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Research Article

Understanding patient pathways to Mother and Baby Units: a longitudinal retrospective service evaluation in the UK

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Abstract

Background: Mother and Baby Units are specialised psychiatric facilities for women during and after pregnancy. In the United Kingdom, efforts have been made to expand the Mother and Baby Unit availability and establish care guidelines. However, the accessibility of these services for ethnic minority women remains relatively unexplored despite well-documented disparities.

Aims: To explore patient pathways to Mother and Baby Units in three UK localities, with a focus on variations in pathways between services and among ethnic groups.

Methods: This is a three-site, longitudinal retrospective service evaluation conducted in Birmingham, London and Nottingham during a 12-month period (1 January–31 December 2019). Electronic records were accessed to extract data on the type of admission, the referral process and the type of pathway (simple or complex). The simple pathway entailed contact with one clinician/service prior to admission to the Mother and Baby Unit, while the complex pathway involved interactions with two or more clinicians/services before Mother and Baby Unit admission. Data were collected using the adapted World Health Organization Encounter form and were analysed using uni- and multivariable analyses.

Results: Electronic records from 198 patients were analysed, with participants distributed proportionally across three sites: Birmingham (n = 70, 35.4%), London (n = 62, 31.3%) and Nottingham (n = 66, 33.3%). All Mother and Baby Units were nationally commissioned and received referrals from across England. Most patients were in the post partum period, admitted for the first time through emergency, informal and complex pathways. The average length of admission was 6 weeks. Significant differences in admission characteristics were observed between services. Patients of Asian ethnicity had more emergency admissions compared to those of Black and White ethnicities. Ethnicity was the only significant factor associated with the simple/complex care pathway. After controlling for pathway-level and patient-level factors, Black patients were 6.24 times less likely to experience a complex care pathway than White patients. No evidence was found that patients from the Black ethnic background are detained more often than White patients.

Limitations: The heterogeneity among categorised ethnic groups, data extracted solely from electronic records without validation through patients' personal accounts of their care pathways, unanalysed declined referrals and the utilisation of pre-COVID-19 pandemic data. The ethnic composition of the study sample matched that of the UK

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maternity population in the Nottingham subsample, but Black and Asian populations were over-represented in the Birmingham and London subsamples.
Conclusion: The study provides valuable insights into patient journeys to Mother and Baby Units, highlighting significant differences between services. It also emphasises the role of ethnicity in care pathways. For example, Black patients were less likely to encounter more than two services before Mother and Baby Unit admission, suggesting either more direct access to specialist care or insufficient community-based interventions. This dual interpretation calls for future research to explore whether pathway differences among ethnic groups result from optimal clinical decision-making or gaps in care provision.
Future work: Should further examine the role of ethnicity in shaping care pathways; explore the link between care pathway types and treatment outcomes; investigate if simple or complex pathways result from optimal clinical decisions or gaps in the healthcare system and explore admissions to general wards versus Mother and Baby Units and transitions between these units.
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Introduction

Approximately, up to 25% of women or birthing individuals experience mental illness either during their pregnancy or within the first year after Childbirth.[1-3] Within this affected population, a subset of women will have particularly severe and complex presentations, necessitating well-planned or even urgent hospitalisation. The National Institute for Health and Care Excellence (NICE) recommends that these women are admitted to a Mother and Baby Unit (MBU).[4] The MBU model of care is regarded as the best clinical practice, both in the UK and globally.[5]

Mother and Baby Units are specialised inpatient psychiatric facilities, designed to provide joint mother–infant admissions for women with severe mental health issues during pregnancy or in the post partum period.[6] MBUs admit women with psychotic disorders, such as postnatal psychosis, schizophrenia, schizoaffective disorder and bipolar disorder, as well as women experiencing severe forms of depression, anxiety and psychological trauma. Many of these patients face issues with bonding with their baby, domestic violence exposure and social and financial challenges. These issues increase the risk of unintended abuse or neglect towards the baby. As a result, a multiagency approach involving child social services may be needed. The abovementioned clinical recommendations are underpinned by the central focus of MBUs, which revolves around fostering and preserving the mother–infant relationship alongside delivering essential mental health treatment to the mother. Notably, during an MBU admission, in contrast to a standard psychiatric ward admission, mothers and infants remain together. These units are more family-friendly and baby-oriented compared to traditional psychiatric hospital wards. Each mother is allocated a private bedroom equipped with a crib for the baby. The unit is closely monitored by staff to ensure the safety of both mothers and infants. However, in specific cases where the mother's condition is so severe that she may temporarily be unable to care for her baby, admission to a general psychiatric ward may be necessary. Once the mother's condition improves, she can be transferred to the MBU with her baby to continue treatment. There were 19 such units in England and 22 in the UK in 2023, with an average number of 8 beds per unit (range 4–13 beds).[6] It has been suggested that the presence of community perinatal mental health services reduces the need for MBU beds. Since the expansion of perinatal community mental health services, the numbers of admissions has gone down, but this coincides with the COVID-19 pandemic, which also caused an impact. A MBU requires a multidisciplinary team of professionals, including consultant perinatal psychiatrists, doctors, nurses, support workers, clinical psychologists, therapists, allied health professionals (such as occupational therapists), nursery nurses, peer support workers, pharmacists and dietitians.[7] Furthermore, MBUs have strong and effective relationships with maternity, health visiting and social care services.

It is worth noting that a recent quasi-experimental study, which investigated the effectiveness and cost-effectiveness of MBU versus non-MBU admissions (i.e. generic psychiatric wards or crisis resolution teams), revealed no advantages of MBU admissions in terms of readmission rates or costs.[8] However, previous research has found that women accessing MBUs expressed significantly higher levels of service satisfaction compared to those being admitted to general psychiatric wards.[9,10] The accessibility of MBUs has faced criticism primarily stemming from their uneven geographical distribution and limited bed capacity. Consequently, some women in need of inpatient care may be admitted to non-specialist general psychiatric wards. Unfortunately, this results in the separation of the mother from the baby, an experience

often described by mothers as traumatic and detrimental to their recovery.[8] In recent years, significant efforts have been made to expand the provision of MBUs in the UK and to provide guidance on the essential components and care pathways for this service model.[6,7,11,12]

Two published documents, the NICE guidelines[4] and the National Collaborating Centre for Mental Health pathways paper,[7] discuss access to MBUs. One example is the statement that 'a small number of women with a complex or severe mental health problem will need unplanned inpatient care during the perinatal period. In these situations, both mother and baby should have urgent access to an MBU'.[4] This corresponds to the simple pathway as conceptualised in this study, that is, seeing one clinician/service, such as the community perinatal mental health team or emergency services, before accessing the MBU. However, it can be expected that the majority of women will not have urgent admission and will access the MBU via a complex pathway, that is, seeing two or more clinicians/services before being admitted to these specialist inpatient wards. The simple pathway can be seen as positive in cases of urgent MBU admissions. However, outside of urgent admissions, a simple pathway may indicate that the care pathway has not fully utilised opportunities for early intervention, prevention and less intensive care within the community.

