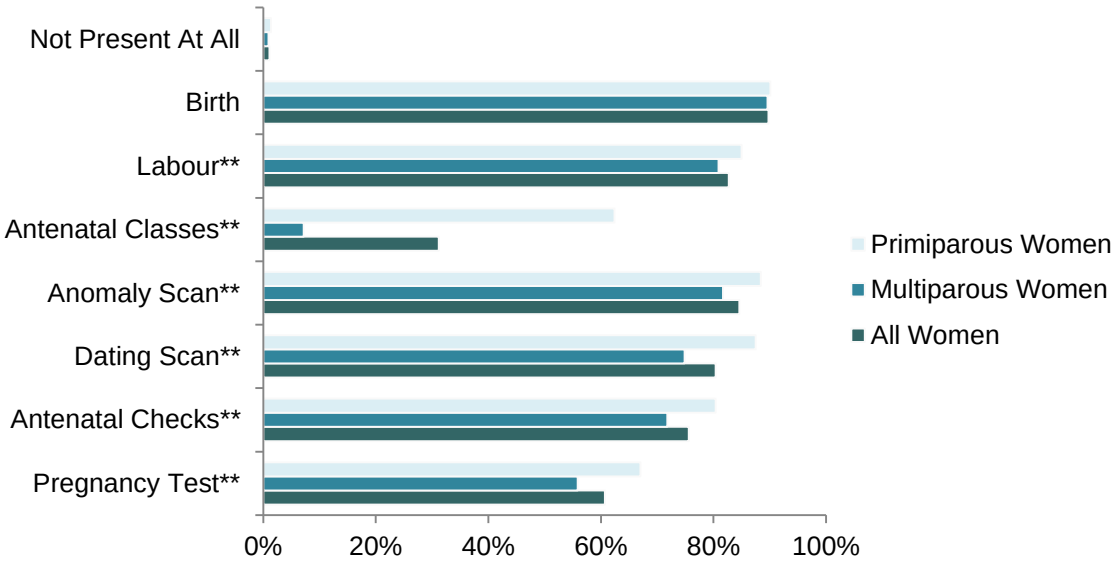
CHAPTER 6: FATHER AND PARTNER ENGAGEMENT

Fathers and partners have an important role in supporting women through pregnancy, birth and afterwards. The survey included a series of questions covering partner presence at key events during pregnancy, labour and birth, and involvement in caring for the baby afterwards. In recognition that people's circumstances can change significantly, particularly over the course of a major live event such as childbirth, we asked women: 'If you are a parent without a partner at this time, please answer these questions if your ex-partner or the father of the baby was with you during pregnancy' to ensure as complete a picture of partner engagement as possible.

6.1 Involvement in the Antenatal Period and During Labour

Women reported that substantial proportions of partners were engaged in the pregnancy, labour and birth as reflected in their presence throughout pregnancy and childbirth (Figure 16).

Figure 16. Father / partner present during pregnancy and birth



***Difference by parity p<0.01*

Over half (61%) of partners were present when the pregnancy was confirmed and more than three quarters for one or more antenatal checks (76%). Almost all partners were

present for the early dating scan (80%) and the anomaly or '20 week' scan (85%). Involvement generally increased through the pregnancy, irrespective of parity, but higher proportions of partners were involved when this was the woman's first baby. Overall, for most women their partner was present for labour (83%) and for birth (90%).

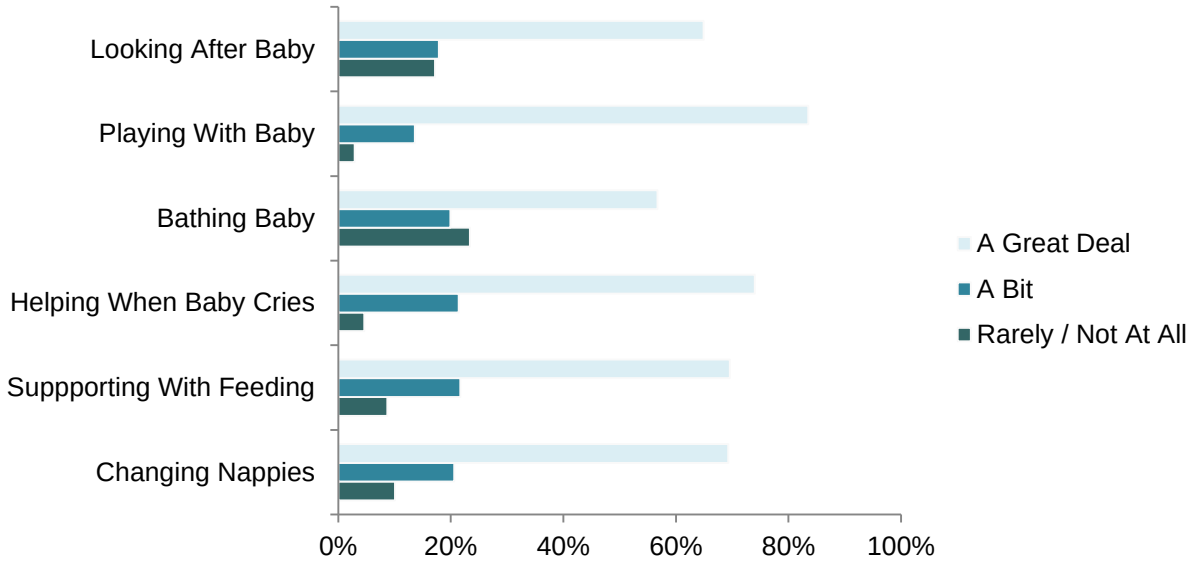
Respondents were specifically asked about partner involvement in accessing information and in decision-making during pregnancy, labour, and birth. A third or more of partners were reported to have sought out information about pregnancy (39%), about labour and birth (33%), participated in making decisions with regard to antenatal screening (36%) and those required during labour (45%). Significant differences by parity showed that for each of these aspects, women who had not given birth before were more likely to have partners who were engaged in information-seeking ($p<0.01$).

Over three-quarters or more of women reported that midwives and doctors communicated with their partners 'very well' or 'quite well' during pregnancy (87%). The most positive responses (91%) were about labour and birth, reflecting good communication with partners at this time, with fewer positive responses regarding communication in the postnatal period (82%).

6.2 Involvement in Infant Care

Women were also asked about father or partner involvement in infant care since their baby was born. More than half of fathers and partners were involved a great deal in the direct care such as nappy changing (67%), comforting a crying baby (72%), play (82%) and helping or providing support with feeding (65%) (Figure 17). Many fathers and partners help with childcare and this is reflected in looking after the baby when the baby's mother is out or at work: more than half (62%) were reported to do this 'a great deal' and 19% 'a bit'. Fathers and partners of first-time mothers were significantly more likely to be involved in all the listed aspects of care than those of mothers who had previously given birth ($p<0.01$).

