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Institute of Child Health

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Social and health characteristics of mothers involved in family court care proceedings in England

End of study report
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Executive Summary

Introduction

This study aimed to determine the risk of mothers being involved in public law family court care proceedings and their social and health characteristics by analysing linked administrative family court and healthcare records. Involvement in care proceedings reflects serious concerns for the care or safety of a child [1]. Local Authority (LA) social care departments can bring care proceedings under Section 31 of the Children Act 1989 due to concerns about significant harm, or risk of significant harm to the child attributable to care given by the parents or the child being beyond parental control [2]. Each year, around 10,000 mothers in England are involved in care proceedings [3]. In 80% of these proceedings, the child is placed with friends or family, unrelated foster carers, in residential care or for adoption [4]. One fifth remain with one or both birth parents, with or without a supervision order.

Recent developments in national and regional linkages of administrative health data to family court or social services data have contributed insights into maternal health needs in Wales, Sweden and Canada, but evidence is lacking for England [5-15]. Similar linked data for England would contribute new insights due to the population size, the regional and ethnic variation in England, and variability in determinants of service access and outcomes across different population subgroups. From a policy and practice perspective, evidence from linked data on the health of parents involved in family court care proceedings could inform how and when healthcare and related services could intervene to improve parental health and support, and thereby prevent or mitigate child maltreatment, and in some cases, avoid care proceedings.

Aims and objectives

This study aimed to address the evidence gap in England on the health of mothers involved in care proceedings compared with their peers. We conducted two sub-studies:

1. In the first, we studied all first-time mothers between 2007-19 in the English NHS, including those involved in care proceedings, to:
    - Create a database of first-time mothers using hospital admission data, linked to care proceedings in England and assess linkage accuracy.
    - Estimate the 10-year risk of care proceedings for first-time mothers in England and describe differences in maternal social and health characteristics at a first birth.
    - Compare the number of births within 10 years to first-time mothers involved and not involved in care proceedings.
    - Assess maternal and birth characteristics associated with recurrent care proceedings.
    - Estimate differences in mortality among mothers involved and not involved in care proceedings.
2. Second, we studied mothers involved in care proceedings and other women using mental health service records in four LAs in south London to:
    - Create a research database that linked records of mothers involved in care proceedings in south London to mental health service data and assess linkage accuracy.
    - Compare the characteristics of mental health service use among mothers involved in care proceedings and other women using mental health services.
    - Compare the risk of death among mothers involved in care proceedings with other women using mental health services.
    - Evaluate patterns of mental health service use before and after start of care proceedings.

Methods

In the first sub-study, we used hospital admissions data for England to create a national cohort of first-time mothers who were admitted to an NHS maternity unit for delivery of their child. Hospital care histories and mortality records were linked to care proceedings data for England and embedded within a cohort of all mothers giving birth. We assessed linkage quality and used maternity histories to identify first-time mothers, grouped as those who were subsequently involved in care proceedings within 10 years of the birth of their first child, and a comparator group of all other mothers without care proceedings. We estimated the risk of involvement in care proceedings for first-time mothers over 10 years and compared birth trajectories and mortality in mothers with and without care proceedings. We derived subgroups of first-time mothers involved in care proceedings to address specific questions about the risk of recurrent care proceedings and death after first care proceedings.

In the second sub-study, mothers involved in care proceedings and resident in four south London LAs were linked to mental health service data provided by the South London and the Maudsley NHS Trust (SLaM), which provides all mental health services in these LAs. Unlinked women who used SLaM services (but did not appear in care proceedings records) were used to create an age-matched-cohort for comparison, but dates of childbirth could not be reliably defined. Linkage quality was assessed and resulting data was used to compare mental health service use and risk of death for mothers involved in care proceedings and matched controls. We also characterised mental health service use two years before and one year after the start of care proceedings, using a latent class model applied to mothers involved in care proceedings who linked to a SLaM record.

See glossary of terms and abbreviations in Appendix 1.

Key findings

1. Linkage of family court and healthcare data in England achieved acceptable linkage quality for national population analyses

We linked national administrative data from family court care proceedings to hospital admission records for England (sub-study 1) and to records from talking therapies in the community, and secondary and tertiary mental health services provided by SLaM (sub-study 2).

We linked 82.8% of 112,000 mothers involved in care proceedings in England to a hospital delivery admission. We created a database of 3.5 million first-time mothers who could be followed through all NHS hospital admission records for up to 10 years, which contained 34,025 of mothers involved in care proceedings.

In study 2, we created a reusable research database of 3,226 mothers involved in care proceedings in four south London LAs. Two-thirds (66.2%) of these mothers linked to a mental health service record in SLaM, denoting referral or attendance at mental health services.

In both studies incomplete identifiers used for linkage of the care proceedings data caused missed links to healthcare records especially for mothers living in London, East of England, and those from an ethnic minority background. Evaluation of linked records indicated few false matches.

2. The ten-year risk of involvement in care proceedings was 1.3% and was highest for young mothers, living in deprived neighbourhoods and those with health problems at their first birth.

Using the cohort of all first-time mothers in England, we estimated that 1.3% will be involved in care proceedings within 10 years of their first birth. The risk of care proceedings was increased for all first-time mothers younger than 20 years at first birth (6.7%), those living in the 40% most deprived neighbourhoods (2.5%), and those with a hospital admission record in the previous three years with a code for any chronic physical or mental health problem, disability or adversity-related admission (3.8%). Mothers with intellectual disabilities had the highest risk of care proceedings (30.1%), followed by mothers with a history of an adversity-related admission (12.8%) or mental illness (5.7%).

