

## Research Protocol

Project Title: Exploring characteristics, needs, and service use of mothers diagnosed with severe perinatal mental health difficulties and their infants in contact with the children's social care system

Lead organisation: Kings College London  
Principal investigator(s): Dr Billie Lever Taylor

**Project Title: Exploring characteristics, needs, and service use of mothers diagnosed with severe perinatal mental health difficulties and their infants in contact with the children's social care system**

Lead organisation	Kings College London
Principal Investigator	Dr Billie Lever Taylor
Protocol Author(s)	Dr Billie Lever Taylor
Study Design	Secondary quantitative data analysis

### Executive Summary

**Background:** Infants are almost entirely dependent on their caregivers for their safety and wellbeing. However, numbers and costs of children's social services interventions among infants are rising, with potentially profound and enduring effects for both mother and baby. The birth of a child can be a challenging time in a woman's life, and some mothers experience mental distress and caregiving struggles. Mental health difficulties in the perinatal period have been implicated in the risks to children's welfare, but very little is known about the needs of perinatal women with mental health diagnoses and infants in contact with children's social care.

**Research aims:** The aim of this research is to develop our understanding of 1) the support needs of families where the mother has a severe perinatal mental health diagnosis and the infant is in contact with children's social care, and 2) factors associated with intervention by children's social care.

**Research design:** We will address these research aims through secondary quantitative analysis of data collected from 279 mother-infant dyads where the mother was admitted to acute psychiatric care in England and Wales in the year after childbirth. Of these mother-infant dyads, 99 had children's social services involvement at the time of their acute episode (which we refer to here as timepoint 1). We also collected follow-up data to see whether mother-infant dyads had (continuing) children's social services intervention at one-year after discharge from acute services (timepoint 2).

**Outcome measurements and analyses:** We will use descriptive summary statistics to describe the characteristics, needs, and service use of mother-infant dyads with and without social care involvement at timepoints 1 and 2. We will then build logistic regression models to examine a priori key factors associated with children's social care involvement during the acute episode (primary outcome) and (separately) at one-year post-discharge (secondary

outcome). We will also undertake exploratory analyses to explore in more detail the needs of mothers with the most significant social services involvement (i.e. those who lost custody of their infant by one-year post-discharge and those who had a Child Protection Plan in place).

**Lived experience advisory group:** Our work will be supported by a Lived Experience Advisory Group (LEAG) of mothers with relevant experiences. This group will meet four times over the course of the project, helping us to make sense of what we are finding out and understand the implications of the findings. The group will also help us make sure we carry out the research ethically and thoroughly.

**Timelines:** The project will run from September 2021 to August 2022.

## Table of contents

[Project Title](#)

[Executive Summary](#)

[Table of contents](#)

[Part 1\) Background and Problem Statement](#)

[Part 2\) Aims and Objectives](#)

[Part 3\) Method and Analysis](#)

[Part 3\) Missing Data](#)

[Ethics](#)

[Risks](#)

[Registration](#)

[Data protection](#)

[Personnel](#)

[Timeline](#)

[Hold first LEAG introductory/set-up meeting](#)

[Hold third LEAG meeting \(data workshop on findings, implication, and outputs\)](#)

[Hold final LEAG meeting \(further dissemination, future steps, and reflections\)](#)

[Feedback incorporated into the final report, and submitted to WWCS for publishing](#)

[References](#)

## Part 1) Background and Problem Statement

Infancy is a critical period of development (1), but the risk of maltreatment is highest in the first

year of life (2,3). Infants under one year of age are the most likely to come before the family courts in care proceedings, and there have been sharp rises in newborns in proceedings (4,5). Maltreatment and involvement with children's social care in infancy has been linked to a host of adverse long-term outcomes in children (2). Parents, usually mothers, involved with the child protection system have themselves often experienced social work intervention as children, suggestive of an intergenerational cycle of trauma (6,7).

Perinatal mental health difficulties have been associated with a three-fold increased risk of child maltreatment, with risks particularly elevated when difficulties are severe (8,9). The majority (>75%) of mothers with infants undergoing care proceedings have a record of mental health service use, commonly for severe difficulties (5), and parental mental health support is frequently recommended in child protection plans (10).