To date, little information is available on the actual pathways that patients take to access MBUs. The issue of accessibility of MBUs for women from ethnic minority backgrounds has not received much interest yet, although it is known that, in the UK, these women experience more access issues compared to the White British women.[13] This study was designed to explore patient pathways to MBUs in three UK localities, with focus on variations in pathways between services and among ethnic groups. The concept of pathway-to-care studies developed by the World Health Organization (WHO) was used in this study. Pathways-to-care studies represent a valid and cost-effective tool to provide information about patient access to psychiatric care.[14,15]

Methods

Study design

This is a three-site, longitudinal retrospective service evaluation conducted in MBUs in Birmingham (Birmingham and Solihull Mental Health NHS Foundation Trust), London [East London NHS Foundation Trust (ELFT)] and Nottingham (Nottinghamshire Healthcare NHS Foundation Trust). The study was conducted during a 12-month period (1 January 2019–31 December 2019). The study used service-level data. As there was no contact with patients for the study, Health Research Authority approval was not required, and obtaining consent from individuals was not required. The three participating services provided local approvals, which can be provided on request. This study is reported in line with the Strengthening the Reporting of Observational Studies in Epidemiology checklist for observational studies. A Lived Experience Advisory Panel was assembled for the project and was included in all phases, particularly in the adaptation of the WHO questionnaire and the interpretation of study findings. This study was conducted as part of a larger five-year research programme aimed at exploring the acceptability and accessibility of perinatal mental health services in the UK (PAAM study).

Data collection

Data were collected using the adapted WHO encounter form.[14–16] The original questionnaire is a standardised schedule for gathering basic sociodemographic, clinical and pathways data for each participant. The questionnaire was adapted to perinatal services by the research team, piloted by an independent researcher and refined based on the feedback received from a panel of researchers based at the Queen Mary University of London as well as from a Lived Experience Advisory Panel. The adaptation ensured that specific aspects of perinatal care pathways were captured, for example, 'encountered services' included midwifery teams, obstetric services, children's social services, etc. (see *Report Supplementary Material 1*). The research team, which included clinicians who work in perinatal mental health services, held weekly meetings to discuss any potential issues with data extraction, which helped in ensuring consistency across the sites as well as addressing researcher bias.

Eligible patients were all admitted to MBUs during the study period. Declined referrals were not included. If the patient saw the same clinicians/services twice or more in a month, that was noted but counted as one new contact, as this is unlikely to have truly represented having had two contacts and more likely reflected rescheduling. The list of patients was obtained from technical services in participating mental health trusts. Study researchers accessed patient electronic records to extract data on patients' sociodemographics, clinical characteristics, the involvement of children's social care and pathways to MBUs.

Study variables

The adapted WHO encounter form gathered information on each clinician/service encountered on the care pathway, the duration of the patient's journey to the service, the source of referral and reason for referral. Based on the collected data, the following variables were created: type of admission to MBU (new/subsequent); admission

method (emergency/elective); The Mental Health Act (1983) (MHA) legal status at admission (informal/formal); length of admission (weeks); inpatient admission before MBU admission (Yes/No); contact with emergency services before MBU admission (Yes/No); the referrer to MBU (primary care/secondary care/crisis services); the main reason for referral to MBU (current deterioration of mental health/prophylactic or preventive admission); total number of clinicians/services encountered on pathway to MBU; type of pathway ('simple' – contact with one clinician/services before admission to MBU/'complex' – contacts with two or more clinicians/services before admission to MBU); duration of time between seeing the first clinician/service and being admitted to MBU (weeks) and duration of time between the referral and MBU admission (weeks).

Statistical analysis

Descriptive statistics were used to report study variables. Mean (*M*), standard deviation (SD), median (Mdn), range and frequencies were used as appropriate. Ethnicity was initially collected for 18 categories taken from the British census, and it was grouped into five groups (White, mixed, Asian, Black and other), as this facilitates comparison with public sector documents that also recommend this approach.[17,18] Due to the small number of patients in ethnic groups 'mixed' (*n* = 5) and 'other' (*n* = 5), data were reported, but they were excluded from quantitative analyses comparing the groups and these analyses were performed on three groups only (Asian, Black and White).

The normality of the distribution of study variables was tested using Shapiro–Wilk test. Comparisons were done using chi-squared, Mann–Whitney and Kruskal–Wallis tests as appropriate. In cases where using a chi-squared test was ill-advised due to small cell counts, Fisher's exact test for count data was used and compared with Monte Carlo-simulated (100,000 replications) chi-squared test, which allowed for the calculation of Bonferroni-corrected post hoc tests. Where Kruskal–Wallis test suggested significant differences in rank across groups, post hoc pairwise Wilcox tests with Benjamini and Hochberg (1995) adjustment were used to compare ethnic groups.[19]

To investigate the association between admission via the complex care pathway to MBU and patient- and pathway-level characteristics, a binary logistic regression was performed. All variables were entered in the regression model at the same time. A 5% alpha error was used as the limit of statistical significance for each variable.

Data analysis was carried out using Statistical Product and Service Solutions (version 22.0; IBM Corporation, Armonk, NY, USA) and R (The R Foundation for Statistical Computing, Vienna, Austria)[20] using base (version 4.2.2), stats (version 4.2.2, R Core Team (2022). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria) psych (version 2.2.9, William Revelle (2022). psych: Procedures for Psychological, Psychometric, and Personality Research. Northwestern University, Evanston, IL, R package version 2.2.9, https://CRAN.R-project.org/package=psych) Desc Tools (version 0.99.47, Signorell A (2022). DescTools: Tools for descriptive statistics. R package version 0.99.47. https://github.com/AndriSignorell/DescTools/. CRAN. 2022) rcompanion (version 2.4.18, Mangiafico Salvatore S (2022). rcompanion: Functions to support extension education program evaluation. version 2.4.18 Rutgers Cooperative Extension. New Brunswick, NJ. https://CRAN.R-project.org/package=rcompanion) chisq.posthoc.test (version 0.1.2, Ebbert D (2019). Chisq. posthoc. test: a post hoc analysis for Pearson's chi-squared test for count data. R package version 0.1.2.