Health problems occurred disproportionately in the mothers who were involved care proceedings after a first birth, compared with peers: any health problem (39.1% among those involved in proceedings vs 13.8% not involved); mental health (18.4% vs 4.7%); intellectual disability 5.5% vs 1.2%%); physical or sensory disability (15.6% vs 1.4%); chronic health condition (13.5% vs 7.9%), and adversity-related admission (related to self-harm, drug or alcohol or violence; 15.6% vs 1.4%).

One half (47.9%) of the mothers in the care proceedings group had their first birth before age 20 (vs 8.2% for other mothers) and 78.9% first had a first birth before age 25 (vs 29.7%). We estimated that over two-thirds (69.2%) of first care proceedings could potentially be avoided if young mothers (<25 years at first birth) had the same risk of care proceedings as mothers aged 25 or more.

3. The majority of mothers involved in care proceedings had a mental illness requiring secondary mental health services. Mothers in England involved with care proceedings were seven times more likely to die within 10 years of their first birth than other mothers of the same age.

Using SLaM mental health services data for south London, we found that half (54.2%) of mothers involved in care proceedings had a diagnosis of mental illness requiring secondary or tertiary mental health services, more than one-third had two or more diagnoses (34.0%) and one-fifth (22.1%) had substance use problems.

In the 10 years following the birth of their first child, mothers involved in care proceedings were seven times more likely to die than other mothers (1. 56% vs 0.27%). The difference in risk of mortality differed by maternal age and was 2.7 times higher for the youngest mothers (15-19 years at first birth, 0.67% vs 0.24%) but 16.2 times higher for mothers aged 30-34 (3.99% vs 0.29%).

Using data from all first-time mothers in England, we found two-thirds (66.4%) of care proceedings experienced mothers died from suicide, drug or alcohol-related causes, homicide or injury, compared to a quarter (23.7%) of other mothers. After the start of a first care proceedings, 1.82% (or 1 in 55) of mothers died within 8 years of follow up.

4. Mothers involved in care proceedings had diverse birth trajectories, but having a new birth was a risk factor for recurrent care proceedings

On average, mothers involved in care proceedings had more children over 10 years than other mothers, but this difference was confined to young mothers (<25 years). First-time mothers aged 25 or more who were subsequently involved in care proceedings had fewer children on average and more had only one child compared with same age peers.

We found that one-third (32.6%) of mothers had a second care proceedings within 8 years. This is higher than the previous estimate for England of one-quarter (26.4%) within 8 years, because we followed all mothers from a first birth and recurrence is highest when a first care proceedings is soon after a first birth [(4)]. A further 28.2% of mothers had a new child without further care proceedings and just over one-third (37.4%) had no new child and no further care proceeding. Recurrent care proceedings occurred more frequently in mothers who had a new child (47.6%) and increased to almost two-thirds (60.8%) of mothers for whom the interval between first care proceedings and start of next pregnancy was less than one year.

5. Analyses of mental health services data revealed high levels of rejected referrals and repeated discharges due to failure to engage, suggesting unmet need for treatment in mothers involved in care proceedings.

Despite the high prevalence of serious mental illness, mothers involved in care proceedings were more likely than other users to have referrals rejected and to be discharged for failure to engage. Patterns of service contact before and after care proceedings also suggested unmet need for some mothers. Service contacts increased before care proceedings for one-third (34.1%) of mothers in contact with mental health services but declined steeply after proceedings started in one-quarter of mothers (25.6%). Just over half (53.8%) of all mothers in care proceedings who were known to mental health services had very little contact in the two years before or one year after care proceedings. These findings are consistent with qualitative research reporting that mothers feel abandoned and struggle to access social care or mental health support once the process has started to remove their child(ren) [(4, 16-18)].

Implications for policy and practice

1. Linked administrative data from family courts and healthcare in England should be used to generate evidence for policy and practice

These studies demonstrate the value of linked family court care proceedings and healthcare data for characterising subgroups of mothers in care proceedings with different vulnerabilities, patterns of service use and outcomes. Linked data can be used to plan and monitor interventions for first-time mothers with potential benefits for mothers and their children. This study sets a precedent for public benefit, technical and governance feasibility that should enable ongoing linkage of family court and healthcare data for policy and practice.

2. Findings from these linked data could inform the delivery of preventative interventions for vulnerable mothers and their children in the first 1,000 days and childhood years.

Our findings indicate potential for early, preventative interventions for vulnerable families to reduce poor outcomes for mothers, adverse childhood experiences, child maltreatment and thereby reduce care proceedings. GPs and health visitors are the first point of contact for mothers at their first pregnancy and provide the bedrock of universal healthcare for children and families. These universal healthcare services underpin targeted programmes such as a Better Start for Life in the first 1,000 days, the Family Nurse Partnership (FNP) and Maternal Early Childhood sustained Nurse Home-visiting (MESCH) intensive home visiting programmes, and children's social care [(19-22)]. However, both universal and targeted services suffer from rising demands, understaffing, and patchy commissioning [(23)]. For example, a recent study reported FNP commissioning in only two-thirds of LAs in England, with capacity to enrol only one-quarter of all first-time teenaged mothers intended for support [(24)].

Fully funded provision of effective universal and targeted preventative services could reap benefits by reducing the rising numbers of mothers involved in care proceedings, improving outcomes for their children, and by improving outcomes for the much larger proportion of children, estimated to be 4 in every 10 children, who are exposed to adverse childhood experiences, including child maltreatment, domestic abuse, parental mental health problems and substance use in the first 1,000 days [25].

3. Improved access and continuity of mental health services is needed for vulnerable mothers

Rejected referrals and repeated discharge due to failure to engage disproportionately affected mothers involved in care proceedings. Improving access and continuity of care may need service redesign and more capacity to enable mothers to engage successfully with mental health services to improve their own and child's health and development. A survey of perinatal health and mental health practitioners in England, indicates multiple challenges, including low capacity, inflexible referral pathways, poor continuity and tension between building trusted relationships with mothers and sharing information with children's social care [23]. Linked data, as used in our study, could assess how the expansion of perinatal mental health teams in England since 2018 is supporting these vulnerable mothers who become involved in care proceedings [26, 27].