Figure 17. Father / partner involvement in infant care



6.3 Paternity Leave

Respondents were also asked whether their partners had been able to take paid paternity or parental leave, and if so for how long. Two-thirds of women reported that their partners had taken paternity or parental leave (68%), one in five (20%) reported that their partner was unable to take leave. For some this was not applicable (11%). For partners and fathers able to take paternity or parental leave the median was 13 days (2 working weeks) and there was no significant difference by parity.

CHAPTER 7: OVERALL EXPERIENCE WITH MATERNITY CARE

At the end of the survey overarching questions that reflect overall experience of care were included that focused on information, decision-making and satisfaction with care.

7.1 Information and Decision-making

Women were asked about information giving and access to information to support their decision-making and choices (Table 16).

Table 16. Information and involvement in decision-making

Information and Decision-making	Primiparous Women		Multiparous Women		All Women	
	N	%	N	%	N	%
Given Information about Choices for Maternity Care						
Yes	762	65.7	974	65.2	1736	65.4
To some extent	327	28.2	409	27.4	736	27.7
No	70	6.0	111	7.4	181	6.8
Able to Participate in Decision-making about Care						
Yes	777	67.3	1033	69.2	1810	68.4
To some extent	326	28.2	391	26.2	717	27.1
No	51	4.4	68	4.6	119	4.5
Given Enough Information to Help You Decide about Care						
Yes	812	70.1	1061	71.5	1873	70.9
To some extent	282	24.4	341	23	623	23.6
No	64	5.5	82	5.5	146	5.5
Given Information at the Right Time to Help You Decide about Care						
Yes	794	68.5	1050	70.8	1844	69.8
To some extent	291	25.1	346	23.3	637	24.1
No	74	6.4	87	5.9	161	6.1

Two thirds or more felt they were always given information about choices in maternity care, were given enough information to help them decide, and that the information was

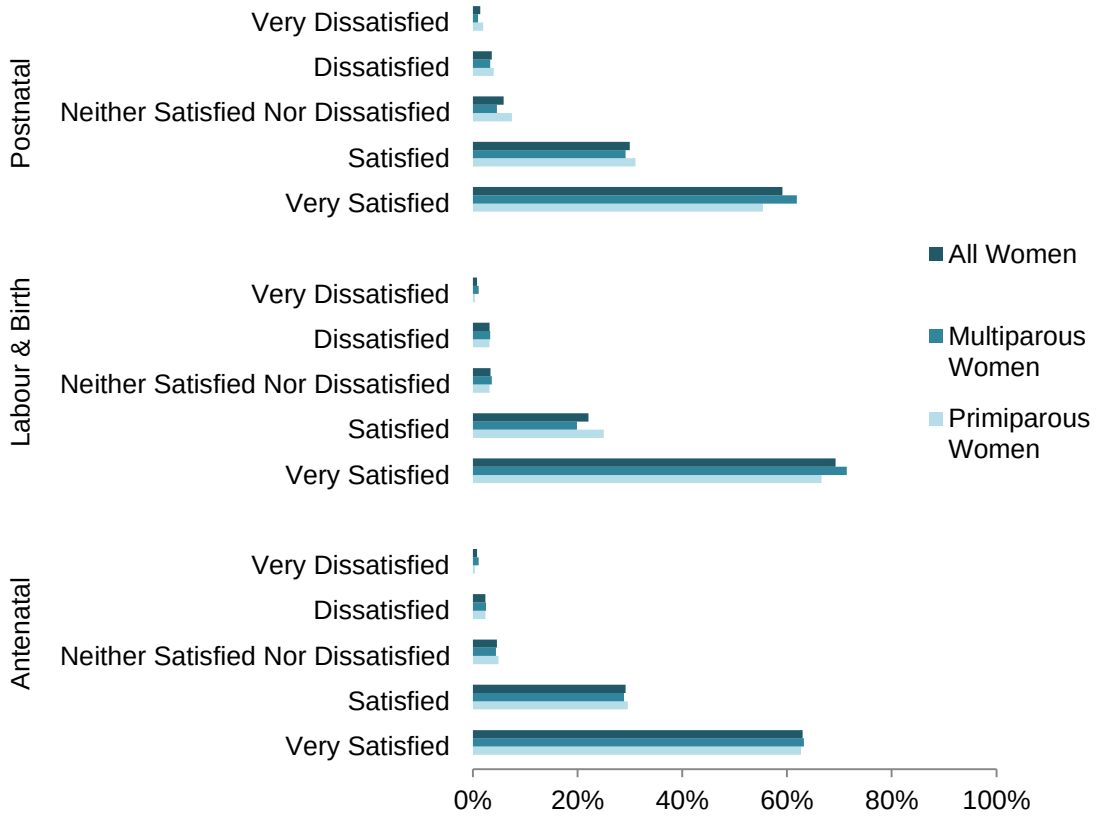
timely, although for a further proportion (24-28%) this was only to some extent. Similar proportions of women felt that they were definitely involved in decision-making about their care.

Relationships with health professionals are particularly important and women were asked if, overall, they had been able to have or to build a trusting relationship with a health professional during their pregnancy, birth and afterwards. Just over half (60%) responded unequivocally and positively and a further third (29%) indicated that they had been able to do this to some extent, with no difference by parity.

7.2 Satisfaction with Maternity Care

Women were largely positive about their care during pregnancy, labour and birth and in the postnatal period (Figure 18).

Figure 18. Women's perceptions of antenatal, birth and postnatal care



High rates of satisfaction with antenatal care and with labour and birth were reported (92% and 91% satisfied or very satisfied). A slightly lower rate was reported for postnatal

care (89% satisfied or very satisfied). Nevertheless, while some women were less positive about care in the postnatal period, only 5% reported they were dissatisfied with the postnatal phase of their care overall. No differences were evident by parity. Only 0.01% (n=6) were unhappy with all aspects of their care.

CHAPTER 8: MATERNITY CARE AND EXPERIENCE AMONG DIFFERENT GROUPS OF WOMEN

The recent National Maternity Review[38] recognises that a quality maternity services needs to be a personalised service, which takes into account the needs and circumstances of women and her family in all aspects of care and decision-making. Similarly, the National Service Framework for Children, Young People and Maternity Services envisages "flexible, individualised services... with emphasis on the needs of vulnerable and disadvantaged women"[39] Within such services women should be able to choose "the place they would like to give birth", receive "women-focused care" and the service should be "proactive in engaging all women, particularly women from disadvantaged groups and communities early in their pregnancy". While it is recognised that the survey may not have reached some disadvantaged or vulnerable groups, it is clear that many women from a wide range of diverse backgrounds participated by giving their views about their recent experience of pregnancy and childbirth and the care provided. The findings presented thus represent the first steps in hearing about their experiences in Northern Ireland.