Results

The main characteristics of the included services are shown in *Table 1*.

All the services are located in large cities. MBUs in Birmingham and East London are situated adjacent to general hospitals, maternity and paediatric services, while the Nottingham MBU is closely situated to child and adolescent mental health services. At the time of this study, in 2019, these services were nationally commissioned and accepted referrals from across the country. At that time, there were 19 MBUs across England with total of 152 beds. With the birth rate of about 660,000 in England, there was 1 bed per 4342 births. As per standards in England,[6] the aim is to provide 1 bed per 4000 births and the national ambition is to have 164 beds. In more limited catchment areas (e.g. North, East and Central London for the East London MBU), there were up to 50,000 live births per each MBU in 2019. Bed capacity was higher in London (*n* = 12) compared to Birmingham (*n* = 10) and Nottingham (*n* = 8). At the time of the study, all MBUs had the capacity to accept urgent admissions, and self-referrals were not an option. The services were managed by multidisciplinary teams.

The study sample is described in *Table 2*. The study analysed electronic records from 198 patients, which were distributed proportionally across 3 sites: Birmingham (*n* = 70, 35.4%), London (*n* = 62, 31.3%) and Nottingham (*n* = 66, 33.3%). The majority of patients were in the post

TABLE 1 Service characteristics at the time of the study (2019)

City (service)	Birmingham (Chamomile suite)	London (East London MBU)	Nottingham (The Margaret Oates MBU)
Location	Inner city	Inner city	City area
Facility	The service is based within a mental health hospital and adjacent to a large general medicine hospital and a women's and children's healthcare trust. The service is located in the centre of a large and diverse city and is well connected to road and rail transport links	The service is based within a general hospital and benefits from on-site maternity and paediatric services	The service is located on a site with perinatal community services and child and adolescent mental health community and inpatient services. The general mental health hospital and general medical hospitals in Nottingham are at separate locations
Number of inpatient beds	10	12	8
Capacity to accept urgent and out-of-hour admissions	Yes	Yes	Yes
Patient eligibility criteria	Women in the latter stages of pregnancy or infants up to 12 months old, based on MBU universal admission criteria	Women can be admitted from 32 weeks into pregnancy or with infants up to 10 months old	Women can be admitted from 32 weeks into pregnancy or with infants up to 12 months old
Prophylactic admissions	Yes	Yes	Yes
Self-referrals	No	No	No
Clinical staff[a]	1 FTE consultant psychiatrist; 1 FTE consultant psychologist, 1 FTE junior doctor rotational post, 1 FTE assistant psychologist, 0.2 FTE lead occupational therapist, 1 FTE occupational therapist, 1 FTE ward manager, 12.35 FTE mental health nurses, 9.54 FTE nursery nurses, 10.51 FTE healthcare assistants, 0.2 FTE art psychotherapist Outreach team – 0.8 FTE associate specialist doctor, 2 FTE clinical nurse specialists	1.0 consultant psychiatrist, non-consultant medical time – 2.0 FTE, 1.0 FTE clinical nurse manager, 0.6 FTE modern matron, 0.5 FTE senior clinical psychologist, 0.8 FTE clinical psychologist, 1.0 FTE social worker, 3.92 FTE clinical practice lead, 9.2 FTE staff nurses, 4.0 FTE social therapists, 7.0 FTE nursery nurses, 0.2 FTE specialist midwife, 0.5 FTE peer support worker, 0.4 FTE parent–infant psychotherapist	Band 7 ward manager 1.0 FTE, band 6 deputy ward manager – 3.0 FTE, band 5 registered mental health nurse – 7.51 FTE, band 4 nursery nurse – 6.01 FTE, band 3 healthcare assistant – 6.23 FTE, consultant psychiatrist – 0.7 FTE, psychology – 1.0 FTE, occupational therapy – 1.0 FTE, activities co-ordinator – 1.0 FTE
Admin staff[a]	1 FTE ward administrator, 1 FTE outreach team secretary, 1 FTE medical secretary	1.0 FTE	Yes, 1.0 FTE
PQN accreditation[b]	Yes	Yes	Yes

a FTE stands for 'full-time equivalent used' for staff in full-time employment. The MBU outreach team screen and manage any incoming referrals to Birmingham MBU.
b PQN stands for The Perinatal Quality Network, which provides accreditation and peer appraisal of perinatal inpatient services. Accredited services must meet 100% type 1 standards, at least 80% type 2 standards and 60% type 3 standards.[21]

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TABLE 2 Study sample

Study variables	All, *N* = 198	Participating services (*n* = 198)				Ethnicity data (*n* = 187)			
		Birmingham, *n* = 70 (35.4%)	London, *n* = 62 (31.3%)	Nottingham, *n* = 66 (33.3%)	Statistics	Asian, *n* = 47 (25.1%)	Black, *n* = 22 (11.8%)	White, *n* = 118 (63.1%)	Statistics
Age at admission, mean (SD)	30.39 (5.95)	29.61 (6.48)	30.84 (5.85)	30.79 (5.45)	$F(2, 195) = 0.917$, $p = 0.401$, $\eta^2 = 0.01$	31.26 (5.94)	29.45 (6.02)	30.36 (6.01)	$F(2, 184) = 0.730$, $p = 0.483$, $\eta^2 = 0.01$
Ethnicity (alphabetical order), *n* (%)	Asian 47 (23.7%); Black 22 (11.1%); mixed 5 (2.5%); other 5 (2.5%); White 118 (59.6%); missing 1 (0.5)	Asian 26 (37.1%); Black 6 (8.6%); mixed 3 (4.3%); other 0; White 35 (50%)	Asian 16 (25.8%); Black 10 (16.1%); mixed 0; other 5 (8.1%); White 31 (50%)	Asian 5 (7.7%); Black 6 (9.2%); mixed 2 (3.1%); other 0; White 52 (80%), missing 1 (1.5)	Comparison with the maternity population in England during 2015–7: White 872,685 (77%); South Asian 132,967 (12%); Black 56,716 (5%); other (combined) 69,173 (6%).[a] Statistics: $\chi^2(3) = 47.37$, $p < 0.001$ (all)	–	–	–	–
Perinatal status, *n* (%)					$p = 0.274$				$\chi^2 = 7.271$, $df = 2$, $p = 0.026$
Pregnant	19 (9.6)	6 (8.6)	9 (14.5)	4 (6.1)		7 (14.9)	5 (22.7)	7 (5.9)	
Postnatal	179 (90.4)	64 (91.4)	53 (85.5)	62 (93.9)		40 (85.1)	17 (77.3)	111 (94.1)	
Marital status, *n* (%)					$p < 0.001$ ($\chi^2 = 14.083$, $p < 0.001$)				$\chi^2 = 10.445$, $df = 2$, $p = 0.005$
Single/divorced/living alone	40 (20.2)	16 (22.9)	20 (32.3)	4 (6.1)		6 (12.8)	10 (45.5)	22 (18.64)	
Married/cohabitating/in relationship	158 (79.8)	54 (77.1)	42 (67.7)	62 (93.9)		41 (87.2)	12 (54.5)	96 (81.4)	
Education, *n* (%)					$\chi^2 = 0.792$, $df = 2$, $p = 0.673$				$p = 0.618$
Primary + secondary	45 (22.7)	17 (24.3)	16 (25.8)	12 (18.2)		11 (23.4)	4 (18.2)	28 (23.7)	
College + university	100 (50.5)	33 (47.1)	33 (53.2)	34 (51.5)		21 (44.7)	15 (68.2)	58 (49.2)	
Missing	53 (26.8)	20 (28.6)	13 (21.0)	20 (30.3)		15 (31.9)	3 (13.6)	32 (27.1)	