4. Joint working between social care, family courts and mental health services is needed for mothers before, during and after care proceedings

Improved engagement between social care, family courts and healthcare, particularly with mental health services, in the periods before, during and after care proceedings, could improve maternal health, and, in turn, capability for current and subsequent parenting. The 10-year life course perspective in this study highlights that health of first-time mothers is important for their own health and the health and development of their children, with whom, in most cases, they will stay connected, even if not the main carer [28-31].

Implications for research

1. Extend linkages between healthcare and family court data for research

Inclusion of private and public law family court data for mothers, fathers and children in future linkages with healthcare data could generate evidence for early intervention in the family life course to reduce parental conflict and child maltreatment, and provide more timely and intensive interventions for mental health and substance use before, during and after family court involvement to promote recovery. We estimate that, in addition to the 1.3% of first-time mothers involved in public law, a further 3.3% use private family law, with 3% of the families involved with private family law also using public family law courts at some point [3, 32, 33].

Research using linked administrative health and family court data in Wales has advanced understanding of the health determinants and outcomes for fathers, mothers and children involved in private and public law [6, 8, 34]. These studies found that parents involved with private law family courts had higher levels of social and economic disadvantage, poor parental health, child maltreatment and domestic violence than the general population but these differences were less stark than for parents involved in public law care proceedings.

Research using linked health and family court data across all family law should be developed for England and used to understand and monitor regional variation and the impact of policy changes on the health needs and outcomes of parents and children involved in family courts. New linked data should include newly available healthcare data on community services (which includes health visiting), maternity services, an expanded mental health services dataset, and birth notifications data, which includes a mother-baby link [35]. These datasets have matured in the last five years and can be linked by the data provider (NHS England). Inclusion of these additional datasets could support more joined up services and identify more prevention opportunities.

2. Research to improve and adapt services to the needs of mothers, parents and children.

Research is needed to understand the diverse needs of parents and children before, during and after involvement in care proceedings to inform joint working between different healthcare services, social care and family courts. Research could investigate how to build trusted and tailored services for vulnerable families, based on a 'think-family' approach, in which services for adults ask about and address the needs of their children, and services for children consider the needs of the parents, particularly parent and child mental health, conflict and domestic abuse [23, 25, 36]. How this is done within the different service contexts, and what changes could lead to improvements, requires research.

1. Aims and objectives

1.1 Introduction

Involvement in public law family court care proceedings reflects serious concerns for the care or safety of a child. Local authority (LA) social care departments can bring care proceedings under section 31 of the Children Act 1989 due to concerns about significant harm, or risk of significant harm, to the child attributable to care given by the parents or the child being beyond parental control [2]. The court decides on whether to remove the child from parental care, which can result in the child being placed into kinship care (friends or family), unrelated foster care, residential care or for adoption. Each year, 10,000 mothers in England are involved care proceedings, and over 80% have their child(ren) placed into foster or residential care or in kinship care under state supervision [3, 37]. Over the last 10 years, the number of children looked after has increased by over one-fifth (21%) [31].

Rising rates of involvement in care proceedings, and the high cost and trauma associated with placement into out-or-home care, have led to calls for more upstream prevention [38]. As the number of children looked after increases, the annual cost of running children's social services is projected to increase to £15 billion by 2032, up by £5 billion over a decade [38]. The rationale for prevention is also to reduce or mitigate the adverse, long-term health, education and employment outcomes in adolescence and adulthood seen in children placed into care, and in the children of care leavers [39-41]. The MacAlister report into children's social care called for more responsive, respectful and effective support for families in need of social care, as a shift towards preventative services could help to keep families together [38].

Turning the ambition for more prevention into policy requires whole-population data to plan, evaluate and monitor which parents and children could benefit, and whether they receive services that make a difference. Services relevant to earlier intervention include healthcare (for children and adults, including primary care and adult mental health services), social care and wider services, including employment, benefits and housing, that support families to thrive.

Recent developments in national and regional linkages of administrative healthcare data to family court or social services data have contributed insights into maternal health needs. Linked data studies in Wales, Canada and Sweden consistently show that young maternal age, living in the most deprived neighbourhoods, poor parental mental health and substance use and domestic abuse are risk factors for care proceedings and placement of children into care [5, 8, 12]. These health and social problems often precede childbearing, are evident in pregnancy or at birth, and are associated with high rates of parent mortality, which is potentially preventable [14, 15].

Qualitative research of mothers involved in care proceedings in England has reported barriers to mental health and other services, including the fear of child removal [4, 18]. However, in England, there has been limited quantitative research into the health of parents involved in family court care proceedings to inform how and when healthcare services might intervene to prevent or mitigate child maltreatment and domestic abuse, and parental mental health problems, which are common factors leading to care proceedings. This study aimed to address the evidence gap in England on the health of mothers involved in care proceedings compared with their peers.

1.2 Aims & Objectives

The overall aim was to understand the health of mothers involved in family court care proceedings by using linked administrative family court and healthcare records embedded within a population comparison database of records for all mothers using healthcare services.

We achieved this aim by conducting two separate sub-studies, one used hospital admission records for England and the other used records from mental health services provided by the South London and the Maudsley (SLaM) NHS Trust serving four LAs. A strength of health administrative data is the large and comprehensive population coverage of all NHS contacts over years, which enables investigation of sub-groups, characterised by age, ethnic background, deprivation and geography. On the other hand, a limitation is that studies based on administrative data capture only the tip of the iceberg of health problems experienced by mothers and miss those managed only in primary care or not accessing NHS services. The aims and objectives of the two sub-studies are set out below.