This section of the report describes the experiences and views of women in two specific groups:

1. Women in the highest quintile of deprivation (n= 394) compared with women in the other four quintiles (n=2382).
2. Women who report their partnership status as not living with a partner at the time of the survey (n=392) compared with women living with partners (n=2330).

Multivariable regression analyses were undertaken, which adjusted for some of the factors that could have caused the observed differences between the groups. These were: maternal age, parity and mode of delivery (vaginal, instrumental vaginal, caesarean section). The selected outcomes focused on issues that reflect service aspects and perceptions of the quality of care (detailed in Appendix D).

[38]The National Maternity Review. Better Births: Improving outcomes of maternity services in England: A five year forward view. NHS England 2016

[39] Department of Health. Maternity Standard, National Service Framework for Children, Young People and Maternity Services. London: DH Publications, 2004

8.1 Maternity Experience in the Most Deprived Areas

Women's experience of pregnancy and childbirth can be significantly affected by the availability of social, emotional, educational, and financial resources, which can impact the general quality of life for women and their families. The Northern Ireland Multiple Deprivation Measure (NIMDM) 2010 is a measure of deprivation that enables us to look at the social context of the women who participated[40]. The domains of deprivation relate to income, employment, health and disability, education, skills and training, proximity to services, living environment and crime and disorder. NIMDM scores are identified from an individual's postcode. Scores can then be divided into quintiles, providing scores of 1-5, with 5 representing the least deprived quintile and 1 representing the most deprived quintile. NISRA identified each woman's NIMDM score based on their postcode and provided data relating to the corresponding quintile. The comparison made is between the lowest quintile, score 1 (most deprived) and the higher quintiles scores of 2-5, representing a less deprived group. A total of 394 (14.5%) women were in the most deprived and 2328 (85.5%) in less deprived groups. These groups did not differ by parity (41% first-time mothers in the most deprived and 44% in the comparison group).

For the unadjusted analyses, some differences were evident in the service aspects of care provided, with women living in the most deprived quintile group less likely to attend antenatal classes or engage with breastfeeding, more likely to have four or more postnatal visits from a midwife and have longer contact with their midwife compared to those living in less deprived quintiles (Appendix D, Table 28). After adjusting for potential confounding variables, these aspects of care remained statistically significant, with the exception of breastfeeding at the time of survey (Table 17). Women from the most deprived group were less likely to attend antenatal classes, after adjusting for maternal age and parity. They were more likely to have four or more postnatal visits from a midwife, have longer contact with their midwife and were less likely to have breastfed at least once, after adjusting for maternal age, parity and type of delivery.

[40] Northern Ireland Statistics & Research Agency (2010). Northern Ireland Multiple Deprivation Measure 2010. Belfast, Northern Ireland: NISRA.

Table 17. Multivariable analyses for aspects of care in maternity services in women living in the most deprived areas compared with others

	Odds Ratio	95% C.I.
Antenatal Care		
Booking appointment by 12 weeks	0.82	0.60, 1.18
Offered antenatal classes	1.08	0.83, 1.41
Attend antenatal classes *	0.72	0.53, 0.99
Care During Labour and Birth		
More than 3 midwives providing care during labour and birth	0.89	0.71, 1.11
Left alone when it worried you during labour and birth	0.80	0.57, 1.14
Postnatal Care		
Hospital stay longer than 2 days	1.07	0.81, 1.41
Less than 4 postnatal midwife visits**	0.66	0.50, 0.86
Last postnatal contact when baby was more than 15 days old*	1.33	1.05, 1.68
Breastfed at least once**	0.65	0.52, 0.83
Breastfeeding at time of survey	0.77	0.58, 1.03

* $p<0.05$ ** $p<0.01$

As detailed in Table 18, women residing in the most deprived areas did not differ in their perceptions or satisfaction with maternity care compared with those living in less deprived areas. Results were adjusted for the potential confounding factors of maternal age, parity and, where relevant, type of delivery. This was in keeping with the unadjusted analyses, reported in Appendix D, Table 29.

Table 18. Multivariable analyses for perceptions and satisfaction with maternity care in women living in the most deprived areas compared with others

	Odds Ratio	95% CI
Antenatal Care		
Always involved in decisions about antenatal care	0.84	0.67, 1.06
Always treated with respect by antenatal midwives	0.79	0.56, 1.12
Always treated with respect by antenatal doctors	0.86	0.63, 1.18
Care During Labour and Birth		
Always had confidence in staff during labour and birth	0.88	0.65, 1.18
Always involved enough in decisions labour and birth	0.99	0.78, 1.25
Postnatal Care		
Always being treated with respect by postnatal staff	1.28	0.93, 1.75
Overall Satisfaction with Maternity Care		
Given enough information about choices in maternity care	0.97	0.77, 1.22
Been involved in making decisions in maternity care	0.92	0.73, 1.16
Very satisfied / satisfied with care during pregnancy	0.76	0.52, 1.26
Very satisfied / satisfied with care during labour and birth	0.87	0.59, 1.26
Very satisfied / satisfied with care after birth	0.92	0.65, 1.30

8.2 Maternity Experience of Women Not Living with a Partner

Mothers living alone with their baby or without the support of a partner are thought to be at a disadvantage in caring for themselves and their family. The comparison in this section is between 392 women reporting that they were not living with a partner and 2330 women who identified themselves as living with a partner. The groups differed a little by parity (47% of women living without a partner were first-time mothers, 43% in the comparison group). 28% of women living without a partner in the study were in the most deprived quintile, compared with 12% of women living with a partner (p<0.01).

Within the preliminary, unadjusted analyses (Appendix D, Table 30), women who were living without a partner were less likely to attend their antenatal booking appointment by

12 weeks' gestation, less likely to attend antenatal classes, less likely to have more than three midwives providing care during labour and birth or be engaged with breastfeeding. As detailed in Table 19, after adjusting for potential confounding variables, mothers living without a partner remained less likely to have a booking appointment by 12 weeks' gestation, less likely to be offered or attend antenatal classes, less likely to have more than three midwives providing care during labour and birth and less likely to being breastfeeding at least once or at the time of survey.

