



Ethnic and social inequalities in women's experience of maternity care in England: results of a national survey

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DECLARATIONS

Competing interests

None declared

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Ethical approval

Granted by the Multi-Centre Research Ethics Committee for the North West (07/MRE08/1). The covering letter to the questionnaire describes how the personal data and survey responses will be used. Consent is implied by virtue of returning

Summary

Objective To examine ethnic and social inequalities in women's experience of maternity care in England.

Design A 2007 national survey of women (16 years or over) about their experience of maternity care. Multiple logistic regression analysis, controlling for several maternal characteristics, was used to examine inequalities by ethnicity, partner status and education.

Setting Sample of records of 149 NHS acute trusts and two primary care trusts (PCTs) providing maternity services in England.

Results A total of 26,325 women responded to the survey (response rate 59%). Ethnic minority women were more likely than White British women to access services late, not have a scan by 20 weeks, and experience complications during pregnancy and birth. They were more likely to initiate breastfeeding and say they were treated with respect and dignity. Single women responded more negatively to almost all questions than women with a husband/partner. They were less likely to access care within 12 weeks of pregnancy (OR 0.45, 95% CI 0.39–0.52), have a scan at 20 weeks (OR 0.49, 95% CI 0.39–0.63), attend NHS antenatal classes (OR 0.56, 95% CI 0.49–0.65), have a postnatal check-up (OR 0.67, 95% CI 0.60–0.75), and initiate breastfeeding (OR 0.57, 95% CI 0.51–0.62), and were more likely to experience complications. Women completing education at 19+ years were more likely to access services early (OR 1.21, 95% CI 1.04–1.40), attend antenatal classes (OR 1.48, 95% CI 1.31–1.67), have a postnatal check-up (OR 1.19, 95% CI 1.07–1.32) and initiate breastfeeding (OR 3.88, 95% CI 3.56–4.22) than those completing education at 16 years or younger, and were less likely to experience complications.

Conclusions Ethnic minority women, single mothers, and those with an earlier age at completing education access maternity services late, have poorer outcomes, and report poorer experiences across some – though not all – dimensions of maternity care. Ethnic differences were absent or inconsistent between groups for some aspects of care. We recommend these findings are used by commissioners, trusts and healthcare professionals to inform improvements in maternity services for high-risk groups and reduce inequalities.

a completed
questionnaire

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VSR conceived and
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DH undertook the
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IS and KH managed
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Introduction

Almost 700,000 babies are born in England annually, and maternity services account for over £1.2 billion of the total NHS budget. Offering women informed choice and improved access to safe, high quality maternity services is a key plank of government policy.^{1,2} An indicator on early assessment during pregnancy is included in the Department of Health's Public Service Agreement (PSA) targets with the Treasury.³ However, women from disadvantaged backgrounds have a higher risk of adverse maternal outcomes,⁴ and a recent review of maternity services highlighted shortcomings in the quality of care.⁵

A survey of 3000 women by the National Perinatal Epidemiology Unit (NPEU) in 2006 provided a national picture of maternity services and women's experiences of them.⁶ In 2007 the Healthcare Commission carried out the first national survey of maternity services designed to provide information at individual NHS trust level. With 26,325 respondents, this is the largest survey of women using maternity services in England. We analysed these data to examine inequalities in women's experiences of maternity care during pregnancy, labour and birth, and after birth, by mother's ethnic origin, age at completing full-time education (as a proxy for social class), and whether or not she had a partner/husband. Overall, 80–90% of women rated their care as good to excellent, however, our results show some striking variations between subgroups of women.

Methods

The data

The instrument developed for this survey was based on a cut-down version of the 28-page questionnaire used for the national maternity survey conducted by NPEU in 2006. Cognitive interviews were conducted with recent mothers to test the comprehensibility of the instrument. A mailed pilot survey ($n=2772$) was conducted in seven NHS trusts to test the face validity of the questionnaire and the sampling strategy.

The sample (women aged 16 years or over at the time of giving birth) was drawn from the records of 149 acute trusts and two primary care trusts (PCTs) providing maternity services in England. Further

details of the 2007 survey and methodology are available.⁷

The responses from all women were combined into a national data-set for analysis. The questions selected for analysis (Appendix A – see <http://jrsm.rsmjournals.com/cgi/content/full/103/5/188>) cover:

- antenatal care (9 questions);
- care during labour and birth (9 questions);
- care in hospital after birth (9 questions);
- care at home after discharge from hospital (5 questions);
- overall rating of care during pregnancy, labour and birth, and after birth (3 questions).