Sub-study 1. We studied all first-time mothers in the English NHS, including those involved in care proceedings to:

- Create a database of first-time mothers using hospital admission data, linked to care proceedings in England and assess linkage accuracy (see chapter 2).

- Estimate the 10-year risk of care proceedings for first-time mothers in England and describe differences in maternal social and health characteristics at a first birth (see chapter 3).
- Compare the number of births within 10 years in first-time mothers involved and not involved in care proceedings (see chapter 4).
- Assess maternal and birth characteristics associated with recurrent care proceedings (see chapter 5).
- Estimate differences in mortality among mothers involved and not involved in care proceedings (see chapter 6).

Sub-study 2: We studied mothers involved in care proceedings and other women using SLaM mental health service records in four LAs in south London to:

- Create a research database that linked records of mothers involved in care proceedings in south London to mental health service data, including substance use services, and assess linkage accuracy (see chapter 2).
- Compare the characteristics of mental health service use among mothers involved in care proceedings and other women using mental health services (see chapter 7).
- Compare the risk of death among mothers involved in care proceedings with other women using mental health services (see chapter 7).
- Evaluate patterns of mental health service use before and after start of care proceedings (see chapter 7).

Sub-study 2 in south London was completed in 2022 and is published in more detail elsewhere (see Appendix 2), including a report of recurrent care proceedings in mothers using mental health services, which is not included in this report [42-45].

A glossary of terms and abbreviations is provided in Appendix 1.

2. Data linkage and derivation of study cohorts

In this chapter we describe the creation of linked databases for each sub-study: (i) health of first-time mothers in England, and ii) mental health of mothers in south London. We report on public engagement to support both studies and describe the data resources, governance requirements, linkage methods and evaluation, and derivation of cohorts.

2.1 Public and patient engagement and involvement

Public and patient engagement and involvement (PPIE) around the study objectives and use of linked health and family court data was essential for governance permissions and integral to our study design and interpretation. As we started the sub-study in south London first (see Figure 2.1), much of our early public engagement involved mental health service users. PPIE work spanned the timeline of the project and included:

- Consultation with the Maudsley Biomedical Research Centre (BRC) Data Linkage Service User and Carer Advisory Group, which is made up of people with lived experience of mental illness and an interest in mental health research involving data linkage, on the acceptability of using administrative mental health data [46, 47].

- Focus groups with women and practitioners from one of the Pause project's South London programmes to establish research priorities. Pause provides a programme of support to women who have had children removed from their care via the family court and this programme operates in over 30 English LAs [48].

- Consultation with an Addiction Service User Research Group, which is a local group of drug and alcohol service users who meet regularly and provide advice and support to those undertaking studies relating to addiction. The group is organised jointly by King's College London Addictions Department and the Aurora project in Lambeth [49].

- Formation of an advisory group, which met regularly throughout the project, to consult on research questions, the conduction of analysis, and the interpretation of findings. The group included a family court lawyer, a consultant child and adolescent psychiatrist, a consultant addiction psychiatrist, a representative from the Ministry of Justice and a Pause practitioner.

At each of these events, we discussed our data linkage methods and research strategy, receiving positive feedback and ideas for future research.

2.2 Health of first-time mothers in England (sub-study 1)

2.2.1 Data Resources

Family Court Care Proceedings Data

The Children and Family Court Advisory and Support Service (Cafcass) routinely capture data on care proceedings as part of their mandatory advocacy services provided by social workers to support children involved in family courts [42]. In the financial year 2019-20, Cafcass were involved in over 63,000 family law cases - around 18,100 public law cases, 12,680 of which were section 31 care proceedings - and around 45,400 private law cases, where parents are disputing childcare arrangements [3].
This sub-study analysed data on section 31 public law applications, where LAs ask to place children under supervision, restrict parental control or remove the child(ren) from the family home to due to concerns the child(ren) are at risk of significant harm. There are several reasons for non-section-31 public law cases, which can include discharge of care, deprivation of liberty, adoption, special guardianship orders and revocation of placement orders. Data used in our analyses included information on hearing dates, number and ages of children involved in the case, demographic information on the mother, and legal outcome(s) of the care proceedings [42].

Cafcass, the data custodian, supplied de-identified attribute data on all section 31 applications in England from April 2007 to March 2022 to UCL.

Hospital admission data for England

NHS England (NHSE) (previously NHS Digital) are the custodian for all NHS data in England and Wales. They are responsible for the Personal Demographics Service (PDS), which contains names and addresses of individuals with a NHS number who are registered with a GP, used hospital services, or have a birth registration or birth or death notification [50]. NHSE receive detailed coded data on all NHS hospital contacts in England and Wales, which is called the Hospital Episode Statistics (HES) Dataset. NHSE can share this data in a de-identified form (attribute data) with researchers for approved research purposes [51].

This sub-study had permission to analyse data from acute hospitals for the mother (including maternity and all other planned and unplanned admissions, death registration, and the linked birth admission for the child).

At the time of our application, national data from mental health services were limited in scope and data quality [52]. Instead, we linked family court care proceedings data to a long-established mental health services database in south London (see section 2.3).

2.2.2 Data Governance and linkage

We obtained Health Research Authority Confidentiality Advisory Group (CAG – 19CAG0018) and NHS Research Ethics Committee (REC) (19/LO/0103) approval to enable NHSE to link person identifiable data supplied by Cafcass to NHS records without explicit patient consent. The linkage was conducted using the separation principle, meaning that identifiers were kept separate from the attribute data at all times [53]. No one working with the attribute data at UCL could view identifiers used for linkage, and no one working with the identifiable data at NHSE could view the attribute data. Researchers had access only to de-identified, coded information on care proceedings and hospital utilisation for each individual.