A key way to reduce risks to infants associated with perinatal mental health difficulties is through early identification of vulnerable families and provision of effective support (9). The perinatal period has been conceptualised as a 'window of opportunity' (11,12), when specialist perinatal mental health and parent-infant support is considered vital (13). However, there has been very little research into the characteristics or support needs of mothers diagnosed with perinatal mental health difficulties with infants in contact with children's social care. Outside the perinatal period, there are indications that these families may have high levels of need, and may face inequities in the support and intervention they receive from mental health and social care services (14–16). Concerns have been raised about potential inequalities in rates of state intervention (related to factors such as deprivation, ethnicity, prior care experience, or having a personality disorder diagnosis) and in access to mental health support (17–19). Given that the perinatal period is a distinctive time, when infants are almost entirely dependent on their caregivers and the foundations of healthy development are laid (1), research is urgently needed to better understand support needs in this context.

This is a highly opportune time to carry out research in this area as the NHS Long Term Plan (13) has committed to improving access to, and the quality of, perinatal mental health and parent-infant support, particularly for families with more severe difficulties. A UK-based economic analysis, cited in the Long Term Plan, estimated that the cost of not accessing high quality perinatal mental health care is £8.1 billion per year of births, with 72% of this attributable to adverse consequences for the infant (20).

A focus on supporting caregivers is also one of the seven strategies of the World Health Organisation's 'INSPIRE' programme for ending violence against children<sup>1</sup> and understanding parents' needs is a key focus of the Independent Review of Children's Social Care<sup>2</sup>.

## Part 2) Aims and Objectives

This project involves secondary analysis of quantitative data aiming to develop our understanding of 1) the support needs of families where the mother has a serious perinatal

---

<sup>1</sup> [https://www.who.int/violence\\_injury\\_prevention/violence/inspire-package/en/](https://www.who.int/violence_injury_prevention/violence/inspire-package/en/)

<sup>2</sup> <https://www.gov.uk/government/groups/independent-review-of-childrens-social-care>

mental health diagnosis and the infant is in contact with children’s social care, and 2) factors associated with intervention by children’s social care.

The research questions (RQs) are:

1. What are the characteristics and support needs of mothers requiring acute care for severe perinatal mental health difficulties and their infants in contact with children’s social care?
2. Which factors (e.g. wider characteristics or needs) are associated with social care intervention (a) at the time of the acute episode and (b) one year after the mother’s discharge from acute mental health services?

The objective is to carry out rich descriptive, exploratory data analysis, helping inform future research and practice into how services can support vulnerable families.

### Part 3) Method and Analysis

<b>Study Design</b>	Secondary quantitative data analysis
<b>Database</b>	The project will involve secondary analysis of data from a study known as the ‘ <b>ESMI study</b> ’ ( <b>Effectiveness of Services for mothers with Mental Illness</b> ) <sup>3</sup> . The Chief Investigator for this study is co-applicant Professor Howard and we have permission to use/access the dataset.
<b>Population</b>	Participants are 279 mother-infant dyads where the mother was admitted to acute psychiatric care in England and Wales in the year after childbirth, including specialist Mother and Baby Units (MBU), acute wards, or community crisis teams. Of these 279 mother-infant dyads, 99 had children’s social services involvement at the time of their acute episode. We also collected follow-up data on whether or not mother-infant dyads had (continuing) children’s social services intervention at one-year after the mother was discharged from acute mental health services.
<b>Outcome Measures</b>	Our <b>primary outcome</b> will be whether or not the mother-infant dyad had children’s social care involvement at the time of the mother’s acute episode (timepoint 1) <sup>4</sup> .