Statistical analysis

Multiple logistic regression analysis was used to examine inequalities in mothers' responses to questions after controlling for the following independent maternal variables:

- age;
- parity (previous births);
- self-reported disability;
- trust from where sample was drawn;
- ethnic origin;
- partner/husband or single;
- age at completing full-time education.

In this paper we focus on the associations between women's responses to the survey (dependent variables) and three variables associated with their socioeconomic background (independent variables): ethnic origin; partner/husband/single status; and age at completing full-time education. The odds ratios (ORs) presented and discussed in this paper examine the effects of each of these three variables after controlling for all the other variables. ORs for the other variables in the regression model are available on request.

For questions with scaled response options, the answers were grouped into binary categories (see Appendix A for details of the dichotomization and the overall percent of women responding 'yes' to each of the binary categories). All analyses were based on the total sample, with the exception of the question 'how long did you stay in hospital after your baby was born', where analysis was restricted to women having a vaginal delivery.

The ethnic categories used in the survey correspond to the 16 categories used in the ONS 2001

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census of the general population. These were collapsed into the following groups to yield sufficient numbers for analysis:

- White British/Irish (the few White Irish respondents were combined with White British);
- White Other;
- Mixed (White/Asian, White/Black Caribbean, White/Black African, Other Mixed);
- Asian (Indian, Pakistani, Bangladeshi, Asian Other);
- Black (Black Caribbean, Black African, Black Other);
- Chinese or other.

Odds ratios and 95% confidence intervals are presented in Tables 1–5. For questions where an opinion or experience was implicit in the response (e.g. How clean was the ward?), the favourable outcome ('very clean') was modelled as the positive outcome. For factual questions (e.g. whether or not the delivery was a Caesarean) the odds ratio reflects the likelihood of that event occurring.

Results

Overall, 26,325 women aged 16 years or over responded to the survey, a response rate of 59%. The characteristics of the respondents are given in Table 6. Almost one-fifth (18.7%) of women were of minority ethnic origin (i.e. not White British), one in eight (12.5%) were single (i.e. did not have a partner/husband), and over one-quarter (27.3%) ceased full-time education at 16 years or earlier.

Antenatal care (Table 1)

Ethnic group

Women from most minority ethnic groups were less likely than White British counterparts to say they saw a health professional or had a booking appointment within 12 weeks of getting pregnant, or that they had a scan at 20 weeks. They were more likely to have a hospital admission during pregnancy. Some minority ethnic groups were also less likely to say they had a choice about the place of birth (Asian, Black), they had midwife contact details (White Other, Black), and that they attended NHS antenatal classes (Asian). On the other hand, women from ethnic minority groups

were more likely to say they were treated with respect and dignity, and had received enough information.

Partner/husband status

With few exceptions, single women responded more negatively to questions about antenatal care than those with a husband/partner. They were less likely to say they had seen a health professional or had a booking appointment within 12 weeks of pregnancy, had a scan at 20 weeks, and attended NHS antenatal classes. They were more likely to have a pregnancy-related hospital stay, and responded more negatively to questions about choice of place of birth and being treated with respect and dignity.

Educational status

There were some gradients related to educational status. Higher educational status was positively associated with respondents saying they attended NHS antenatal classes, and negatively associated with being given adequate information and having a hospital stay during pregnancy. Women with a higher age at completing full-time education (19+ years) were more likely than those completing education at 16 years or earlier to see a health professional within the first 12 weeks of pregnancy and to exercise choice about place of birth, but they were less likely to say they were treated with respect and dignity. There was some evidence that students (those in full-time education) received late care: they were less likely to be booked and be seen within 12 weeks of pregnancy, and to have a scan at 20 weeks.

Care during labour and birth (Table 2)

Ethnic group

Women from all ethnic minority groups except for the Mixed group were less likely than White British women to say they received adequate pain relief during labour and birth, had complete confidence and trust in staff, and were never left alone by doctors/midwives when worried during labour and birth. Ethnic differences were less consistent for some other questions (e.g. cleanliness of labour/delivery rooms and toilets), and being