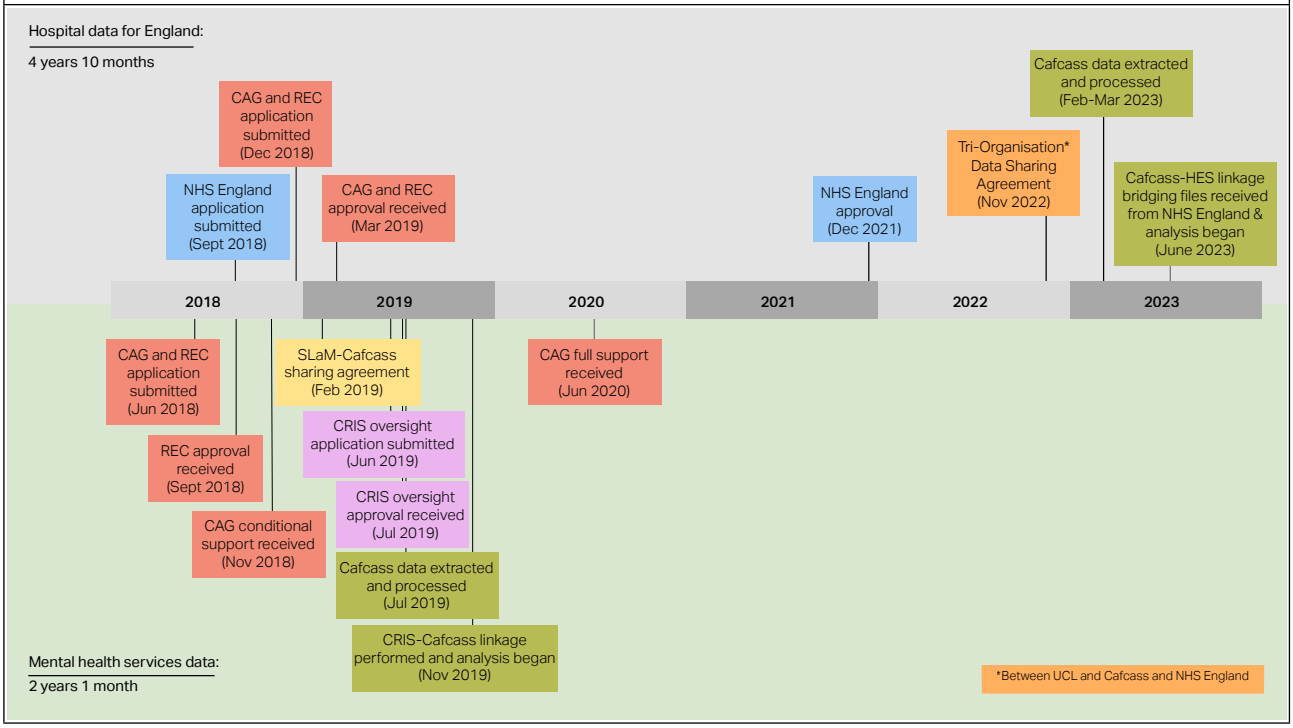
Cafcass securely transferred maternal identifiers (name, date of birth, sex, last three addresses and encrypted study ID) to NHSE for linkage. The linkage was done in two stages. Firstly, to the PDS (using name, date of birth, sex and last three addresses), to extract the NHS number, and then in a second step to the master patient index for all patients recorded in HES (using NHS number). Cafcass identifiers were deleted by NHSE within six months of linkage.

NHSE then provided a linkage file containing the encrypted Cafcass study IDs linked to encrypted HES patient IDs, which are specific for the hospital attribute data held by the UCL study team via secure transfer. The linkage bridging file was used by the research team to link de-identified care proceedings attribute data to de-identified hospital attribute data for mothers. The child's birth admission could be linked using de-identified data shared between the child's birth and mother's delivery records [35].

The time taken (4 years 10 months), including the data permissions, processing, linkage by NHSE and provision of the linkage file to the research team, are summarised in Figure 2.1.

Approvals for the linkage of Cafcass and hospital data were delayed due to this sub-study being the first to ask NHSE to link family court data to health data. NHSE questioned the legal basis for them to process person identifiable data from courts and needed extensive time to review our application and refer it to their legal team. Additional delays occurred during the pandemic when data applications supporting the national effort were prioritised. Finally, further delays were caused after NHSE initially approved the UCL-NHSE data sharing agreement (DSA), as a further DSA was needed between Cafcass and NHSE. While NHSE had a template for this, it needed to be revised to be appropriate for non-health data provided by Cafcass, and to exclude any references to EU law (General Data Protection Regulation, GDPR) as the Brexit transition period ended during the DSA revision period. As both Cafcass' and NHSE's legal teams needed to sign off on the text, this took considerable time.

Figure 2.1: Timeline from start of governance and data applications through linkage of identifiers to access to linked healthcare-family court data for analysis by researchers.



As this study has now evidenced the legal basis, linkage methods and feasibility, future work using linked family court and health data should face fewer hurdles.

2.2.3 Cohort derivation

We created a cohort containing all mothers resident in England with a hospital delivery admission for a live or stillbirth occurring in an NHS maternity unit in England from 1 April 1997 to 31 December 2021. This Delivery Cohort contained records for 8,488,511 mothers (aged 15-50 years) with 14,581,400 deliveries. We linked mothers with care proceedings records between March 2007 and March 2022 into this cohort thereby creating a whole of England cohort containing mothers with and without family court care proceedings. Mothers were excluded from the cohort if they had a delivery before the age of 15 and for data quality reasons [54]. The Delivery Cohort was estimated to contain 92.9% of all births registered in England by the Office for National Statistics (ONS) for the 1998 to 2021 period. The Delivery Cohort was used to assess the proportion and characteristics of mothers in care proceedings records who did not link to delivery record – subsequently referred to as potential missed links.