Table 19. Multivariable analyses for aspects of maternity care in women not living with a partner compared to those living with a partner

	Odds Ratio	95% CI
Antenatal Care		
Booking appointment by 12 weeks**	0.59	0.44, 0.81
Offered antenatal classes**	0.74	0.56, 0.97
Attend antenatal classes**	0.41	0.29, 0.57
Care During labour and birth		
More than 3 midwives providing care during labour and birth**	0.74	0.58, 0.93
Left alone at a time when it worried you during labour and birth	0.91	0.65, 1.29
Postnatal Care		
Hospital stay longer than 2 days	1.31	0.98, 1.75
Less than 4 postnatal midwife visits	0.83	0.64, 1.09
Last postnatal contact when baby was more than 15 days old	0.92	0.72, 1.19
Breastfed at least once**	0.65	0.31, 0.50
Breastfeeding at time of survey**	0.35	0.24, 0.52

***p*<0.01

With regards to perceptions and satisfaction of maternity care, the unadjusted analyses (Appendix D, Table 31) presented differences for women living without a partner when compared to those living with a partner. Women living without a partner were less likely to always feel they were treated with respect by antenatal midwives, and less likely to always have confidence in staff during labour and birth. These differences remained

after adjustment for confounding variables (Table 20). Women not living with a partner were also less likely to report being very satisfied / satisfied with care received after birth. While a number of other satisfaction outcomes were reported to be significantly different across the group in the unadjusted analyses (Appendix D, Table 31), the differences were no longer maintained once adjusted for confounding variables (Table 20).

Table 20. Multivariable analyses for perceptions and satisfaction of maternity care in women living without a partner versus others

	Odds Ratio	95% CI
Antenatal Care		
Always involved in decisions about antenatal care	0.81	0.64, 1.03
Always treated with respect by antenatal midwives*	0.61	0.44, 0.86
Always treated with respect by antenatal medical staff	0.87	0.62, 1.20
Care During Labour and Birth		
Always had confidence in staff during labour and birth*	0.71	0.52, 0.95
Always involved enough in decisions during labour and birth	1.0	0.78, 1.28
Postnatal Care		
Always being treated with respect by postnatal staff	0.77	0.57, 1.04
Overall Satisfaction with Maternity Care		
Given enough information about choices in maternity care	0.79	0.63, 1.01
Been involved in making decisions in maternity care	0.84	0.66, 1.07
Very satisfied/ satisfied with care during pregnancy	0.70	0.48, 1.03
Very satisfied / satisfied with care during labour and birth	0.80	0.55, 1.17
Very satisfied / satisfied with care after birth*	0.69	0.49, 0.96

* $p<0.05$

CHAPTER 9: MATERNITY EXPERIENCE IN NORTHERN IRELAND COMPARED TO ENGLAND

Birth NI is based on the survey instrument that has been developed and utilised for three surveys of women's experience of maternity care in England[41],[42], [43].This provides an important source of comparison and, although no formal statistical analysis has been carried out in this report, there are a number of observed differences with the experience of women In England, compared to those in Northern Ireland. The findings from the most recent maternity survey conducted in England, which included women who gave birth in 2014, were used in this comparison (Safely Delivered Report, 2015). Aspects of care where there is more than 5% difference between Northern Ireland and England are highlighted in bold.

9.1 Antenatal Care

In Northern Ireland a higher proportion of mothers first contacted their GP, with a lower proportion aware that they could see their midwife, rather than their GP as first point of contact (Table 21). Fewer saw a midwife one or more times antenatally, saw the same midwife, or just two midwives throughout the course of their pregnancy, and fewer reported having a 'named midwife' who was responsible for providing all or most of their care during pregnancy.

A higher proportion of mothers in Northern Ireland attended NHS antenatal education classes. Fewer women in Northern Ireland had an awareness of all options available for place of birth.

[41] Redshaw et al. Recorded Delivery: a national survey of women's experience of maternity care 2006. Oxford: NPEU, 2007

[42] Redshaw et al. Delivered with Care: a national survey of women's experience of maternity care 2010. Oxford: NPEU, 2010.

[43] Redshaw & Henderson. Safely delivered: a national survey of women's experience of maternity care 2014. Oxford:NPEU 2015.

Table 21. Antenatal care in Northern Ireland compared to England

Antenatal Care	N. Ireland 2015 %	England 2014 %
First contacted GP when found out they were pregnant	**85**	**66**
Aware they could see midwife as first contact	**17**	**34**
Attended a booking appointment by 12 weeks' gestation	86	91
Saw a midwife one or more times throughout pregnancy	**89**	**95**
Saw the same midwife throughout pregnancy	**23**	**35**
Saw 2 midwives throughout pregnancy	**33**	**44**
Offered antenatal classes	70	65
Attended antenatal classes	**37**	**31**
Attended private antenatal classes	**5**	**14**
Were aware of all options for place of birth	**18**	**25**
Had a 'named midwife" for pregnancy care	**50**	**68**

9.2 Care During Labour and Birth

As detailed in Table 22, a lower proportion of women in Northern Ireland gave birth in hospital with midwife-led care, while a higher proportion gave birth with consultant-led care, as compared to mothers in England. The induction rate was higher in Northern Ireland, however, higher proportions of those who were induced felt they had a choice about the induction. Differences in other labour choices were evident: fewer women in Northern Ireland reported giving birth in a pool, or squatting, kneeling or standing.

A higher proportion of women in Northern Ireland reported having an episiotomy. For both populations just over half had a normal vaginal birth, with women in Northern Ireland having a slightly higher caesarean section rate. These were more likely to have been planned, occurring less frequently following unforeseen problems after labour had started.

Table 22. Care during labour and birth in Northern Ireland compared to England

Care During Labour and Birth	N. Ireland 2015 %	England 2014 %
Gave birth in a midwife-led unit	**40**	**50**
Gave birth in a consultant-led unit	**58**	**45**
Labour started naturally	**51**	**60**
If induced felt they had a choice about induction	**52**	**45**
Normal vaginal birth	55	59
Had an episiotomy	**33**	**26**
Gave birth on the floor	1	5
Gave birth in a pool	**6**	**12**
Gave birth squatting, kneeling or standing	**11**	**19**
Had a Caesarean section	30	26
Caesarean section following unforeseen circumstances	**39**	**54**
One midwife throughout labour	13	16
Four or more midwives throughout labour	29	26
Not previously met any labour midwives	80	85
Held baby shortly after birth	92	89
Have skin-to-skin contact shortly after birth	88	85
Put baby to breast shortly after birth	**67**	**74**

Few labouring women in both areas had one midwife caring for them throughout labour and over a quarter had four or more midwives providing care. Similarly high proportions of mothers reported not having previously met any of the midwives caring for them during labour and birth.