| Table 1 Odds ratios (95% confidence intervals) for variations by ethnicity, partner status and educational status in reported experience of antenatal care | | | | | | | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|--------------------------------------------------------------------|---------------------------------------|----------------------------|-----------------------------------------------------------------------|-------------------------------------------------------------------|--------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------|
| | Number of weeks pregnant when first saw health professional (<=12 weeks) | Number of weeks pregnant when had booking appointment (<=12 weeks) | Choice about where to have baby (Yes) | Had scan at 20 weeks (Yes) | Stayed overnight in hospital due to a pregnancy-related problem (Yes) | Had name and telephone number of a midwife during pregnancy (Yes) | Attended NHS antenatal classes (Yes) | Treated with dignity and respect during antenatal care (Yes, always) | Given information/ explanations needed during antenatal care (Yes, always) |
| Ethnicity | | | | | | | | | |
| White British | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| White Other | 0.36 (0.29-0.44) | 0.70 (0.62-0.80) | 0.96 (0.82-1.12) | 0.27 (0.20-0.38) | 1.16 (1.00-1.35) | 0.83 (0.70-0.99) | 0.91 (0.75-1.11) | 1.24 (1.07-1.44) | 1.11 (0.99-1.26) |
| Mixed | 0.69 (0.47-1.03) | 0.93 (0.73-1.19) | 0.91 (0.69-1.19) | 0.55 (0.29-1.03) | 1.28 (1.00-1.64) | 0.94 (0.69-1.27) | 0.93 (0.65-1.31) | 1.13 (0.88-1.45) | 1.03 (0.83-1.27) |
| Asian | 0.35 (0.29-0.42) | 0.85 (0.75-0.98) | 0.79 (0.68-0.91) | 0.28 (0.21-0.39) | 1.75 (1.54-2.00) | 0.91 (0.75-1.09) | 0.48 (0.39-0.59) | 1.28 (1.11-1.49) | 1.53 (1.35-1.74) |
| Black | 0.40 (0.31-0.51) | 0.79 (0.67-0.94) | 0.79 (0.65-0.95) | 0.29 (0.20-0.43) | 1.55 (1.31-1.84) | 0.74 (0.60-0.91) | 0.85 (0.67-1.09) | 1.68 (1.37-2.05) | 1.66 (1.40-1.96) |
| Chinese/ other | 0.33 (0.22-0.50) | 0.96 (0.72-1.30) | 1.00 (0.71-1.40) | 0.37 (0.18-0.80) | 1.27 (0.93-1.72) | 0.86 (0.60-1.23) | 0.82 (0.54-1.24) | 0.94 (0.69-1.26) | 1.28 (0.98-1.65) |
| Partner status | | | | | | | | | |
| Husband/ partner | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| No husband/ partner | 0.45 (0.39-0.52) | 0.66 (0.60-0.73) | 0.80 (0.72-0.89) | 0.49 (0.39-0.63) | 1.30 (1.18-1.44) | 0.83 (0.72-0.95) | 0.56 (0.49-0.65) | 0.75 (0.68-0.83) | 0.99 (0.90-1.08) |
| Age at completing full-time education (years) | | | | | | | | | |
| 16 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 17/18 | 1.13 (0.98-1.31) | 1.04 (0.95-1.14) | 1.06 (0.97-1.17) | 1.17 (0.91-1.52) | 0.92 (0.84-1.00) | 0.95 (0.84-1.09) | 1.23 (1.09-1.39) | 0.99 (0.90-1.08) | 0.93 (0.86-1.00) |
| 19+ | 1.21 (1.04-1.40) | 0.98 (0.90-1.07) | 1.28 (1.16-1.40) | 1.17 (0.91-1.52) | 0.76 (0.70-0.83) | 0.91 (0.80-1.04) | 1.48 (1.31-1.67) | 0.91 (0.83-0.99) | 0.80 (0.74-0.86) |
| Still in full-time education | 0.70 (0.49-0.99) | 0.68 (0.52-0.89) | 1.00 (0.75-1.33) | 0.53 (0.32-0.87) | 1.13 (0.87-1.47) | 0.94 (0.65-1.34) | 1.21 (0.83-1.76) | 0.82 (0.62-1.09) | 1.12 (0.86-1.45) |

Table 2
Odds ratios (95% confidence intervals) for variations by ethnicity, partner status and educational status in reported experience of care during labour and birth