To assess the risk of care proceedings among all women giving birth, we created a First Live Birth Cohort (FLB) which included mothers who delivered their first child between April 2007 and December 2019 and were therefore eligible to be recorded in a hospital admission record at a child's birth and in the care proceedings data. In total, 3,149,935 mothers in the FLB had 5,445,976 deliveries, averaging 2 per mother (median, interquartile range [IQR]: 1-2, mean:1.73). Mothers who gave birth could be followed up for at least 2 years or to 2021, unless they died, and the median follow up was 8.6 years (IQR: 5.4-11.8 years; range: 0-14.8 years). We used the FLB cohort to assess potential false links, by comparing consistency of information relating to maternal ethnicity, year of birth, age at first child, number of children and region recorded in both care proceedings and healthcare records.

The FLB cohort was used to follow up and compare mothers with and without family court care proceedings from the birth of their first child for up to 10 years using survival analysis to account for the varying length of follow up (see chapters 3-6). In Appendix 3, we detail how the FLB, and subsets of it were used for different analyses, which included restricting years of a first live birth, maternal age and year of first care proceedings.

Identification of health conditions

We used linked hospital admission records to classify women according to their past history of health problems in the 3 years before the birth of their first child. We used the International Statistical Classification of Diseases and Related Health

Problems 10th Revision (ICD-10) diagnosis codes to define categories of health problems (see Appendix 4). In brief, categories of health were defined as:

- Chronic health conditions and disability: We identified chronic health conditions, using the Charlson Comorbidity Index, and physical, sensory and intellectual or developmental disabilities. We created 3 discrete categories of long-term health conditions using a hierarchy; chronic condition (without disability), physical and/or sensory disability (without intellectual disability recorded) and intellectual disability (including mothers with physical or sensory disability).
- Mental health conditions: We identified women with a history of admissions for mental health or behavioural conditions.
- Adversity related admissions (ARA): Unplanned or emergency admissions with codes for drug or alcohol use, self harm or violence, adapted from Herbert et al (2015) [55].

In the next section we report on data exclusions and linkage success to understand biases potentially affecting certain groups.

2.2.4 Linkage results and evaluation

Cafcass care proceedings data contained records for 120,937 mothers involved in section 31 care proceedings for one or more of their children between April 2007 and end-December 2021. After removing duplicates only 112,147 were eligible for linkage of whom 82.8% linked to a hospital maternity admission in HES (n=92,891/112,147).

Mothers from an ethnic minority background recorded as black or other, aged over 40 years at first case, with a first case between 2007-2010 and whose first case was in London or the East of England, were least likely to link to the Delivery Cohort (Figure 2.2).

Figure 2.2: The proportion of mothers involved in care proceedings, with sufficient identifiers for linkage, who matched to a maternity admission record in the Delivery Cohort (match rate)

Possible reasons for mothers not linking to hospital data could relate to either or both datasets. For the Delivery Cohort, reasons for not linking included that the cohort does not capture all registered births in England (92.9%). Around 3% of births were likely missed due to births occurring outside of NHS hospitals (either at home or in a private hospital) and around 166,900 (2.0%) deliveries were excluded from the Delivery Cohort during processing for data quality reasons. For the Cafcass data, reasons for mothers not linking may include errors in information used for linkage, such as spelling mistakes in name or date of birth, or if mothers did not have postcode recorded (8.0%). Furthermore, if mothers involved in care proceedings had their child outside of England they would not be expected to match to the Delivery Cohort.

We evaluated potential false links, in the FLB Cohort, by assessing consistency of ethnic minority background, number of children at case start, age of oldest child at case start, region and maternal year of birth. Missingness for these five variables was low (≤0.5%) for all variables other than ethnicity (where 22.6% of match combinations had ethnicity missing from either data source). Of the 38,462 mothers recorded in Cafcass linked to the FLB Cohort, 74.6% disagreed on no variables. Disagreement was highest for the number of children at case start (17.2%, n=6,608), followed by age at first child (10.7%, n=4,126), ethnic background (4.2%, n=1,634), region (2.7%, n=1,051) and maternal year of birth (1.0%, n=383). This high rate of inconsistency for number of children may be due to some children being included in informal care arrangements prior to care proceedings, inaccurate recording, or inclusion of children born outside England or step-children. Inconsistencies in ethnic background and region could reflect differences in reporting or change of residence between delivery and care proceedings. However, maternal age should be consistent, but could be mis-recorded or represents an upper estimate of 1.0% false matches.

2.2.5 Data availability

HES data was provided within the terms of two data sharing agreements (DARS-NIC-196263-J9Q7Z-v1.4 and DARS-NIC-393510-D6H1D-v9.3) to the researchers at UCL by NHS England. The data do not belong to the authors and may not be shared by the authors, except in aggregate form for publication. The data are provided by patients and collected by the NHS as part of their care and support. Data can be obtained by submitting a data request through the NHS England Data Access Request Service and Cafcass.

2.3 Mental health of mothers in South London (sub-study 2)

2.3.1 Data resource

We used data from family court care proceedings as described for sub-study 1 (section 2.2.1, page 17).

Mental health services data

As mental health services data was not captured in HES for England at the time of our study, we used a hospital-based database in south London, the Clinical Research Interactive Service (CRIS), that was established in 2007 by SLaM [56, 57]. The CRIS database provides data for residents of 4 LAs (Lambeth, Southwark, Lewisham, Croydon) in south London, with a total population of approximately 1.3 million, for which SLAM was the sole provider of talking therapy, secondary and tertiary (specialist) mental health services and substance use services. All clinical records at SLaM have been electronic since April 2006, although the CRIS database has some data prior to this point. We used CRIS data to identify mental health diagnoses and use of mental health services from January 2005 to March 2020.