Shortly after birth, most women in each population were helped to hold their baby and to have skin-to-skin contact, although fewer put their baby to the breast at this time in NI.

9.3 Postnatal Care

Postnatal hospital stays were quite short for both populations. Although, after discharge

home, a higher proportion of mothers in Northern Ireland had the name and telephone number of a 'named midwife' or health visitor they could contact (Table 23). Almost all mothers were visited by a midwife at home, with more frequent visits and having three or more different midwives reported in NI than in England. During the first few days after birth, fewer mothers in NI exclusively or partially breastfed their babies, and fewer had a postnatal check by their GP.

Table 23. Postnatal care in Northern Ireland compared to England

Postnatal Care	N.Ireland 2015	England 2014
Median postnatal hospital stay for first-time mothers	2 days	2 days
Median postnatal stay for women who had previously given birth	1 day	1 day
Had a "named midwife"	**87%**	**77%**
Visited by a midwife at home	99%	97%
Median number of midwife visits	5	3
Not previously met any of the postnatal midwives	40%	40%
Had three or more different midwives	**50%**	**33%**
Exclusively/ partially breast fed in the first few days after birth	**66%**	**82%**
Had a postnatal check by GP	**78%**	**90%**

9.4 Perceptions of Care

Perceptions of antenatal care were high in Nothern Ireland, with a greater proportion of mothers feeling that staff always treated them well, with respect and kindness and talked to them in a way they could understand (Table 24).

Fewer mothers felt that they had been given enough information to decide where to have their baby, compared with mothers in England. Fewer women and their partners in Northern Ireland were left alone at a time when it worried them either in labour or afterwards.

Table 24. Perceptions of care in Northern Ireland compared with England

	N.Ireland 2015 %	England 2014 %
Antenatal Care		
Always treated them with respect	**90**	**75**
Had been given enough information to decide where to have their baby	**57**	**70**
Care During Labour and Birth		
Always treated with respect and kindness and talked to by midwives in a way they could understand	91	89
Always treated with respect and kindness and talked to by doctors in a way they could understand	86	84
Always involved in decisions about care	69	67
Not left alone at at time when it worried them	**87**	**79**
Postnatal Care		
Felt duration of hospital stay was "about right"	**74**	**68**
Always treated with respect	**83**	**77**
Felt there were sufficient postnatal visits	**83**	**71**
Would have liked more help with breastfeeding	24	27
Always had confidence in the staff post discharge	**78**	**69**
Overall Perceptions of Care		
Had been given enough information about choices regarding maternity care	**65**	**71**
Had been involved in making decisions about care	68	72
Satisfied with overall pregnancy care	92	88
Satisfied with overall labour and birth care	91	89
Satisfied with overall postnatal care	**89**	**77**

A higher proportion of mothers in Northern Ireland felt their hospital stay duration was about right, for some (14% vs 12%) it was 'too short' and others (7% vs 14%) it was 'too long'. Higher rates of satisfaction with postnatal staff and confidence in community midwifery staff were also evident in women from Northern Ireland compared to those in England. More women in Northern Ireland thought that there were sufficient postnatal

home visits, although 12% would have liked more visits, which was a more prevalent concern for English mothers (23%). Similar proportions of both populations would have liked more help with feeding their baby.

When asked overarching questions about pregnancy, labour and birth and the postnatal period, fewer women in Northern Ireland felt they were definitely given information about choices regarding their maternity care than mothers in England. However, women were generally positive about their care, with slightly higher rates of satisfaction in Northern Ireland than England. For both populations, more women were satisfied with their pregnancy and birth care than their postnatal care.

9.5 Fathers and Partners

Mothers in Northern Ireland reported higher rates of fathers and partners' attendance at antenatal scans, although fewer sought information about birth (Table 25). Similar proportions of fathers from both groups were involved in pregnancy, labour and birth, and looking after the baby in the early months after birth.

Table 25. Father/Partner Involvement in Northern Ireland Compared To England

Father/Partner Involvement	N.Ireland 2015 %	England 2014 %
Present for one or more antenatal scans	**76**	**68**
Sought information about birth	**33**	**41**
Present during labour	83	82
Present at the birth	90	87
Felt midwifery & medical staff communicated well with them	**87**	**80**
Directly involved in changing nappies in early months	67	67
Directly involved in helping when baby cries in early months	72	72
Directly involved in playing with the baby in early months	82	82
Looked after baby a great deal when mother was out or at work	62	62
Taken paid paternity or parental leave	68	66

CHAPTER 10: CONCLUSION

Birth NI is the first survey of its kind to provide a detailed picture of women's experiences of maternity care in Northern Ireland provided by 2722 mothers who had recently given birth. The response rate of 45% is similar to other surveys in England conducted in 2014/2015[44,45]. Data are presented by parity throughout to highlight the impact of previous pregnancy and childbirth on subsequent experiences of care. In the final sections, further analyses were conducted to explore the experience of maternity care for women living in the most deprived areas and those currently not living with a partner to identify areas of potential unmet need. We were unable to conduct a detailed analysis of those born from ethnic minority groups, as the numbers were too small for meaningful univariate analyses. We have used some quotations, where possible, that were provided by women in the survey to illustrate aspects of care in their own words. A more detailed qualitative analysis of the open text responses provided by women will be presented in subsequent publications.

Overall, women were very happy with the care they received during their pregnancy, childbirth and the postnatal period. Women reported least satisfaction with their postnatal care in comparison to other aspects of care. However, the differences were small and consistent with the patterns in maternity care surveys conducted in England. The survey identifies a number of areas of practice that could be enhanced in relation to NICE guidelines and to support the objectives of the current Northern Ireland Maternity Strategy. For example, in relation to antenatal care, only 17% of women were aware that they could go directly to a midwife when they were pregnant, suggesting awareness raising of this strategic objective is needed. Over a third of women attended NHS antenatal classes (Parentcraft). However, 76% of women used online websites for information about pregnancy and childbirth, suggesting a greater need to invest in good evidence-based antenatal information for women online. Nevertheless, health professionals, especially midwives, are a key source of information for women. This

[44] Redshaw & Henderson. Safely delivered: a national survey of women's experience of maternity care 2014. Oxford:NPEU 2015

[45] Care Quality Commission. Survey of women's experiences of maternity care: statistical release. London. CQC, 2015

highlights the need for midwives to provide antenatal education in a format that is acceptable and user friendly for women. Qualitative data from women suggest that consistent support and advice from staff in the postnatal period is valued.