<sup>3</sup> <https://bmjopen.bmj.com/content/9/3/e025906>

<sup>4</sup> Collected using ‘Safeguarding category of infant’

	<p>Our <b>secondary outcome</b> will be whether or not the mother-infant dyad had (continued) children’s social care involvement at one-year after the mother’s discharge from acute psychiatric services (timepoint 2).</p> <p>See below for explanatory variables to be included.</p> <p><b>Exploratory analysis</b> will also be carried out to explore the characteristics and needs of mother-infant dyads with more serious levels of children’s social care intervention (i.e. mothers who had lost custody of their infant by one-year post-discharge and mother-infant dyads with a Child Protection Plan during the acute episode or at one-year post-discharge).</p>
<p><b>Analytical strategy</b></p>	<p>Analyses will be carried out in Stata v17.</p> <p>Step 1: Descriptive statistics (proportions; means/SDs) will be calculated to describe the socio-demographics, clinical characteristics, wider needs, social services involvement with other children, and mental health service use of mother-infant dyads with social care involvement at timepoints 1 and 2.</p> <p>Step 2: Mother-infant dyads with children’s social care involvement will be compared with those without children’s social care involvement at timepoints 1 and 2 (using <math>\chi^2</math>; t-tests across the descriptive statistics in Step 1).</p> <p>Step 3: We will then use logistic regression to explore factors (i.e. explanatory variables listed below) associated with children’s social services involvement at timepoints 1 and 2 (building a separate logistic regression model for each timepoint). Taking the size of the cohort into consideration, we will avoid small cell sizes, and will limit the number of variables included in the models by choosing key a priori explanatory variables to examine, informed by previous research and our LEAG.</p> <p>Explanatory variables in the models will be finalised in collaboration with our LEAG, but are expected to include: mother’s socio-demographics (age; ethnicity; relationship status; deprivation); clinical variables (history of admissions in the preceding 2 years; diagnosis (personality disorder; schizophrenia)); and wider needs (domestic violence (on the Modified Composite Abuse Scale);</p>

maternal history of childhood trauma (on the Childhood Trauma Questionnaire); substance misuse<sup>5</sup>; learning difficulties).

### Part 3) Missing Data

#### Handling of missing data

We will follow the same approach to missing data that we have used across the wider ESMI project (see ESMI protocol<sup>6</sup>), and informed by an examination of patterns and extent of missingness. Missing data will be addressed as follows: single imputation or prorating for sporadic missing item-level data that contribute to scores; use of multiple imputation for missing variables. We will not impute missing *outcome* data (our primary outcome variable is almost complete: N=278/279). We will carry out a complete case analysis (including participants who had complete data on all variables in the analyses) to enable us to compare this with the analysis of the imputed data.

### Ethics

NHS ethics approval for the ESMI study was obtained, including for secondary data analysis (14/LO/0765).

### Risks

Risk	Mitigation
Disruptions due to the Covid-19 pandemic/difficulties delivering milestones on time	We can carry out the whole project remotely if needed. Regular project management team meetings will be held to monitor progress and flag arising problems.
Difficulty recruiting or engaging lived experience advisory group	We are replicating a strategy we have used successfully in previous research. Recruitment to the lived experience advisory group will be via multiple avenues. We will adopt a flexible approach when running this group, adaptable to individual needs, e.g. offering the option to

<sup>5</sup> Composite variable of Camberwell Assessment of Needs (CAN-M) substance misuse unmet need or ICD-10 Code or HONOS substance misuse domain or yes to substance misuse within drug history form

<sup>6</sup> <https://bmjopen.bmj.com/content/9/3/e025906>

have cameras turned off, using the chat function, offering individual discussions/phone calls or de-briefs.

Delays obtaining or cleaning and setting up data

As co-applicant Professor Howard was Chief Investigator for the ESMI study she has extensive knowledge of this dataset and associated documents and can help facilitate set-up and access to necessary materials.

## Registration

This project was registered with the Open Science Framework (OSF) on 18/11/2021.  
Registration link: <https://osf.io/yqcwx>

## Data protection

This project involves secondary data analysis only. Participants in the dataset have been de-identified, with no identifying details included and with each participant instead allocated a unique identification code. It will not be possible to identify any participants in the study materials or outputs. All participants gave their written consent to take part in the ESMI study and to the processing of their data for the purposes of research. Data, and associated materials, will be stored in a secure project folder on the KCL server and will only be accessible to the research group.