Mental health data comprise of 'talking therapies' (previously known as Improving Access to Psychological Therapies or IAPTs), secondary and tertiary services, which reflect increasing thresholds for access, and hence increasing severity of mental health problems. IAPT services were introduced in 2008 and can be accessed by a self-referral or referral from a GP or other practitioner [58, 59]. Thresholds are higher for access to secondary and tertiary mental healthcare as referrals need to come from clinicians, such as GPs or specialists, and to be accepted by mental health specialists for outpatient assessment or treatments and for inpatient psychiatric units.

More details of the attribute data contained in the CRIS mental health services database are given in chapter 7.

2.3.2 Data Governance and linkage

Administrative health records are stored in the CRIS system for which SLaM are the data custodians [60]. Permissions and processes to link and use the data were similar to those required for NHSE HES records, with the following differences.

First, linkage between identifiers in Cafcass and mental health data was conducted within the SLaM Clinical Data Linkage Service (CDLS) by staff who had no access to the attribute data file, which was transferred from Cafcass to a separate CRIS secure research environment for analysis.

Second, additional approvals were required by the CAG (ref: 18/ CAG/0112), the NHS REC (ref: 18/ SLaM-family courts SC/0363), the CRIS Oversight Committee of the SLaM data sharing facility (ref: 19-050), and the Cafcass Research Governance Committee. CAG gave conditional approval for linkage in November 2018 (Figure 2.1) but reserved full approval to embed the linked records of mothers involved in care proceedings within a cohort of all women aged 15-50 using mental health services, pending research outputs from the linkage and evidence of ongoing public support. Full support was given in June 2020.

Following approvals, one file containing Cafcass linkage identifiers and an encrypted Cafcass study id was sent to the SLaM CDLS facility to link to NHS identifiers, and a separate file of de-identified attribute data with an encrypted Cafcass study id was sent to the CRIS secure research environment. Following linkage, a linkage bridging file, containing encrypted Cafcass ID and CRIS IDs for matched women was moved to the CRIS secure research environment and a researcher used this file to link the de-identified attribute data from Cafcass to mental health data. The time taken from submission of the CAG application in June 2018 to access to de-identified attribute data in CRIS environment in November 2019 was 18 months (Figure 2.1) with full CAG approval by 2 years 1 month.

Third, identifiers from Cafcass data were linked deterministically to identifiers within CDLS using forename, surname, aliases, date of birth and address postcode history. Linkage included those without a date of birth, in contrast to the NHSE linkage requirements for HES, which required a date of birth.

2.3.3 Cohort derivation

The South London Care Proceedings (SLCP) cohort was comprised of all mothers residing in the four LAs covered by SLaM (Lambeth, Southwark, Lewisham, Croydon), involved in care proceedings and aged 15-50 years are start of care proceedings, whether they linked to a CRIS record or not. Those who linked to a mental health record for a referral or service contact at any time between 2005 and 2020 were considered to have a mental health problem requiring service intervention.

To contextualise findings among mothers involved in care proceedings, we derived an age-matched comparator cohort of women (mother status unknown) from the SLaM database using mental health services but with no record of a care proceeding.

2.3.4 Linkage results and evaluation

Cafcass data identified 3,226 mothers involved in care proceedings (in progress) between April 2007 and March 2019 who were resident in the four LAs served by SLaM. Of these, 66.2% (2,137/3,226) linked to a mental health record in SLaM. Mothers were less likely to link to a SLaM record if they had missing date of birth, were older at index case, of ethnic minority background and if they lived in less deprived neighbourhoods (Appendix 6, Table 1). Higher linkage rates to a SLaM patient record occurred in mothers with more than one care proceedings, at least one child under one year, and at least one child placed in out-of-home care.

A greater proportion of the unlinked mothers had a missing date of birth (32.3% vs 4.2%) making either a missed link and/or duplicate record within care proceedings data more likely. Both these mechanisms could reduce the estimated proportion of mothers involved in care proceedings who linked to mental health services. When we used plausible upper and lower estimates of missed matches to adjust linkage rates, the proportion of mothers involved in care proceedings estimated to have a mental health record during the study period increased to 76.3% (69.6%-83.0%). There was some variation between the four boroughs, with the highest estimated prevalence in Southwark (80.1%, 74.3-85.8), followed by Lambeth (77.8%, 71.6-84.0), Lewisham (75.7%, 68.7-82.6) and Croydon (73.4%, 66.0-80.7).

To assess potential false links, we manually reviewed all coded and text records in 100 random matched records. We found evidence to confirm linkage status for 95 of the 100 records and a lack of evidence to confirm (or contradict) linkage status for the remaining. These findings indicate less than 5% of linked records could be due to false matches.

2.3.5 Data availability

Approval from the NHS Health Research Authority REC and CAG was granted to establish a research database that could be re-used for other projects within the approved remit. The SLaM-family courts database is managed the NIHR Maudsley Biomedical Research Centre and is approved for additional projects. Researchers should contact the CRIS team for further information about data access.

2.4 Data strengths and limitations

The greatest strength of sub-study 1 is the size of the delivery and FLB cohort, estimated to cover 92.9% of all deliveries and representative of all mothers having children in England. By using the FLB cohort, we can follow first time mothers across contemporaneous health and care proceedings data for up to 10 years, or end-2021.