Some aspects of care have caused concern for some time, based on clinical data[46] and other surveys[47], and these concerns are also reflected in this survey. For example, caesarean section rates remain high and just over half of the caesarean sections were planned and carried out before labour. The majority of women reported being involved at least to some extent in the decision to have a caesarean birth. Breastfeeding rates remain low and, while initiation rates have improved over time, there is still room for further improvement. Also, while the majority of women felt they were offered consistent advice on breastfeeding, about a quarter wanted more support and, of those who did breastfeed, about 25% said they did not breastfeed for as long as they wanted, suggesting additional support could be an important factor. The range of sources of support used by women suggests there may be opportunities to explore different mechanisms to support breastfeeding when developing future services.

The experience of women in the survey varied by parity, clinical needs and social background. This highlights the importance of understanding the different perspectives that women bring to this important life event. It also highlights aspects of care where we need to consider further how we support women in using services. For example, women from areas of high deprivation and also women who were not living with a partner were less likely to report attending antenatal classes, which are important for educating women and preparing for birth.

There was variability when we compared data from Northern Ireland and England. The comparison with the 2014 data from England is a simple overall comparison on key maternity care variables and there will be the opportunity to do more in-depth comparative analyses. The initial comparisons reported here show that women's experiences are largely similar. However, more women in Northern Ireland reported seeing their GP in the first instance and fewer saw just 1-2 midwives in the antenatal period, but there were a similar number of antenatal checks. In relation to labour and

[46] DHSSPSNI. A Strategy for Maternity Care in Northern Ireland 2012-2018. DHSSPSNI, 2012.
[47] Infant Feeding Survey 2010. 2012, Health and Social Care Information Research Centre

birth, more women reported having consultant-led care, being induced and there was a higher caesarean section rate in Northern Ireland. After birth, length of stay is similar; however, women in Northern Ireland have more home visits by midwives in the postnatal period in comparison to England. Overall, fewer women in NI reported feeling involved in decision-making, but were more satisfied in all phases of care, especially postnatal care.

Comparison of women's responses with clinical data sources on mode of delivery suggests that the figures reported in this sample are reflective of the recorded pattern of labour and birth in Northern Ireland during the time period of the survey. However, the reported proportion of 3rd/4th degree tears did not match well, with more women reporting tears than currently recorded in clinical data. The question was clearly worded in the survey with women asked to indicate 'Yes, a serious tear which involved my back passage (third or fourth degree tear)', so more research into perceptions and experiences of this aspect of care may provide insights into interpretation and information needs of women. We aim to conduct further analyses on all the survey data to more fully explore women's experiences of care using both qualitative and quantitative analyses.

In summary, by conducting this large population-based survey of women we have a more complete picture of care in Northern Ireland from a user perspective, which enhances our understanding of clinical data and ensures that women's experiences are reflected in the ongoing development of maternity services in Northern Ireland. Overall, women are largely positive about their experience of care, but we also need to learn from women whose experience was less satisfactory so we can find ways to improve the quality of care they receive.

APPENDIX A: SCOPE OF BIRTH NI QUESTIONNAIRE

Section A. Dates and Your Baby

Date and time of birth
Singleton or multiple
Gestation
Birthweight

Section B. Antenatal Care

Pregnancy confirmation
Planned pregnancy and reactions
Access to health professionals
Information about choices
The booking appointment
Contact with health professionals
Emotional and mental health
Support and treatment for mental health problems
Timing and method of contact
Scans: explanations, offer, uptake and views
Use of online websites for information
Use of pregnancy day assessment unit
Hospital stays
Health problems during pregnancy
Antenatal education offer and uptake
Perceptions of care

Section C. Labour and Birth

Prior worries about labour and birth
Options for place of birth
Place of birth
Length of labour
Induction
Monitoring
Methods of pain relief
Transfers in labour
Mode of delivery
Timing and reasons for caesarean section
Episiotomy and tears
Contact with health professionals
Continuity of carer
Early contact with baby
Presence of partner or companion
Being left alone
Perceptions of care and advice to others
Open text about care in labour and delivery

Section D. Babies Born at Home

Planned birth at home
Information for home birth
Transfer

Open text about home birth

Section E. In a Maternity Unit After the Birth

Duration of stay
Perceptions of care
Open text about postnatal care

Section F. Infant Feeding

Plans in pregnancy
Feed type first few days and at the time of the survey (3 months)
Support and advice from health professionals
Other support with infant feeding
Introduction of solids

Section G. Babies Needing Specialist Care

If baby was cared for in a neonatal unit
Reasons for admission
Information about neonatal care
Contact with baby
Duration of stay
If baby still in neonatal unit
Overnight accommodation for parents

Section H. Care at Home After the Birth

Access to postnatal care and information
Contact with different health professionals
Age of baby at last contact with midwife
Help and advice about baby care
Perceptions of baby and current baby health problems
Perceptions of care
Sources of support
Postnatal check
Maternal health and wellbeing
Support and treatment for mental health problems
Talked over the labour and birth with health professional
Satisfaction with care received
Information about choices for care

Section J. Father and Partner Involvement

Reactions to the pregnancy
Involvement during pregnancy, labour and birth
Health professional communication
Postnatal involvement with the baby
Paternity/parental leave

Section K. Previous Pregnancies and Childbirth

Previous pregnancies

Number of births
Fetal or maternal health problems in previous pregnancies
Previous caesarean section

Section L. You and Your Household

Age
Age on leaving full-time education
Members of household
Employment status
Ethnicity
Country of birth
Help in understanding English
Physical problem or disability
Mental health problem or learning disability
Open text about any aspect of maternity care

APPENDIX B: MEMBERSHIP OF THE ADVISORY COMMITTEE

An advisory committee was set up to facilitate further understanding and insight into the issues affecting women's experiences of maternity services and reflect a number of perspectives from consumers, professional bodies and researchers. The committee met at regular intervals throughout the project to discuss progress and provide comments on the draft questionnaire, promotion of the survey and dissemination of the findings.

Membership of the committee:

Breedagh Hughes, Northern Ireland Director, Royal College of Midwives, Northern Ireland Office

Dr Carolyn Bailie, Consultant Obstetrician, Belfast Health and Social Care Trust, Northern Ireland

Seána Talbot, NCT President and Sure Start Coordinator

Denise Boulter, Midwife Consultant, Public Health Agency

Dr Fiona Kennedy, Consultant in Public Health, Public Health Agency

Janet Calvert, Health and Social Wellbeing Improvement Manager, Public Health Agency

Mary Newburn, former Head of Policy Research, The National Childbirth Trust, London

Shona Hamilton, Consultant Midwife, QUB and Northern Health and Social Care Trust, Northern Ireland.