TABLE 2 Study sample (*continued*)

Study variables	All, *N* = 198	Participating services (*n* = 198)				Ethnicity data (*n* = 187)			
		Birmingham, *n* = 70 (35.4%)	London, *n* = 62 (31.3%)	Nottingham, *n* = 66 (33.3%)	Statistics	Asian, *n* = 47 (25.1%)	Black, *n* = 22 (11.8%)	White, *n* = 118 (63.1%)	Statistics
Employment, *n* (%)					$\chi^2 = 1.760$, $df = 2$, $p = 0.415$				$p = 0.001$ ($\chi^2 = 13.312$, $p = 0.001$)
Employed	89 (44.9)	30 (42.9)	32 (51.6)	27 (40.9)		22 (46.8)	17 (77.3)	42 (35.6)	
Unemployed	100 (50.5)	32 (45.7)	29 (46.8)	39 (59.1)		25 (53.2)	4 (18.2)	69 (58.5)	
Missing	9 (4.5)	8 (11.4)	1 (1.6)	0 (0.0)		0 (0.0)	1 (4.5)	7 (5.9)	
Number of children, Mdn (min–max, IQR)	1 (0–8, 1)	1 (0–5, 1)	2 (0–8, 1.25)	1.5 (0 –5, 1)	$H(2) = 6.629$, $p = 0.036$	2 (0–8, 1)	2 (0–4, 2)	1 (0–8, 1)	$H(2) = 0.682$, $p = 0.711$
Involvement of children's social services, *n* (%)	98 (49.5)	35 (50.0)	51 (82.3)	14 (21.2)	$\chi^2 = 47.670$, $df = 2$, $p < 0.001$	27 (57.4)	13 (59.1)	52 (44.1)	$\chi^2 = 3.384$, $df = 2$, $p = 0.184$

ANOVA, analysis of variance; IQR, interquartile range; max, maximum; min, minimum.

a The The National Maternity and Perinatal Audit data set using Office for National Statistics categories; https://maternityaudit.org.uk/FilesUploaded/Ref%20308%20Inequalities%20Sprint%20Audit%20Report%202021_FINAL.pdf

Notes

All percentages are calculated relative to the column total. The significance of differences was calculated using chi-squared tests and one-way ANOVA. Fisher's exact test was used with cell counts < 5 and Kruskal–Wallis test in case of non-normal distribution of ordinal/interval variables. With significant Fisher's exact tests, Monte Carlo-simulated (100,000 replications) chi-squared test results are presented in parentheses, which allowed for the calculation of post hoc tests of significance.

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partum period (n = 179, 90.4%) and were married/in a relationship (n = 158, 79.8%). In Nottingham, more patients were married than in London and Birmingham ($p < 0.001$). Patients in Birmingham had significantly more children than those in the other two sites ($p = 0.036$). Children's social services were notably more involved with patients in London compared to the other two sites ($p < 0.001$). Among White women, significantly more were in the post partum period than in the antenatal period ($p = 0.026$) compared to other ethnic groups. For Black women, there were significantly more single individuals than those who were married or in a relationship compared to other ethnic groups ($p = 0.005$). Additionally, among Black women, a higher percentage were unemployed rather than employed in contrast to other ethnic groups ($p = 0.001$).

To explore the difference in ethnic composition between the study sample and the maternity population in England (as the MBUs were nationally commissioned and received referrals from across the country), the The National Maternity and Perinatal Audit data set using the Office for National Statistics categories was used.[22] The ethnic composition of the maternity population in England for 2015–7 was as follows: White 872,685 (77%), South Asian 132,967 (12%), Black 56,716 (5%) and other (combined) 69,173 (6%). The differences in ethnic composition between the maternity population in England and the present study sample were not significant in Nottingham [$\chi^2(3) = 4.27$, $p = 0.23$]. However, they were significant in Birmingham [$\chi^2(3) = 47.23$, $p < 0.001$] and London [$\chi^2(3) = 32.00$, $p < 0.001$]. In these locations, there was a clear over-representation of the Black and Asian populations compared to the national maternity population.

The main characteristics of admission to MBU are given in *Table 3*. The majority of patients (78.8%) were admitted to MBU for the first time, primarily through emergency admission (62.6%) and informally or voluntarily (70.2%). One-quarter of the sample (24.7%) came to MBU from the general psychiatric ward, and for the post partum patients in this group (n = 46, 94%), this meant separation from the baby. Duration of time between the accepted referral and MBU admission was, on average, around 2 weeks (with significant variations). A total of 24% of admissions occurred within 24 hours, and another 26% occurred within 1 week of accepting the referral. Overall, 50% of admissions took longer than 1 week after the referral was accepted.

There were significant differences among the three participating sites. For instance, the proportion of women with subsequent admissions was higher in Nottingham compared to the other two MBUs ($p < 0.001$). Additionally, the Nottingham MBU had significantly shorter admissions than the others ($p < 0.001$). In Birmingham, study participants had significantly less contact with emergency services before MBU admission compared to participants from the other two MBUs. In terms of ethnic differences, patients with an Asian ethnic background had significantly more emergency admissions (as opposed to elective admissions) compared to patients with Black and White ethnic backgrounds ($p = 0.003$).