| | Cleanliness of labour/delivery rooms (Very clean) | Cleanliness of labour/delivery toilets (Very clean) | Got wanted pain relief during labour and birth (Yes, definitely) | Caesarean as result of unforeseen problem (Unplanned Caesarean) | Planned Caesarean (Planned Caesarean) | Confidence and trust in staff during labour and birth (Yes, definitely) | Left alone by midwives/doctors when worried (No, not at all) | Treated with dignity and respect during labour and birth (Yes, always) | Given information/explanations needed during labour and birth (Yes, always) |
|------------------------------------------------------|---------------------------------------------------|-----------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------------------|---------------------------------------|-------------------------------------------------------------------------|--------------------------------------------------------------|------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| Ethnicity | | | | | | | | | |
| White British | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| White Other | 1.14 (1.00–1.29) | 1.18 (1.04–1.33) | 0.87 (0.76–0.99) | 0.84 (0.71–0.99) | 0.91 (0.75–1.10) | 0.86 (0.76–0.97) | 0.74 (0.66–0.84) | 1.26 (1.09–1.46) | 1.25 (1.10–1.42) |
| Mixed | 1.10 (0.87–1.39) | 1.02 (0.81–1.29) | 1.01 (0.79–1.28) | 1.08 (0.81–1.45) | 0.86 (0.60–1.23) | 0.89 (0.72–1.10) | 0.93 (0.74–1.17) | 0.92 (0.73–1.16) | 1.11 (0.88–1.39) |
| Asian | 0.97 (0.85–1.09) | 1.11 (1.42–2.00) | 0.73 (0.64–0.83) | 1.20 (1.02–1.41) | 1.07 (0.89–1.28) | 0.76 (0.68–0.86) | 0.65 (0.57–0.73) | 0.94 (0.83–1.08) | 1.13 (1.00–1.28) |
| Black | 1.42 (1.20–1.68) | 1.69 (1.42–2.00) | 0.74 (0.62–0.87) | 1.67 (1.37–2.03) | 1.01 (0.80–1.28) | 0.81 (0.70–0.95) | 0.70 (0.60–0.82) | 1.16 (0.97–1.38) | 1.12 (0.96–1.32) |
| Chinese/other | 0.60 (0.46–0.78) | 0.76 (0.57–1.01) | 0.74 (0.56–0.97) | 1.10 (0.79–1.53) | 1.28 (0.89–1.84) | 0.64 (0.50–0.82) | 0.67 (0.52–0.87) | 0.78 (0.59–1.03) | 0.92 (0.71–1.20) |
| Partner status | | | | | | | | | |
| Husband/partner | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| No husband/partner | 0.94 (0.86–1.03) | 1.06 (0.96–1.16) | 0.86 (0.78–0.95) | 0.95 (0.84–1.08) | 0.93 (0.80–1.08) | 0.84 (0.77–0.91) | 0.91 (0.83–1.00) | 0.86 (0.78–0.95) | 0.92 (0.84–1.00) |
| Age at completing full-time education (years) | | | | | | | | | |
| 16 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 17/18 | 0.92 (0.86–1.00) | 0.87 (0.81–0.94) | 0.95 (0.88–1.03) | 1.01 (0.91–1.13) | 0.91 (0.81–1.02) | 0.99 (0.92–1.07) | 1.00 (0.93–1.08) | 0.97 (0.90–1.06) | 0.96 (0.89–1.04) |
| 19+ | 0.85 (0.79–0.92) | 0.77 (0.71–0.83) | 0.98 (0.90–1.06) | 0.92 (0.83–1.02) | 0.95 (0.86–1.06) | 0.94 (0.87–1.01) | 0.98 (0.91–1.06) | 0.96 (0.88–1.04) | 0.88 (0.84–0.95) |
| Still in full-time education | 0.91 (0.71–1.18) | 0.92 (0.71–1.20) | 1.14 (0.87–1.51) | 0.91 (0.65–1.28) | 1.10 (0.71–1.68) | 0.71 (0.56–0.91) | 0.90 (0.70–1.15) | 1.02 (0.77–1.34) | 0.95 (0.74–1.23) |

Table 3
Odds ratios (95% confidence intervals) for variations by ethnicity, partner status and educational status in reported experience of care in hospital after birth