APPENDIX C: COMPARISON OF RESPONDENTS AND NON-RESPONDENTS

Summary data on respondents and non-respondents to the survey are shown in Table 26. NISRA provided aggregate statistics for all eligible births. Chi-squared tests were used to assess significant differences in proportions between respondents and non-respondents, with a statistical significance represented as $p<0.05$.

Table 26. Summary of respondent and non-respondent characteristics

	Respondents n=2722 n (%)	Non-respondents n=3267 n (%)
Month of Infant's Birth		
October 2014	965 (35.5)	1144 (35.0)
November 2014	855 (31.4)	1078 (33.0)
December 2014	902 (33.1)	1045 (32.0)
HSC Trust*		
Belfast HSCT	450 (16.5)	697 (21.3)
Northern HSCT	702 (25.8)	786 (24.1)
South Eastern HSCT	463 (17.0)	548 (16.8)
Southern HSCT	649 (23.8)	714 (21.9)
Western HSCT	458 (16.8)	522 (16.0)
Place of Birth		
Hospital	2711 (99.6)	3260 (99.8)
At Home	10 (0.4)	4 (0.1)
Other	1 (0.0)	3 (0.1)
Infant's Gender		
Male	1417 (52.1)	1652 (50.6)
Female	1305 (47.9)	1615 (49.4)
Multiple Birth		
Singleton Birth	2686 (98.5)	3212 (98.3)
Multiple Birth	40 (1.5)	55 (1.7)
Number of Previous Live Born Children*		
0	1177 (43.2)	1299 (39.8)
1	930 (34.2)	1101 (33.7)
2	443 (16.3)	531 (16.3)
3	131 (4.8)	212 (6.5)
4	25 (0.9)	71 (2.2)
5+	16 (0.6)	53 (1.7)
Mother's Age*		
<20	39 (1.4)	153 (4.7)
20-24	232 (8.5)	610 (18.7)
25-29	673 (24.7)	955 (29.2)
30-34	1078 (39.6)	1010 (30.9)
35-39	585 (21.5)	438 (13.4)
40+	115 (4.2)	101 (3.1)
Mother's Country of Birth		
UK & ROI	2490 (91.5)	2944 (90.1)
Outside UK & ROI	232 (8.5)	323 (9.9)
Mother's Social Class*		
1 Higher Managerial	351 (12.9)	225 (6.9)
2 Lower Managerial	790 (29.0)	532 (16.3)
3 Intermediate	511 (18.8)	454 (13.9)
4 Small Employers	106 (3.9)	142 (4.3)

5 Lower Supervisory	17 (0.6)	26 (0.8)
6 Semi Routine	416 (15.3)	625 (19.1)
7 Routine	137 (5.0)	265 (8.1)
8 Never Worked	0 (0.0)	0 (0.0)
9 Not Classified	394 (14.5)	998 (30.5)
Mother's Deprivation Quintile*		
Most Deprived (1)	393 (14.4)	951 (29.1)
2	600 (22.0)	726 (22.2)
3	611 (22.4)	595 (18.2)
4	601 (22.1)	580 (17.8)
Least Deprived (5)	517 (19.0)	415 (12.7)
Mother's Income Domain Quintile*		
Most Deprived (1)	415 (15.2)	939 (28.7)
2	566 (20.8)	731 (22.4)
3	588 (21.6)	602 (18.4)
4	633 (23.3)	585 17.9)
Least Deprived (5)	520 (19.1)	410 (12.5)
Mother's Education Domain Quintile*		
Most Deprived (1)	385 (14.1)	908 (27.8)
2	561 (20.6)	724 (22.2)
3	634 (23.3)	686 (21.0)
4	639 (23.5)	553 (16.9)
Least Deprived (5)	503 (18.5)	396 (12.1)
Marital Status of Parents*		
Married	1944 (71.4)	1503 (46.0)
Not Married	778 (28.6)	1764 (54.0)
Father's Age*		
<20	17 (0.6)	62 (1.9)
20-24	134 (4.9)	351 (10.7)
25-29	481 (17.7)	707 (21.6)
30-34	938 (34.5)	979 (30.0)
35-39	695 (25.5)	577 (17.7)
40+	387 (14.2)	331 (10.1)
Unknown	70 (2.6)	260 (8.0)
Father's Country of Birth*		
UK & ROI	2446 (89.9)	2686 (82.2)
Outside UK & ROI	206 (7.6)	321 (9.8)
Unknown	70 (2.6)	260 (8.0)
Father's Social Class*		
1 Higher Managerial	476 (17.5)	333 (10.2)
2 Lower Managerial	433 (15.9)	374 (11.4)
3 Intermediate	276 (10.1)	264 (8.1)
4 Small Employers	388 (14.3)	453 (13.9)
5 Lower Supervisory	324 (11.9)	333 (10.2)
6 Semi Routine	343 (12.6)	472 (14.4)
7 Routine	318 (11.7)	535 (16.4)
8 Never Worked	1 (0.00)	1 (0.00)
9 Not Classified	93 (3.4)	242 (7.4)
Unknown	70 (2.6)	260 (8.0)
Father's Deprivation Quintile*		
Most Deprived (1)	386 (14.2)	816 (25.0)
2	550 (20.2)	614 (18.8)
3	591 (21.7)	572 (17.5)
4	591 (21.7)	558 (17.1)
Least Deprived (5)	516 (19.0)	404 (12.4)
Unknown	88 (3.2)	303 (9.3)
Father's Income Domain Quintile*		
Most Deprived (1)	394 (14.5)	808 (24.7)
2	531 (19.5)	608 (18.6)
3	554 (20.4)	559 (17.1)

4	636 (23.4)	589 (18.0)
Least Deprived (5)	519 (19.1)	400 (12.2)
Unknown	88 (3.2)	303 (9.3)
Father's Education Domain Quintile*		
Most Deprived (1)	361 (13.3)	769 (23.5)
2	527 (19.4)	621 (19.0)
3	615 (22.6)	626 (19.2)
4	622 (22.9)	548 (16.8)
Least Deprived (5)	509 (18.7)	400 (12.2)
Unknown	88 (3.2)	303 9.3)

* Statistical significance $p<0.05$

Further summary statistics on the characteristics of respondents and their infants, which were reported by mothers in the questionnaire, are shown in Table 27.