Table 4 shows key aspects of patient pathway to MBU. The majority of patients experienced a complex pathway to MBU (83.3%). There were significant differences between sites in the type of referrers to MBU ($p < 0.001$). In Birmingham, the most common referrers were crisis mental health services (40%), followed by secondary health services (37.1%). Secondary health services were the most common referrer to MBUs in London and Nottingham. Primary healthcare services referred only a small number of patients to MBUs (4.3% in Birmingham, 11.3% in London and none in Nottingham). In Birmingham, all the referrals happened because of current deterioration in mental health, while in London and Nottingham, a small percentage of referrals were prophylactic or preventive admission ($p = 0.006$).

The duration of time between first contact with a service/clinician and admission to the MBU was significantly shorter in the Nottingham sample ($p = 0.002$). Furthermore, in the comparison between the London and Birmingham samples, the duration of time between first contact with a service/clinician and admission to the MBU was significantly shorter in the London sample ($p = 0.033$).

Regarding ethnicity, there were significant differences between the groups in the reason for referral ($p = 0.011$). While all the patients with Asian background were admitted because of deterioration in mental health, some Black and White patients' referrals were prophylactic admissions (18.2% of Black and 5.1% of White patients). White participants encountered a significantly lower number of services/clinicians during their journey to the MBU compared to Asian and Black participants ($p = 0.035$). In terms of the type of pathway, significantly more Asian patients experienced a complex pathway compared to White and Black patients ($p = 0.039$). These are results from univariable analysis.

Table 5 shows results of the binary logistic regression designed to explore multiple factors influencing the simple care pathway while controlling for potential confounders. Ethnicity was the only statistically significant variable associated with the complex care pathway – Black patients

TABLE 3 Main characteristics of admission to MBU

Study variables	All, *N* = 198 (100%)	Participating services (*n* = 198)				Ethnicity data (*n* = 187)			
		Birmingham, *n* = 70 (35.4%)	London, *n* = 62 (31.3%)	Nottingham, *n* = 66 (33.3%)	Statistics	Asian, *n* = 47 (25.1%)	Black, *n* = 22 (11.8%)	White, *n* = 118 (63.1%)	Statistics
Type of admission, *n* (%)					$\chi^2 = 29.181$, $df = 2$, $p < 0.001$				$p = 0.383$
New	156 (78.8)	63 (90.0)	56 (90.3)	37 (56.1)		41 (87.2)	18 (81.8)	91 (77.1)	
Subsequent	41 (20.7)	7 (10.0)	6 (9.7)	28 (42.4)		6 (12.8)	4 (18.2)	26 (22.0)	
Missing	1 (0.5)	0 (0.0)	0 (0.0)	1 (1.5)		0 (0.0)	0 (0.0)	1 (0.9)	
Admission method, *n* (%)					$\chi^2 = 3.900$, $df = 2$, $p = 0.142$				$\chi^2 = 11.645$, $df = 2$, $p = 0.003$
Emergency	124 (62.6)	47 (67.1)	42 (67.4)	35 (53.0)		38 (80.9)	9 (40.9)	70 (59.3)	
Elective	74 (37.4)	23 (32.9)	20 (32.3)	31 (47.0)		9 (19.1)	13 (59.1)	48 (40.7)	
MHA legal status, *n* (%)					$\chi^2 = 3.611$, $df = 2$, $p = 0.164$				$\chi^2 = 5.831$, $df = 2$, $p = 0.054$
Informal	139 (70.2)	45 (64.3)	49 (79.0)	45 (68.2)		27 (57.4)	16 (72.7)	90 (76.3)	
Formal	59 (29.8)	25 (35.7)	13 (21.0)	21 (31.8)		20 (42.6)	6 (27.3)	28 (23.7)	
Length of admission in weeks, mean (SD)	6.23 (4.53); min = 0.03, max = 26.43	7.22 (4.96)	7.69 (4.63)	3.79 (2.60)	$H(2) = 31.748$, $p < 0.001$	6.89 (4.39)	7.23 (4.02)	5.72 (4.45)	$H(2) = 5.711$, $p = 0.058$
Inpatient admission before MBU admission, *n* (%)	49 (24.7)	20 (28.6)	12 (19.4)	17 (25.8)	$\chi^2 = 0.838$, $df = 2$, $p = 0.658$	12 (25.5)	4 (18.2)	29 (24.6)	$\chi^2 = 0.271$, $df = 2$, $p = 0.873$
Contact with A&E before MBU admission, *n* (%)	57 (28.8)	11 (15.7)	25 (40.3)	21 (31.8)	$\chi^2 = 10.524$, $df = 2$, $p = 0.005$	16 (34.0)	6 (27.3)	33 (28.0)	$\chi^2 = 0.612$, $df = 2$, $p = 0.736$

A&E, accident and emergency; min, minimum; max, maximum.

Note

The MHA is the main piece of legislation that covers the assessment, treatment and rights of individuals with a mental health disorder. All percentages are calculated relative to the column total. The significance of differences was calculated using chi-squared tests and one-way ANOVA. Fisher's exact test was used with cell counts < 5 and Kruskal–Wallis test in case of non-normal distribution of ordinal/interval variables. With significant Fisher's exact tests, Monte Carlo-simulated (100,000 replications) chi-squared test results are presented in parentheses, which allowed for the calculation of post hoc tests of significance.

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TABLE 4 Key aspects of pathway to MBU