| | Length of hospital stay (vaginal birth only) (>24 hours) | Had a 'baby check' before discharge (Yes) | Offered a choice of food (Yes, always) | Cleanliness of room/ward for postnatal stay (Very clean) | Cleanliness of toilets for postnatal stay (Very clean) | Treated with dignity and respect during postnatal stay (Yes, always) | Given information/explanations during postnatal stay (Yes, always) | Baby fed with breast milk, or breast milk and formula, in first few days after birth (Breast milk / both) | Baby cared for in a neonatal unit (Yes) |
|------------------------------------------------------|----------------------------------------------------------|-------------------------------------------|----------------------------------------|----------------------------------------------------------|--------------------------------------------------------|----------------------------------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------|
| Ethnicity | | | | | | | | | |
| White British | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| White Other | 1.08 (0.93-1.26) | 1.81 (1.28-2.58) | 1.30 (1.14-1.48) | 1.03 (0.91-1.15) | 1.20 (1.06-1.36) | 1.52 (1.34-1.72) | 1.41 (1.26-1.59) | 2.74 (2.20-3.42) | 0.94 (0.76-1.15) |
| Mixed | 1.34 (1.02-1.77) | 1.20 (0.71-2.02) | 1.16 (0.92-1.47) | 0.99 (0.80-1.23) | 0.98 (0.78-1.23) | 1.08 (0.87-1.35) | 1.07 (0.87-1.33) | 2.27 (1.68-3.07) | 0.94 (0.66-1.34) |
| Asian | 1.77 (1.52-2.05) | 1.78 (1.28-2.47) | 0.79 (0.70-0.90) | 1.10 (0.98-1.24) | 1.17 (1.03-1.32) | 1.07 (0.95-1.21) | 1.23 (1.09-1.38) | 2.47 (2.07-2.93) | 1.23 (1.01-1.48) |
| Black | 1.63 (1.34-1.98) | 2.05 (1.31-3.22) | 1.05 (0.90-1.24) | 1.12 (0.96-1.31) | 1.16 (0.99-1.37) | 1.57 (1.33-1.84) | 1.54 (1.32-1.80) | 4.09 (3.12-5.37) | 1.33 (1.05-1.70) |
| Chinese/other | 1.61 (1.15-2.25) | 3.71 (1.35-10.20) | 1.02 (0.78-1.33) | 0.71 (0.55-0.91) | 0.80 (0.60-1.06) | 1.12 (0.87-1.44) | 1.12 (0.88-1.43) | 1.83 (1.20-2.80) | 1.16 (0.78-1.74) |
| Partner status | | | | | | | | | |
| Husband/partner | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| No husband/partner | 1.14 (1.02-1.27) | 1.09 (0.88-1.34) | 0.91 (0.83-1.00) | 1.06 (0.98-1.16) | 1.14 (1.04-1.25) | 0.91 (0.83-0.99) | 0.95 (0.87-1.03) | 0.57 (0.51-0.62) | 1.14 (0.99-1.32) |
| Age at completing full-time education (years) | | | | | | | | | |
| 16 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 17/18 | 1.07 (0.98-1.18) | 0.97 (0.83-1.15) | 1.04 (0.96-1.12) | 0.94 (0.87-1.00) | 0.85 (0.79-0.91) | 0.89 (0.83-0.96) | 0.86 (0.80-0.92) | 1.76 (1.64-1.90) | 0.90 (0.80-1.01) |
| 19+ | 1.12 (1.02-1.22) | 0.83 (0.71-0.98) | 0.94 (0.87-1.01) | 0.84 (0.78-0.90) | 0.75 (0.70-0.81) | 0.78 (0.73-0.84) | 0.73 (0.68-0.78) | 3.88 (3.56-4.22) | 0.80 (0.71-0.90) |
| Still in full-time education | 1.25 (0.92-1.70) | 0.91 (0.47-1.76) | 1.05 (0.81-1.36) | 1.03 (0.81-1.31) | 0.96 (0.75-1.23) | 0.95 (0.74-1.22) | 1.09 (0.85-1.40) | 2.14 (1.58-2.89) | 1.11 (0.76-1.61) |

Table 4**Odds ratios (95% confidence intervals) for variations by ethnicity, partner status and educational status in reported experience of care after hospital discharge**

| | <i>Had name and telephone number of midwife/health visitor at home after birth (Yes)</i> | <i>Saw a midwife as often as wanted (as often as wanted)</i> | <i>Received help/advice on feeding the baby in 6 weeks after birth (Yes, definitely)</i> | <i>Received help/advice on the baby's health in 6 weeks after birth (Yes, definitely)</i> | <i>Had a postnatal check-up (Yes)</i> |
|------------------------------------------------------|------------------------------------------------------------------------------------------|--------------------------------------------------------------|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|---------------------------------------|
| <i>Ethnicity</i> | | | | | |
| White British | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| White Other | 0.79 (0.63–0.99) | 0.88 (0.77–1.00) | 1.29 (1.14–1.46) | 0.96 (0.86–1.08) | 0.61 (0.51–0.72) |
| Mixed | 0.72 (0.50–1.04) | 0.71 (0.56–0.90) | 1.63 (1.31–2.03) | 1.38 (1.11–1.70) | 0.71 (0.53–0.95) |
| Asian | 0.73 (0.59–0.92) | 0.43 (0.38–0.49) | 1.10 (0.98–1.24) | 0.86 (0.77–0.96) | 0.75 (0.64–0.88) |
| Black | 0.90 (0.68–1.20) | 0.48 (0.40–0.56) | 1.62 (1.39–1.90) | 1.28 (1.10–1.49) | 0.75 (0.61–0.92) |
| Chinese/other | 0.99 (0.59–1.67) | 0.57 (0.43–0.75) | 1.15 (0.90–1.48) | 1.00 (0.78–1.28) | 0.71 (0.49–1.02) |
| <i>Partner status</i> | | | | | |
| Husband/partner | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| No husband/partner | 0.86 (0.73–1.03) | 0.84 (0.76–0.93) | 0.99 (0.90–1.08) | 0.94 (0.87–1.03) | 0.67 (0.60–0.75) |
| <i>Age at completing full-time education (years)</i> | | | | | |
| 16 | 1.00 | 1.00 | 1.00 | 1.00 | 1.00 |
| 17/18 | 0.92 (0.78–1.08) | 1.09 (1.00–1.19) | 0.94 (0.87–1.01) | 1.02 (0.95–1.09) | 1.12 (1.01–1.24) |
| 19+ | 0.85 (0.72–1.01) | 1.15 (1.06–1.26) | 0.92 (0.85–0.99) | 0.88 (0.82–0.95) | 1.19 (1.07–1.32) |
| Still in full-time education | 0.79 (0.51–1.22) | 0.93 (0.71–1.23) | 1.08 (0.84–1.38) | 1.12 (0.88–1.43) | 0.83 (0.61–1.11) |