Table 27. Characteristics of mothers who responded to the survey and their infants

	Respondents n (%)
Maternal Characteristics	
Ethnicity	
White	2601 (97.9)
Asian / Black / Mixed / Other	57 (2.1)
Age left full-time education	
≤16	257 (9.5)
17-18	645 (23.9)
19+	1762 (65.4)
Still in education	32 (1.2)
Current situation	
In paid work	287 (11.1)
On maternity leave	1851 (71.7)
Looking after my family, home or dependents	294 (11.4)
In education (including government training programmes)	18 (0.7)
Unemployed	105 (4.1)
Unable to work	21 (0.8)
Other	5 (0.2)
Long-standing physical health problem or disability	92 (3.4)
Long-standing mental health problem or learning disability	95 (3.5)
Infant Characteristics	
Gestation at delivery	
<37 weeks	164 (6.2)
≥37 weeks	2487 (93.8)
Birth weight	
<2500 grams	116 (4.3)
≥2500 grams	2555 (95.7)

APPENDIX D: REGRESSION ANALYSES

A) Outcomes relating to aspects of care in maternity services

1. Antenatal Care *(adjusted for maternal age and parity in multivariable analyses)*
   - Booking appointment by 12 weeks
   - Offer of antenatal classes
   - Attended antenatal classes
2. Care During Labour and Birth *(adjusted for maternal age, parity and type of delivery in multivariable analyses)*
   - More than 3 midwives providing care during labour and birth
   - Left alone at a time when it worried mother during labour or birth
3. Postnatal Care *(adjusted for maternal age, parity and type of delivery in multivariable analyses)*
   - Hospital stay longer than 2 days
   - Less than 4 postnatal visits
   - Last postnatal contact when baby was more than 15 days old
   - Breastfed at least once
   - Breastfeeding at time of survey

B) Outcomes relating to mother's perceptions and satisfaction with maternity care

1. Antenatal Care *(adjusted for maternal age and parity in multivariable analyses)*
   - Involved enough in decisions about antenatal care
   - Being treated with respect by midwives during antenatal care
   - Being treated with respect by doctors during antenatal care
2. Care During Labour and Birth *(adjusted for maternal age, parity and type of delivery in multivariable analyses)*
   - Had confidence in staff providing care during labour and birth
   - Involved enough in decisions about care during labour and birth
3. Postnatal Care *(adjusted for maternal age, parity and type of delivery in multivariable analyses)*
   - Being treated with respect by staff during postnatal care
4. Overall Satisfaction With Maternity Care *(adjusted for maternal age and parity in multivariable analyses)*
   - Felt they had definitely been given enough information about choices regarding maternity care
   - Felt they had definitely been involved in making decisions about their own care
   - Very satisfied / satisfied with care during pregnancy
   - Very satisfied / satisfied with care during labour & birth
   - Very satisfied / satisfied with postnatal care after birth

Table 28. Univariable analyses for aspects of care in maternity services in women living in the most deprived areas compared with others

	Odds Ratio	95% C.I.
Antenatal Care		
Booking appointment by 12 weeks**	0.42	0.24, 0.73
Offered antenatal classes	1.04	0.82, 1.31
Attend antenatal classes *	0.74	0.59, 0.94
Care During Labour and Birth		
More than 3 midwives during labour and birth	0.87	0.70, 1.08
Left alone when it worried you during labour and birth	0.87	0.63, 1.22
Postnatal Care		
Hospital stay longer than 2 days	1.06	0.83, 1.36
Less than 4 postnatal midwife visits**	0.68	0.52, 0.88
Last postnatal contact when baby was more than 15 days old**	1.37	1.09, 1.73
Breastfed at least once**	0.57	0.46, 0.72
Breastfeeding at time of survey*	0.70	0.53, 0.92

* $p<0.05$ ** $p<0.01$

Table 29. Univariable analyses of perceptions and satisfaction with maternity care in women living in the most deprived areas compared with others

	Odds Ratio	95% CI
Antenatal Care		
Always involved in decisions about antenatal care	0.84	0.67, 1.05
Always treated with respect by antenatal midwives	0.74	0.53, 1.03
Always treated with respect by antenatal doctors	0.82	0.60, 1.13
Care During Labour and Birth		
Always had confidence in staff during labour and birth	0.85	0.64, 1.14
Always involved enough in decisions labour and birth	0.95	0.75, 1.19
Postnatal Care		
Always being treated with respect by postnatal staff	1.20	0.88, 1.63
Overall Satisfaction with Maternity Care		
Given enough information about choices in maternity care	0.70	0.49, 1.01
Been involved in making decisions in maternity care	0.79	0.55, 1.13
Very satisfied / satisfied with care during pregnancy	0.90	0.64, 1.26
Very satisfied / satisfied with care during labour and birth	0.94	0.75, 1.18
Very satisfied / satisfied with care after birth	0.89	0.71, 1.12

Table 30. Univariable analyses for aspects of care in maternity services in women not living with a partner compared to those living with a partner

	Odds Ratio	95% C.I.
Antenatal Care		
Booking appointment by 12 weeks**	0.23	0.14, 0.38
Offered antenatal classes	0.91	0.72, 1.14
Attend antenatal classes **	0.65	0.51, 0.82
Care During Labour and Birth		
More than 3 midwives during labour and birth*	0.76	0.61, 0.94
Left alone when it worried you during labour and birth	1.0	0.72, 1.38
Postnatal Care		
Hospital stay longer than 2 days	1.16	0.91, 1.48
Less than 4 postnatal midwife visits	0.85	0.66, 1.09
Last postnatal contact when baby was more than 15 days old	1.03	0.81, 1.30
Breastfed at least once**	0.34	0.27, 0.43
Breastfeeding at time of survey**	0.33	0.23, 0.47

* $p<0.05$ **$p<0.01$

Table 31. Univariable analyses for perceptions and satisfaction with maternity care in women not living with a partner compared to those living with a partner

	Odds Ratio	95% CI
Antenatal Care		
Always involved in decisions about antenatal care*	0.79	0.63, 0.98
Always treated with respect by antenatal midwives**	0.54	0.40, 0.74
Always treated with respect by antenatal doctors	0.86	0.63, 1.17
Care During Labour and Birth		
Always had confidence in staff during labour and birth**	0.69	0.52, 0.91
Always involved enough in decisions labour and birth	0.91	0.73, 1.15
Postnatal Care		
Always being treated with respect by postnatal staff	0.77	0.58, 1.02
Overall Satisfaction with Maternity Care		
Given enough information about choices in maternity care*	0.67	0.47, 0.96
Been involved in making decisions in maternity care	0.77	0.54, 1.11
Very satisfied / satisfied with care during pregnancy*	0.67	0.49, 0.91
Very satisfied / satisfied with care during labour and birth*	0.80	0.64, 1.0
Very satisfied / satisfied with care after birth	0.84	0.67, 1.06

* $p<0.05$ **$p<0.01$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