Study variables	All, *N* = 198 (100%)	Participating services (*n* = 198)				Ethnicity data (*n* = 187)			
		Birmingham, *n* = 70 (35.4%)	London, *n* = 62 (31.3%)	Nottingham, *n* = 66 (33.3%)	Statistics	Asian, *n* = 47 (25.1%)	Black, *n* = 22 (11.8%)	White, *n* = 118 (63.1%)	Statistics
Referrer to MBU, *n* (%)[a]					$p < 0.001$ ($\chi^2 = 26.848$, $p < 0.001$)				$p = 0.064$
Primary care	10 (5.1)	3 (4.3)	7 (11.3)	0 (0.0)		1 (2.1)	4 (18.2)	5 (4.2)	
Secondary care	132 (66.7)	26 (37.1)	52 (83.9)	54 (81.8)		29 (61.7)	12 (54.5)	83 (70.3)	
Crisis pathway	55 (27.8)	28 (40.0)	15 (24.2)	12 (18.2)		17 (36.2)	6 (27.3)	29 (24.6)	
Main reason for referral, *n* (%)					$p = 0.006$ ($\chi^2 = 8.793$, $p = 0.010$)				$p = 0.011$ ($\chi^2 = 9.831$, $p = 0.008$)
Deterioration of mental health	188 (94.9)	70 (100.0)	55 (88.7)	63 (95.5)		47 (100.0)	18 (81.8)	112 (94.9)	
Prophylactic admission	10 (5.1)	0 (0.0)	7 (11.3)	3 (4.5)		0 (0.0)	4 (18.2)	6 (5.1)	
Number of encountered professionals/ services on pathway to MBU, mean (SD)	4.43 (2.02), min = 2, max = 14	4.47 (1.88)	4.14 (2.30)	4.63 (1.91)	$H(2) = 4.558$, $p = 0.102$	4.77 (1.67)	5.05 (3.17)	4.13 (1.86)	$H(2) = 6.706$, $p = 0.035$
Type of pathway, *n* (%)[b]					$\chi^2 = 4.271$, $df = 2$, $p = 0.118$				$p = 0.039$ ($\chi^2 = 6.454$, $p = 0.039$)
Simple	27 (13.6)	6 (8.6)	12 (19.4)	9 (13.6)		3 (6.4)	6 (27.3)	17 (14.4)	
Complex	165 (83.3)	64 (91.4)	44 (71.0)	57 (86.4)		44 (93.6)	14 (63.6)	98 (83.1)	
Duration of time between seeing the first carer and being admitted to MBU in weeks, mean (SD)	2.75 (4.85), min = 0, max = 34.1	3.30 (4.86)	3.05 (6.37)	1.97 (3.07)	$H(2) = 12.687$, $p = 0.002$	2.72 (4.50)	4.88 (9.21)	2.37 (3.86)	$H(2) = 1.367$, $p = 0.505$
Duration of time between referral and MBU admission in weeks, mean (SD)	1.82 (3.69), min = 0, max = 25.43	1.96 (3.93)	1.61 (3.37)	Missing data	$H(2) = 4.571$, $p = 0.033$	1.32 (2.91)	3.35 (7.43)	1.93 (3.20)	$H(2) = 2.402$, $p = 0.301$

min, minimum; max, maximum.

a Primary care: general practitioner (*n* = 4), midwife (*n* = 5), health visitor (*n* = 1). Secondary care: specialist community perinatal mental health services (*n* = 81), inpatient psychiatric ward (*n* = 27), community mental health team (*n* = 11), obstetrician (*n* = 1), other (*n* = 12). Crisis pathway: A&E (*n* = 7), crisis team (*n* = 27), hospital liaison psychiatrist (*n* = 17), social worker (*n* = 2), legal system (*n* = 1), police (*n* = 1). Missing (*n* = 5).

b Type of pathway is defined as 'simple' – contacts with one clinician/services before admission to MBU or 'complex' – contacts with two or more clinicians/services before admission to MBU.

Note

Statistics: All percentages are calculated relative to the column total. Due to missing values that were omitted pairwise, they may not add up to 100%. The significance of differences was calculated using chi-squared tests and one-way ANOVA. Fisher's exact test was used with cell counts < 5 and Kruskal–Wallis test in case of non-normal distribution of ordinal/ interval variables. With significant Fisher's exact tests, Monte Carlo-simulated (100,000 replications) chi-squared test results are presented in parentheses, which allowed for the calculation of post hoc tests of significance.

TABLE 5 Association between patient- and pathway-related variables and patient admission to MBUs via complex care pathway

	Variables	OR	95% CI		SE(*b*)	Wald *z*	*p*
			Lower	Upper			
	Intercept	3.56	0.04	83,954.77	3.59	0.99	0.32
Patient-related variables	Age (years)	0.93	0.84	1.04	0.05	−1.29	0.20
	Education[a]	2.03	0.54	7.64	0.66	1.06	0.29
	Employment (employed vs. unemployed)	1.20	0.31	4.70	0.68	0.27	0.79
	Ethnicity						0.07
	Asian vs. White	1.47	0.32	8.24	0.81	0.48	0.63
	Black vs. White	0.16	0.03	0.89	0.89	−2.06	0.04
	Number of children	1.51	0.86	2.89	0.31	1.33	0.18
	Children's social services are involved with the family	2.13	0.57	8.60	0.68	1.11	0.27
Pathway-related variables	Location						0.57
	Birmingham vs. London	2.11	0.46	10.61	0.79	0.95	0.34
	Nottingham vs. London	1.13	0.23	5.64	0.81	0.15	0.88
	Emergency admission method	2.65	0.72	10.78	0.68	1.43	0.15
	Informal admission	8.43	1.02	206.17	1.27	1.68	0.09
	Inpatient admission before MBU admission	0.20	0.01	1.30	1.12	−1.42	0.16
	Contact with A&E before MBU admission	0.25	0.04	1.18	0.84	−1.63	0.10

CI, confidence interval; OR, odds ratio; SE, standard error.
a College and university graduates vs. primary/secondary education.

Note
The MHA is the main piece of legislation that covers the assessment, treatment and rights of individuals with a mental health disorder. Three sets of variables selected based on clinical relevance and results from univariate analyses (i.e. 'Patient-related variables', 'Pathway-related variables' and 'Contact with emergency services before MBU admission') were entered in the regression model at the same time. A 5% alpha error was used as the limit of statistical significance for each variable. [$\chi^2(13) = 65.67$, $p < 0.001$], pseudo-R^2s: McFadden = 0.19, Nagelkerke = 0.26.

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were 6.24 times less likely to experience a complex care pathway compared to White patients.

Discussion

Main findings

This study explored patient journeys to MBUs across three UK localities, with a particular emphasis on divergences in these journeys between services and within different ethnic communities. The main findings are as follows:

- The primary characteristics of MBU admission involve entry during the post partum period, referral through secondary care services due to a decline in mental health, being a first-time occurrence and voluntary admission.
- Significant differences were observed between services in terms of the duration of the patient's journey to the MBU, referral process, type of admission and length of admission.
- The study found evidence of disparities related to ethnicity. In exploring various factors influencing the care pathway, the only significant association was related to ethnicity. When accounting for the effect of pathway-level and other patient-level factors, the study found that Black patients were six times less likely to experience a complex care pathway compared to White patients.

