

The Reliability of Maternal and Infant Ethnicity Data in Maternity Health Records

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Introduction

Evidence demonstrates discrepancies in how ethnicity is reported in healthcare records [1,2]. This can have implications in the identification of health disparities and exacerbate inequalities through; Inappropriate treatment, screening and care-planning, flawed algorithms and research findings, and reinforced inaccurate and often racist narratives [3]. The importance of accurately recording ethnicity been highlighted in recent reviews into health inequalities and confidential enquiries into maternal deaths in the UK [4,5]. The aim of this study was to evaluate the accuracy and practices of recording maternal and infant ethnicity in maternity health records in an inner-city UK maternity service.

Methods

This cross-sectional study and service evaluation used data from the eLIXIR [6] (Early Life Cross Linkage in Research) cohort to compare maternal ethnicity recorded by a healthcare professional during pregnancy with women's self-reported ethnicity on a blood test request form. To assess if there was a significant difference in reporting methods the Chi-Square test was used.

We surveyed 100 postnatal ward inpatients on their recollection of

being asked about their own and their infant's ethnicity during their maternity care and compared their self-reported ethnicity to that recorded in their maternity records. An audit form was completed face to face with women facilitated either by research or student midwives. Interpreting services were used when required. Approval was sought from the Trust Clinical Audit team (14940), and as a secondary analysis of deidentified eLIXIR data this analysis was exempt from ethical approval6.

Results

A sample of 46343 women who gave birth during 2018 and 2023 demonstrated the diverse range of ethnic groups represented. A Chi-Square test revealed a significant difference in ethnic group between methods of reporting, $\chi^2(28, N=52931) = 193143, p<.001$. The expected frequencies in all cells met the assumption of being >5 . Results indicate that at booking the recording of ethnicity by healthcare professionals and that self-reported by women is not consistent. 'British' and 'Irish' categories were not reported in 'self-reported ethnicity', leading to a much higher percentage self-reporting as 'White' (see Table 1). We were unable to make comparisons between more specified ethnic categories due to significant heterogeneity between categories and small cell counts in the self-reported data.

Table 1: Differences between ethnicity recorded by healthcare professional and self-reported ethnicity in electronic health records.

Ethnicity Group	Booking Data	Self-Reported	P Value
Asian	5461 (9.69%)	5542 (9.84%)	0.416
Black/African/Caribbean/ Black British	10982 (19.50%)	11582 (20.56%)	<.0001
British	15381 (27.31%)	0	<.0001
Irish	679 (1.21%)	0	<.0001
Mixed/multiple ethnic groups	2857 (5.07%)	2837 (5.04%)	0.786
Not stated	4613 (8.19%)	3399 (6.03%)	<.0001
Other	3769 (6.69%)	3881 (6.89%)	0.185
White	12588 (22.35%)	29089 (51.64%)	<.0001



Survey data was collected from 98 postnatal women (2 declined participation). Women self-identified their ethnicity in ways that were more diverse and varied than the electronic health record enabled with 43 different ethnicities identified compared to the 17 categories in the EHR. Only 13% of self-reported maternal ethnicity and 16% of maternal-reported infant ethnicity exactly matched the electronic

health record. Over 20% of women disagreed with their own and/or their infant's ethnicity category recorded in their electronic maternity record. Most women did not recall being asked about their self-identified ethnicity during maternity care (56%), or their infant's ethnicity following birth (86%) (Figure 1).

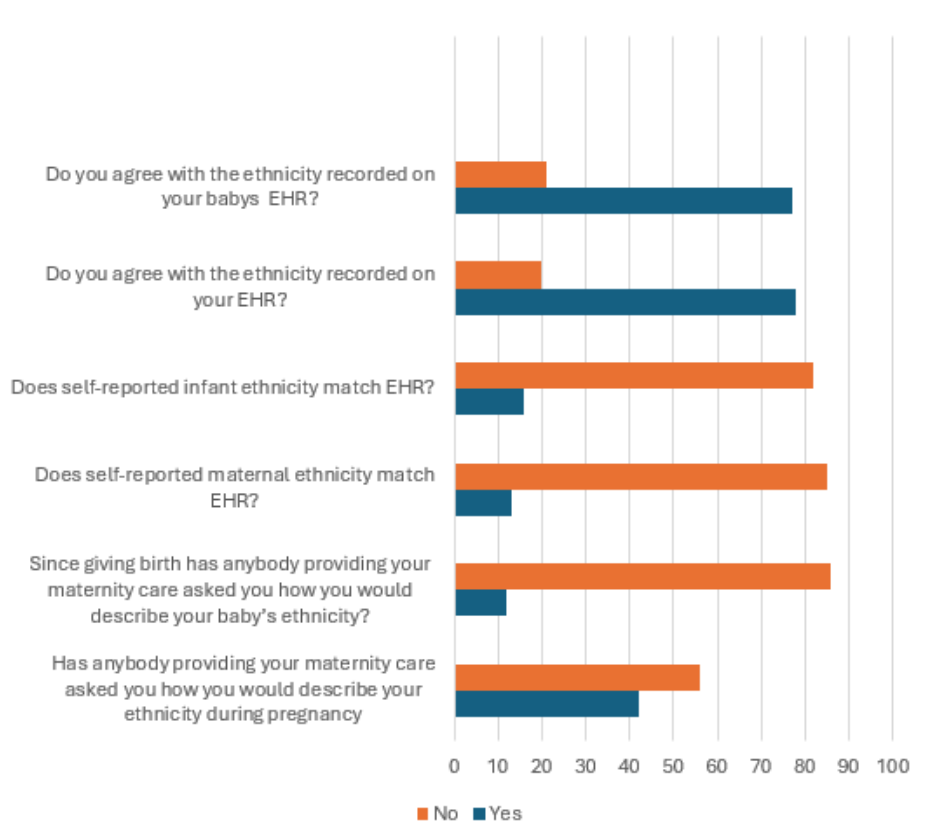


Figure 1: Survey findings of 98 mother-infant dyads.

Discussion

This cross-sectional analysis and service evaluation found significant inconsistency in the recording and reporting of maternal and infant ethnicity in a maternity service. Influencing factors included limited and inappropriate ethnic categories in electronic health records, such as 'British', and women not being asked how they identify their own and their infant's ethnicity. We recommend that services identify how maternal and infant ethnicity is recorded in local settings, including if paternal ethnicity is considered when assigning infant ethnicity. Findings should be shared with professionals, digital teams and researchers responsible for collecting, reporting and analysing data. Training should be developed for healthcare professionals on the importance of accurate recording of ethnicity and supporting skills to ask women and families about ethnicity sensitively. Future research should focus on how to report diverse ethnicities both accurately and meaningfully.

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