treated with respect and dignity. Although no ethnic differences were apparent for planned Caesareans, women from Asian and Black groups were more likely than White British women to have an unplanned Caesarean, and women from the White Other group less so.

Partner/husband status

Compared with women who reported having a husband/partner, those without were more negative about several aspects of their care during labour and birth, such as adequacy of pain relief, having trust and confidence in staff, being left alone when worried, and being treated with respect and dignity. No differences were apparent

for feedback on cleanliness and Caesarean section rates.

Educational status

There were some gradients related to educational status. Higher educational status was associated with negative perceptions about the cleanliness of labour/delivery rooms and toilets and adequacy of information about labour and birth.

Care in hospital after the birth (Table 3)

Ethnic group

Compared with White British women, women from ethnic minority groups were more likely to

Table 5
Odds ratios (95% confidence intervals) for variations by ethnicity, partner status and educational status in reported overall rating of care during pregnancy, labour and birth, and after birth

| | Overall rating of care during pregnancy (Excellent/very good/very good/good) | Overall rating of care during labour and birth (Excellent/very good/very good/good) | Overall rating of care after birth (Excellent/very good/very good/good) |
|------------------------------------------------------|---------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| <i>Ethnicity</i> | | | |
| White British | 1.00 | 1.00 | 1.00 |
| White Other | 0.86 (0.73–1.01) | 1.09 (0.91–1.31) | 1.14 (0.99–1.31) |
| Mixed | 1.09 (0.80–1.47) | 0.98 (0.73–1.33) | 1.15 (0.90–1.46) |
| Asian | 1.14 (0.96–1.35) | 0.75 (0.64–0.88) | 0.83 (0.73–0.95) |
| Black | 1.18 (0.95–1.47) | 1.05 (0.84–1.31) | 1.26 (1.05–1.50) |
| Chinese/other | 0.93 (0.66–1.32) | 0.59 (0.43–0.82) | 1.11 (0.83–1.49) |
| <i>Partner status</i> | | | |
| Husband/partner | 1.00 | 1.00 | 1.00 |
| No husband/partner | 0.81 (0.72–0.91) | 0.76 (0.68–0.86) | 0.82 (0.75–0.91) |
| <i>Age at completing full-time education (years)</i> | | | |
| 16 | 1.00 | 1.00 | 1.00 |
| 17/18 | 0.96 (0.86–1.06) | 1.01 (0.91–1.13) | 0.98 (0.90–1.07) |
| 19+ | 0.89 (0.81–0.99) | 1.09 (0.98–1.21) | 0.93 (0.85–1.01) |
| Still in full-time education | 0.94 (0.67–1.34) | 0.94 (0.68–1.30) | 1.02 (0.77–1.35) |

say they initiated breastfeeding, stayed in hospital more than 24 hours after a vaginal birth, and had a pre-discharge baby check-up. Babies of Asian and Black women were more likely to have been cared for in a neonatal unit. Ethnic minority groups were generally more positive about receiving adequate information and being treated with dignity and respect, although ethnic differences were less consistent for cleanliness and choice of food.