Interpretation of study findings

The findings indicate that the key characteristics of MBU admissions are in line with guidance and standards set for these services.[6,21] The majority of individuals admitted to MBU were in the post partum period, with only a small proportion of women admitted during the late stages of pregnancy. Most admissions were prompted by an acute decline in mental health, typically when options for safe and effective community treatment had been exhausted. The primary sources of referrals were community perinatal services, inpatient psychiatric wards and crisis services.

The study also found that the majority of patients were admitted for the first time ever and sought admission on a voluntary basis. These findings could be seen as an important opportunity for services to provide effective and acceptable care to patients during their initial interaction with inpatient mental health services. Furthermore, if patients accepted voluntary admission, it could indicate their willingness to engage with services, potentially contributing to positive treatment outcomes.[23] However, some aspects of MBU admissions may be less favourable. For instance, perinatal inpatient standards[21] stipulate that admission to the MBU should occur within 24 hours of referral acceptance. Our findings indicate that only 24% of admissions adhered to this time limit, while a total of 50% were admitted within 1 week of acceptance and the other 50% required more than 1 week. It is important to note that this study did not explore the reasons behind these observed delays. However, it is reasonable to speculate that these delays could be associated with factors such as limited bed availability and staffing issues. The national ambition for 164 MBU beds for England has not been met yet. Additionally, the research team's clinical experience suggests that patient and family ambivalence toward hospital admission could also be a contributing factor.

Next, the study findings demonstrated that one-quarter of the patients arrived at the MBU via a general psychiatric ward, and the majority of these patients were in the post partum period, resulting in their separation from their babies. The already mentioned perinatal inpatient standards allow for prior admission to an acute adult ward if there are exceptional and documented circumstances. Previous reports have addressed situations in which women are separated from their babies either due to their health being too compromised for MBU admission or because no MBU beds were available, leading to their temporary placement elsewhere until a bed became available. A qualitative study by Griffiths *et al.*[9] reported that women expressed a preference for coadmission with their baby in a MBU rather than being admitted alone to a general psychiatric ward. Both women and clinicians believed that MBUs were better suited to address the needs of post partum women and families. It is important to highlight the particular needs of post partum women, including physical changes during this time, the requirement for sanitary pads, the needs of lactating women and adjustments after caesarean section surgery. Future studies could explore the experiences of women transferred from general psychiatric wards to MBUs and identify support strategies to address the impact of baby separation on the recovery process.

Significant variations were observed between MBUs included in this study in terms of the referral process, type of admission and length of admission. These results could reflect the differences in patient needs, such as the severity or nature of their mental health condition, their social support systems and their individual preferences for care. Additionally, the variations may be indicative of differing relationships between MBUs and other healthcare services and professionals, including community mental health teams, inpatient services and crisis services. For example, Nottingham has a long-established community perinatal mental health service, while these services in Birmingham and East London are relatively new as part of the recent expansion. Furthermore, these distinctions

might be influenced by the variations in service protocols, bed availability and geographical factors, which can impact the logistics of patient admission and stay. More research is needed to better understand to what extent these variations result in inequity in access to mental health care. It is important to note that similar variations in patient journeys were found in the study exploring care pathways to community perinatal mental health services.[16]

This study identified disparities linked to ethnicity. Among variables associated with the complex pathway, which encompassed clinical presentation, sociodemographic factors and service location, only ethnicity emerged as statistically significant. We must note, however, that the model included a relatively wide range of variables, and the samples were small, making it hard to reach the traditional cut-off values of significance when controlling for shared variance. Still, Black patients were more than six times less likely to experience complex care pathway compared to White patients. As mentioned, a complex pathway was defined as seeing two or more clinicians/services on the way to MBU. This finding can be seen positively, as it suggests a more direct route to receiving specialist interventions in a safe and protected environment. However, there can also be a more critical interpretation. This finding might indicate that these patients could have been admitted to the MBU without fully exhausting community-based interventions. This could occur either because the patient's condition was too severe to manage in the community or because the necessary services and interventions were not available or accessible. The simple care pathway, unless it refers to an urgent MBU admission, might also reflect the gaps in community care or a lack of adequate support systems, particularly for vulnerable groups, leading to more immediate MBU admissions rather than exploring alternatives. This dual interpretation suggests that future research should examine whether the simple/complex pathway results from optimal clinical decision-making or from gaps in the broader healthcare system.

The research findings indicated that individuals of Asian ethnic backgrounds had notably higher rates of emergency admissions compared to those of Black and White ethnic backgrounds. Specifically, patients from an Asian background tended to access MBUs more often through the crisis pathway. This finding is in line with previous reports that non-White individuals experience higher rates of hospital admissions, including acute or urgent ones, than their White British counterparts.[13,24] Previous reports have highlighted possible explanations for higher rates of hospital admissions in non-White individuals, such as increased prevalence of psychosis, increased perceived risk of violence, mistrust of professionals, ethnic disadvantages and increased rates of socioeconomic stressors.[24,25] Importantly, this study does not support previous findings that individuals from Black ethnic minorities are detained under the MHA more frequently than those from a White background. This suggests that MBU admissions may differ in nature from other types of psychiatric admissions.

Strengths and limitations

The study has several strengths. This is the first ever study to explore care pathways to MBUs in the UK and globally. The study offered unique insights into the type and length of patient journeys to MBU. The issue of accessibility of MBUs for women from ethnic minority groups had previously not been explored, and results from this study can be used when improving MBUs for all patients who might need this type of treatment. The study adapted the WHO encounter form, which can be used by other services and researchers in the future.

The study has several limitations. The ethnic groups were simplified into merged categories (e.g. Black, Asian and White) for data analysis. This approach is problematic because it obscures within-group differences. Furthermore, while the study sample's ethnic composition matched the maternity population in Nottingham, it did not in Birmingham and London, where Black and Asian populations were over-represented. This means the sample was not fully representative of the maternity population served by the MBUs. However, it is important to consider that the observed differences in Birmingham and London would likely be less prominent if the comparison were made to local maternity populations, and it is reasonable to believe that a good proportion of the admitted patients were local. Next, the study focused on admitted patients. Declined referrals were not analysed, although this could have provided additional information about service access. The primary reason for declining referrals was often not meeting the commissioned services' threshold, which requires individuals to have moderate-to-severe mental illness, but it could include other reasons, such as limited capacity. Data were extracted from available clinical records and were not validated with patient's own accounts of their pathways to care. The quality of data depends on the quality of available records, and inconsistencies between records across services could have contributed to the identified differences in pathways. The study was conducted before the COVID-19 pandemic, so pathways may be different in the post-COVID-19 period. Patients could have encountered services outside of health care (e.g. community group or religious leaders), which, while important, was not the main focus of this study of clinical pathways.