What Works for Children's Social Care (WWCSC) will not be a data controller or processor for any data in relation to this project

## Personnel

The project will be led by Dr Billie Lever Taylor, a Research Clinical Psychologist at Kings College London (KCL), who will be project manager and Principal Investigator. Billie will have responsibility for the day-to-day running of the project and for the data analysis and write-up of the findings. Billie will work under the supervision of Professor Louise Howard (KCL) and Dr Angela Sweeney (KCL).

Dr Sweeney is a survivor researcher who is a Senior Lecturer in User led Research and Director of the Service User Research Enterprise. As a survivor researcher, Dr Sweeney has expertise in developing and applying methods that centralise service user and survivor voices, prioritising safety/wellbeing. She will help facilitate the lived experience (PPI) involvement in this project.

Professor Howard is a health services researcher, honorary consultant perinatal psychiatrist and Professor of Women's Mental Health. She established the Section of Women's Mental

Health at KCL from where she has led multiple research grants. She was chief investigator for the ESMI programme, and has extensive experience of complex multisite, multidisciplinary, mixed methods studies including comprehensive, in-depth knowledge of the ESMI datasets. She is currently an NIHR Senior Investigator and in the last 5 years has led grants worth >£5mn. Professor Howard will meet regularly with Dr Lever Taylor throughout the project.

Professor Nicky Stanley (University of Central Lancashire) will also be involved with the project offering expertise from a social work perspective. Nicky is Professor of Social Work with extensive expertise of research in the areas of domestic violence and abuse, child welfare and child protection, young people's and mothers' mental health and interagency work.

As outlined, the project also involves a Lived Experience Advisory Group (LEAG).

## Timeline

Dates	Activity	Staff responsible/ leading
<b>Sept-Oct</b>	Recruit Lived Experience Advisory Group (LEAG) (including initial development of materials for LEAG engagement activities)	BLT
<b>Nov</b>	Hold first LEAG introductory/set-up meeting	BLT
<b>Nov</b>	Data cleaning completed; data analysis begins	BLT
<b>Feb</b>	Hold second LEAG meeting (data workshop on early findings and interpretation)	BLT/AS
<b>Mar</b>	Data analysis finalised	BLT
<b>May</b>	Hold third LEAG meeting (data workshop on findings, implication, and outputs)	BLT
<b>Jun</b>	Commence dissemination activities (e.g. journal submissions, conference presentation)	BLT
<b>Jul</b>	Final report for WWCS	BLT
<b>Aug</b>	Hold final LEAG meeting (further dissemination, future steps, and reflections)	BLT
<b>Aug</b>	Feedback incorporated into the final report, and submitted to WWCS for publishing	BLT



## References

This protocol template is informed by the following sources:

1. Health and Social Care Committee. First 1000 Days of Life [Internet]. 2019. Available from: <https://www.local.gov.uk/parliament/briefings-and-responses/health-and-social-care-committee-report-first-1000-days-life>
2. Harden BJ, Buhler A, Parra LJ. Maltreatment in Infancy: A Developmental Perspective on Prevention and Intervention. *Trauma, Violence, & Abuse*. 2016 Oct 1;17(4):366–86.
3. Sidebotham P, Golding J. Child maltreatment in the “Children of the nineties”: A longitudinal study of parental risk factors. *Child Abuse & Neglect*. 2001 Sep 1;25(9):1177–200.
4. Broadhurst K, Alrouh B, Mason C, Ward H, Holmes L, Ryan M, et al. Born into care. Newborns in care proceedings in England. [Internet]. Nuffield Family Justice Observatory for England & Wales; 2018. Available from: [https://www.nuffieldfjo.org.uk/app/nuffield/files-module/local/documents/Born%20into%20Care\\_Final%20Report\\_10%20Oct%202018.pdf](https://www.nuffieldfjo.org.uk/app/nuffield/files-module/local/documents/Born%20into%20Care_Final%20Report_10%20Oct%202018.pdf)
5. Pearson R, Jewell A, Wijlaars L, Bedston S, Finch E, Broadhurst K, et al. Linking data on women in public family law court proceedings concerning their children to mental health service records in South London. *IJPDS [Internet]*. 2021 Feb 24;6(1). Available from: <https://ijpds.org/article/view/1385>
6. Broadhurst K, Mason C, Bedston S, Alrouh, B, Morriss L, McQuarrie T, et al. Vulnerable Birth Mothers and Recurrent Care Proceedings [Internet]. Nuffield Foundation; 2017. Available from: [http://wp.lancs.ac.uk/recurrent-care/files/2017/10/mrc\\_final\\_main\\_report\\_v1.0.pdf](http://wp.lancs.ac.uk/recurrent-care/files/2017/10/mrc_final_main_report_v1.0.pdf)
7. Armfield JM, Gnanamanickam ES, Johnston DW, Preen DB, Brown DS, Nguyen H, et al. Intergenerational transmission of child maltreatment in South Australia, 1986–2017: a retrospective cohort study. *The Lancet Public Health [Internet]*. 2021 Apr 30;0(0). Available from: [https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667\(21\)00024-4/abstract](https://www.thelancet.com/journals/lanpub/article/PIIS2468-2667(21)00024-4/abstract)
8. Ayers S, Bond R, Webb R, Miller P, Bateson K. Perinatal mental health and risk of child maltreatment: A systematic review and meta-analysis. *Child Abuse & Neglect*. 2019 Dec 1;98:104172.
9. Stein A, Pearson RM, Goodman SH, Rapa E, Rahman A, McCallum M, et al. Effects of perinatal mental disorders on the fetus and child. *Lancet*. 2014 Nov 15;384(9956):1800–19.
10. Yoo H, Racorean S, Barrows V. “They’re not bad parents. They’ve just made bad choices.”: Mental health clinicians’ perspectives of parents involved with child protective services. *Qualitative Social Work*. 2020 Nov 29;1473325020973289.
11. Helfer RE. The perinatal period, a window of opportunity for enhancing parent-infant communication: an approach to prevention. *Child Abuse Negl*. 1987;11(4):565–79.

12. Lever Taylor B, Mosse L, Stanley N. Experiences of social work intervention among mothers with perinatal mental health needs. *Health & Social Care in the Community*. 2019;27(6):1586–96.
13. NHS England. The NHS Long Term Plan [Internet]. England: NHS England; 2019. Available from: <https://www.longtermplan.nhs.uk/wp-content/uploads/2019/08/nhs-long-term-plan-version-1.2.pdf>
14. Pearson R, Grant C, Wijlaars L, Finch E, Bedston S, Broadhurst K, et al. Mental health service use among mothers involved in public family law proceedings: linked data cohort study in South London 2007-2019. 2021; Available from: <https://osf.io/htcdy/>
15. Bywaters P, Kwhali J, Brady G, Sparks T, Bos E. Out of Sight, Out of Mind: Ethnic Inequalities in Child Protection and Out-of-Home Care Intervention Rates. *The British Journal of Social Work*. 2017 Oct 1;47(7):1884–902.
16. Stanley N. Working on the interface: identifying professional responses to families with mental health and child-care needs. *Health & Social Care in the Community*. 2003;11(3):208–18.
17. The Independent Review of Children’s Social Care. Case for Change [Internet]. Available from: <https://childrensocialcare.independent-review.uk/case-for-change/>
18. Stanley N, Penhale B. The mental health problems of mothers experiencing the child protection system: identifying needs and appropriate responses. *Child Abuse Review*. 1999;8(1):34–45.
19. Zacharia A, Lever Taylor B, Sweeney A, Morant N, Howard LM, Johnson S. Mental Health Support in the Perinatal Period for Women With a Personality Disorder Diagnosis: A Qualitative Study of Women’s Experiences. *J Pers Disord*. 2020 Jun 15;1–16.
20. Bauer A, Parsonage M, Knapp M, Lemmi V, Adelaja B. The costs of perinatal mental health problems [Internet]. London, England: LSE and Centre for Mental Health; 2014. Available from: [https://www.nwscnsenate.nhs.uk/files/3914/7030/1256/Costs\\_of\\_perinatal\\_mh.pdf](https://www.nwscnsenate.nhs.uk/files/3914/7030/1256/Costs_of_perinatal_mh.pdf)