Partner/husband status

Single women were more likely to spend over 24 hours in hospital after a vaginal birth and less likely to initiate breastfeeding than women with a husband/partner. They were more negative about

Table 6
Characteristics of respondents

| | Frequency | Percent |
|----------------------------------------------|-----------|---------|
| <i>Maternal age (years)</i> | | |
| 17–19 | 772 | 2.9 |
| 20–24 | 3556 | 13.5 |
| 25–29 | 6140 | 23.3 |
| 30–34 | 8445 | 32.1 |
| 35–39 | 5806 | 22.1 |
| 40+ | 1604 | 6.1 |
| Total | 26,323 | 100.0 |
| <i>Parity</i> | | |
| No previous births | 12,603 | 48.2 |
| 1+ births | 13,533 | 51.8 |
| Total | 26,136 | 100.0 |
| <i>Ethnic group</i> | | |
| White British | 21,025 | 81.3 |
| White Other | 1508 | 5.8 |
| Mixed | 431 | 1.7 |
| Asian | 1614 | 6.2 |
| Black | 995 | 3.9 |
| Chinese/other | 300 | 1.2 |
| Total | 25,873 | 100.0 |
| <i>Self-reported disability</i> | | |
| No | 25,184 | 97.1 |
| Yes | 745 | 2.9 |
| Total | 25,929 | 100.0 |
| <i>Husband/partner status</i> | | |
| Husband/partner | 22,933 | 87.5 |
| No husband/partner | 3265 | 12.5 |
| Total | 26,198 | 100.0 |
| <i>Age at completing full-time education</i> | | |
| 16 years or less | 7094 | 27.3 |
| 17 or 18 years | 7680 | 29.5 |
| 19 years or over | 10,910 | 41.9 |
| Still in full-time education | 341 | 1.3 |
| Total | 26,025 | 100.0 |

the choice of food and being treated with respect and dignity.

Educational status

Gradients related to educational status were again apparent. Higher educational status was associated with less positive responses to several questions, e.g. information, cleanliness, respect and dignity, and pre-discharge baby check-up. Women with a higher age at completing full-time education (19+ years) were less likely to have their baby admitted to a neonatal unit and more likely to stay

in hospital over 24 hours after a vaginal delivery. The likelihood of breastfeeding increased sharply with older age at completing full-time education. Women completing education at 19 years or older were almost four times more likely to initiate breastfeeding (and full-time students more than twice) than those ceasing education at 16 years or earlier.

Care at home after discharge from hospital (Table 4)

Ethnic group

Mothers from ethnic minority groups were generally more positive than White British counterparts about receiving help and advice about their baby's feeding and health. However, they were almost consistently less likely to say they had a postnatal check-up, and that they saw the midwife as often as they wanted. White Other and Asian groups were also more likely to say they did not have contact details for a midwife or health visitor.

Partner/husband status

Single women were less likely to say they saw a midwife as often as they wanted and that they had a postnatal check-up than women with a husband/partner.

Educational status

There were few differences by educational status. Although women completing full-time education at 19 years or older were more likely to say they had a postnatal check-up and saw the midwife as often as they wanted than women completing education at 16 years, they were more critical about advice on the baby's feeding and health.

Overall rating of care during pregnancy, labour and birth, and after birth (Table 5)

Overall, 89% of women rated their care during pregnancy, labour and birth as excellent/very good/good, and 80% said the same of their care after birth.

Ethnic group

Overall, few ethnic differences were observed, although women from the Asian group were more negative than White British women for intra- and postpartum care.

Partner/husband status

Single mothers rated all three components of maternity care more negatively than women with a husband/partner.

Educational status

In contrast to preceding questions, almost no differences in overall ratings of care were apparent by educational status.

Discussion

Our analysis shows that ethnic minority women, single mothers, and those with an earlier age at completing education access maternity services late, have poorer outcomes, and report poorer experiences across some – though not all – dimensions of maternity care.

Limitations of the study

- (1) Although this was a large, national survey, numbers of respondents from some ethnic minority groups were low and had to be merged for analysis. It is possible that responses may differ between the constituent ethnic groups.
- (2) Age at completing full-time education was used as a proxy for social class.

Strengths of the study

- (1) The analysis is based on the largest survey of maternity services users ever conducted in England. With 26,325 respondents, a significantly larger sample than for other national surveys,^{8–11} analysis for subgroups is feasible.
- (2) The survey included all but the smallest NHS maternity units in England.
- (3) The questionnaire, based on that used by the earlier national survey conducted by the

NPEU, was developed with specialized professional input and extensive field testing with recent mothers.