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Implications

This study offers valuable insights into the patient journey to MBUs and underscores the significance of investigating pathways to care. These findings can serve as a foundational point for further discussions around the referral process and improved access to MBUs. Clinical services, quality improvement projects and research initiatives could potentially benefit from employing the adapted WHO encounter form to comprehensively explore patient care pathways.

There is a gap in research concerning the association between care pathways and treatment outcomes. Subsequent studies could explore, for example, whether simple pathways are linked to better health and well-being outcomes. It is reasonable to anticipate that straightforward care routes may be associated with greater patient satisfaction with their care. However, as mentioned, simple care pathways to inpatient services may indicate the lack of comprehensive use or availability of community-based treatment interventions and support. Furthermore, future research could explore several concerning aspects of perinatal admissions highlighted in this study. One key issue is the admission of pregnant or postnatal women with perinatal mental health disorders to general psychiatric wards. While such admissions are sometimes unavoidable, greater efforts are needed to increase the availability of MBU beds. Additionally, there is a pressing need to develop and implement targeted support strategies to mitigate the impact of mother–infant separation on treatment outcomes. Future efforts could also examine the implementation barriers of perinatal standards, particularly related to a streamlined admission process.

Understanding the intricate interplay between ethnicity, patient care journeys and treatment outcomes poses a significant challenge. This study highlights the important role ethnicity may play in this context. Future research should explore this further, and new insights can contribute to shaping innovative, patient-centred care models. Additionally, recognising the importance of individual encounters in a patient's overall care experience is crucial, and future studies could expand on this by investigating the role of informal and community-based support outside of formal services.

Equality, diversity and inclusion

This research focused on understanding the inequalities and inequities that persist in perinatal mental health settings. Equality, diversity and inclusion is an integral aspect of this work, as evidenced by our research team's diverse experiences related to perinatal mental illness, ethnic background, migration history and professional disciplines (clinical psychiatry, psychology and research roles). Additionally, we carefully considered the language pertaining to gender and ethnicity. The participant populations were diverse and inclusive in terms of ethnicity and migration status. For this study, data were extracted from the electronic records of patients in MBUs. We could not ascertain how patients, whose data were analysed for this study, self-describe or identify. It is essential to recognise that individuals at risk of perinatal mental health issues may not exclusively identify as women. Additionally, we acknowledge that consolidating ethnic groups is not ideal, as discussed in *Strengths and limitations*.

Conclusions

The study provides valuable insights into patient journeys to inpatient psychiatric services for MBUs in the UK, revealing significant differences across locations in referral processes, admission types, length of stay and time to admission. While these variations are not surprising, they highlight the need for further research to understand potential inequities in access to care. Ethnicity emerged as a key factor. Asian patients were found to have more emergency admissions compared to those of Black and White ethnicities, and Black patients were found to be more likely to encounter fewer services before MBU admission compared to White British patients. Future research should explore whether pathway differences among ethnic groups result from optimal clinical decision-making or gaps in care provision (i.e. poor access to community-based interventions). Unlike previous studies, this research found no evidence that Black patients are detained significantly more often than White patients, suggesting that MBU admissions may differ from other psychiatric admissions.

Additional information

CRediT contribution statement

Nikolina Jovanović (https://orcid.org/0000-0002-7554-9837): Conceptualisation (lead), Investigation (lead), Methodology (lead), Formal analysis (supporting), Supervision (lead), Writing – original draft (lead), Writing – editing and reviewing (lead).

Žan Lep (https://orcid.org/0000-0003-0130-4543): Formal analysis (lead), Writing – original draft (supporting), Writing – editing and reviewing (supporting).

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Olivia Protti (https://orcid.org/0009-0003-7545-2837): Writing – original draft (supporting).

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Patient data statement

This work uses data provided by patients and collected by the NHS as part of their care and support. Using patient data is vital to improve health and care for everyone. There is huge potential to make better use of information from people's patient records, to understand more about disease, develop new treatments, monitor safety, and plan NHS services. Patient data should be kept safe and secure, to protect everyone's privacy, and it's important that there are safeguards to make sure that it is stored and used responsibly. Everyone should be able to find out about how patient data are used. #datasaveslives You can find out more about the background to this citation here: https://understandingpatientdata.org.uk/data-citation.

Data-sharing statement

All data requests should be submitted to the corresponding author for consideration. Access to anonymised data may be granted following review.

Ethics statement

This study was conducted as part of a larger NIHR-funded research project, which was approved by the Health Research Authority through the Research Ethics Committee on 12 February 2020 (REC reference: 19/LO/1830). Since the study did not involve direct contact with patients, Health Research Authority approval was not required, and obtaining consent from individuals was not necessary.

Information governance statement

The ELFT is committed to handling all personal information in line with the UK Data Protection Act (2018) and the General Data Protection Regulation (EU GDPR) 2016/679. Under Data Protection legislation ELFT is the data processor; the Department for Health and Social Care (DHSC) is the data controller, and we process personal data in accordance with their instructions. You can find out more about how we handle personal data, including how to exercise your individual rights and the contact details for DHSC's Data Protection Officer here: https://www.nihr.ac.uk/documents/nihr-privacy-policy/12242#how-we-protect-your-personal-data

Disclosure of interests

Full disclosure of interests: Completed ICMJE forms for all authors, including all related interests, are available in the toolkit on the NIHR Journals Library report publication page at https://doi.org/10.3310/GDVS2427.

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This article was published based on current knowledge at the time and date of publication. NIHR is committed to being inclusive and will continually monitor best practice and guidance in relation to terminology and language to ensure that we remain relevant to our stakeholders.

Study registration

This study is registered as IRAS264632. Study protocols can be accessed on the Open Science Framework (https://osf.io/s94bp/).

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List of supplementary material

Report Supplementary Material 1
The WHO encounter form adapted for perinatal mental health care

Supplementary material can be found on the NIHR Journals Library report page (https://doi.org/10.3310/GDVS2427).

Supplementary material has been provided by the authors to support the report and any files provided at submission will have been seen by peer reviewers, but not extensively reviewed. Any supplementary material provided at a later stage in the process may not have been peer reviewed.

List of abbreviations

ELFT	East London NHS Foundation Trust
MBU	Mother and Baby Unit
MHA	The Mental Health Act (1983)
NICE	National Institute for Health and Care Excellence
SD	standard deviation
WHO	World Health Organization

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