Implications of the findings

The aim of the National Service Framework (NSF) for children, young people and maternity services is for women 'to have easy access to supportive, high quality maternity services, designed around their individual needs and those of their babies'.¹ The NSF aims to promote choice and control for women giving birth, and to improve equity of access to services. However, our analysis shows that the experiences of women using maternity services in England varies between ethnic groups, between single women and those with a partner/husband, and by educational status.

Maternal and infant mortality are higher among black and minority ethnic groups.^{4,12} Our findings show that women and babies from these groups are at higher risk of adverse outcomes during pregnancy and after. Women from Asian and Black groups were more likely than the White British group to experience complications during pregnancy, an unplanned Caesarean, and having their baby cared for in a neonatal unit. It is, therefore, of concern that our findings show that women from ethnic minority groups were more likely than White British women to access maternity services late and less likely to have a scan at 20 weeks. They also responded more negatively to some questions about care during labour and birth. These findings indicate the need for earlier access to and improvements in maternity care for women from ethnic minority groups, especially as almost one-quarter of all births in England and Wales in 2008 were to foreign-born mothers.¹³ On the other hand, women from ethnic minority groups were more likely to say they were treated with respect and dignity and were given adequate information, hence the ethnic differences were not consistently negative. They were also more likely to breastfeed their babies, as reported elsewhere.¹⁴

With few exceptions, single women (i.e. those without a husband/partner) responded more negatively to questions about their care than women with a husband/partner. They were less likely to access timely care, attend NHS antenatal classes, and have a postnatal check-up, and were more likely to experience complications and feed

their baby formula rather than breast milk. Our findings are pertinent in the context of the Department of Health's Public Service Agreement (PSA) targets on reducing social class inequalities in infant mortality and assessment within 12 completed weeks of pregnancy. Inequalities in infant mortality are now wider than in the baseline period for measurement, and rates are among the highest in 'sole registered births' (i.e. those registered by a mother only), a group not included in the target.¹⁵ Our findings indicate that health promotion services need to be more proactive with this potentially high-risk group, and that they need greater support and care from maternity services during pregnancy and afterwards, as noted also by the Confidential Enquiry into Maternal and Child Health (CEMACH).⁴

Infant and maternal mortality have a strong social class gradient.¹⁵ Using age at completing full-time education as a marker of social class, we found that women with lower educational qualifications were less likely to access timely care, attend antenatal classes, initiate breastfeeding, and have a postnatal check-up than women completing education at 19 years or over. They were also more likely to experience negative outcomes such as a hospital stay during pregnancy and having their baby cared for in a neonatal unit. These factors will contribute to the poorer maternal and infant outcomes associated with poorer social class status. However, they were less likely to be critical of several aspects of services during pregnancy and afterwards, which could reflect social class differences in expectations and/or social support.

Overall, our findings show that there are some significant differences between subgroups of women in their experiences of maternity services, including in aspects of care where NICE guidance applies – such as seeing a healthcare professional within 12 completed weeks of pregnancy and having a scan at 20 weeks. Women at risk of poorer maternal and infant outcomes are among those accessing services late, and often reporting poorer experiences of services when they do – such as those from black and minority ethnic groups, women from poorer educational backgrounds, and single mothers. Later first contact with services by these groups of women noted in our findings could reflect later recognition of pregnancy, as noted in the NPEU study.⁶ CEMACH notes that women from these 'vulnerable' groups are more

likely to experience a higher risk of death or morbidity and higher levels of neonatal complications.⁴ It also notes that women who need maternity services most use them the least, and are less likely to seek antenatal care early in pregnancy or to stay in regular contact with maternity services.

Maternity matters is designed to offer women choice about the type and place of maternity care and birth.² We found that ethnic minority women, single mothers and those with poorer educational attainment were less likely to say they were offered choice about the place of birth than counterparts.

A review of the infant mortality target by the Prime Minister's Delivery Unit led to an implementation plan for reducing inequalities in infant mortality.¹⁶ The plan identified high-risk groups (including those from disadvantaged backgrounds and ethnic minority groups) and interventions for reducing inequalities, including early antenatal booking and promotion of breastfeeding. Again, it is pertinent that our findings show that groups at higher risk of adverse maternal and infant outcomes are less likely to breastfeed. These patterns are consistent with findings from the 2005 Infant Feeding Survey, which found highest breastfeeding rates among mothers from managerial and professional occupations, and those with the highest educational levels.¹⁷

While the maternity survey showed that, overall, the care provided by maternity services, and women's perceptions of that care, were generally positive, our analyses show inequalities in both between subgroups of women. We recommend that these findings are used by commissioners, trusts and healthcare professionals to inform improvements in maternity services for high-risk groups and reduce inequalities.

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