A limitation of the delivery and FLB cohort is the exclusion of mothers who delivered their children outside of an English NHS unit, for example in a private hospital or outside of England. In 2019 it is estimated that 6% of children resident in England were born abroad and the proportion of mothers involved in care proceedings who delivered outside of the NHS in unknown [61].

A further limitation is linkage error, with fewer mothers being matched to a delivery record who were from an ethnic background or were involved in care proceedings in London or the East of England. Missed links are likely to arise due to errors in data used for linkage, such as mis-recording of a name or date of birth, or missing postcode (8.0%).

The greatest strength of sub-study 2 is the quality of mental health and substance use services data available via CRIS. This regional database includes more diagnostic information than the Mental Health Services Dataset collated by NHS England and complete coverage of specialist mental health and substance use services provided by SLaM for four LAs in South London. However, results may not be generalisable to all mothers involved in care proceedings in England, as the risk of involvement in care proceedings in London is lower than elsewhere in England, mothers involved in care proceedings are older and more ethnically diverse than other regions in England, and more children remained in the family home. Additionally, whilst we did not expect all mothers to link to CRIS data, linkage rates to SLaM data were lower for mothers without date of birth or postcode in Cafcass data, the availability of which are lowest in London.

2.5 Key messages

Health of first-time mothers in England

- We created a database linking 82.8% of records for mothers involved in family court care proceeding to hospital records, embedded within a database for 8.2 million mothers giving birth in 1997-2021 in England.
- We derived a cohort of 3.5 million first-time mothers with a first birth between 2007 to 2019, linked to records of 34,025 mothers who had one or more care proceedings during 2-10 years follow up.
- The time from application to access to linked data took nearly 5 years. Delays were contributed to by all parties. Future studies using linked family court and health data should face fewer hurdles now the legal basis for data flows and linkage have been established.
- Mothers living in London or from a minority ethnic background were more likely to be excluded due to missed links relating to suboptimal quality of identifiers within care proceedings data.

Mental health of mothers in south London

- We linked 66.2% of 3,226 women residing within 4 LAs in south London to mental health service records provided by SLAM.
- The mental health-family court database for south London is available for use by other researchers

3. 10-year risk of involvement in family court care proceedings for first-time mothers in England

3.1 Background

Figures published by Cafcass show that each year around 10,000 mothers in England are involved in care proceedings, and over 80% have a care order requiring their child(ren) to be placed into state care (residential or foster care) or into kinship care under state supervision [3, 37]. Care orders are also captured in statistics published by the Department for Education called the Children Looked After (CLA) returns which record children placed into state care under a voluntary agreement (Section 20) or through a family court care proceedings [32, 62, 63].

The Department for Education annual prevalence statistics of the number of children in state care has increased by more than one-fifth (22%) in the last 10 years, to over 83,000 children in 2023, equivalent to 7 per 1,000 children in 2023 younger than 18 years old [3, 31]. This figure is driven by children staying longer in care as well as more children entering care [31]. Of these 83,000 children being looked after in 2023, the legal basis was a Section 31 care order by the family court for 76% of them, a Section 20 voluntary agreements for 19% and placement order for 5% [31].

These annual statistics underestimate the experience of children and parents. First, they measure annual risk, not the lifetime risk for a child of ever being taken into care. Lifetime risk has been estimated to be 3% by 18 years old for children born in 1994 rising to 4% of all children born in 2000. The risk is higher for children from a black ethnic background (11%) and a mixed ethnic background (7%) [64, 65]. In recent years, a majority of children entering care each year are aged over 10, a number of whom are asylum seekers, placed into voluntary care under section 20 [31].

In this chapter we estimate the 10-year risk for a first-time mother being involved in family court care proceedings. Care proceedings account for 32% of all care placements, but we were not able to include other routes to care, such as voluntary section 20 and placement orders, which are usually used for short-term placements. We also missed 31% of all first family court care proceedings that occur to mothers for older children over the age of 10 years (calculated from unlinked care proceedings data).

Our policy aim was to inform preventive interventions by maternity, child health and primary care services for first time mothers during pregnancy, after birth and in the early years [5, 22, 66]. We estimated the ten-year risk of care proceedings after a first birth, overall and according to health and sociodemographic characteristics at a first birth. We calculated the proportion of mothers for whom care proceedings could potentially be avoided if differences in risk of care proceedings for first time mothers aged under 25 was the same risk as mothers aged 25 or more.

3.2 Analytic approach

We followed mothers with a hospital record of a first live birth (FLB) between April 2007 and December 2019, for up to 10 years (median follow up 8.6 years; Appendix 3 FLB cohort). Follow up ended at the first of; start of care proceedings, 10 years (ie the day child turns 10 years old), mothers 51st birthday, death or December 2021. We used Kaplan-Meier survival methods to estimate the cumulative risk of first care proceedings for mothers and plot Kaplan-Meier curves.

We estimated the cumulative risk for all first-time mothers, and in subgroups defined by maternal age, ethnic background, neighbourhood deprivation quintile, health region and indicators of maternal health problems in hospital histories in the three years preceding the first-birth. Health problems were grouped as: any chronic health condition or disability, mental health condition, or adversity-related admission, with subgroups for self-harm, drug or alcohol use, and violence.

To illustrate uncertainty introduced by linkage error, we assessed the impact of non-links (possible missed-matches) between family court and health records on differences in the cumulative incidence between health regions (see Appendix 5). For more information on indicators of maternal health problems see Chapter 2 and Appendix 4.

The population attributable fraction (PAF) describes the percentage of first-time mothers, of any age, in England who would not have experienced care proceedings had first-time mothers younger than 25 years had the same risk of care proceedings as other first-time mothers (ie those aged 25 years or older). The PAF provides an upper limit of potential benefit, which depends on the existence of highly effective and implementable interventions.

We present the unadjusted risk of care proceedings by 10 years after a first birth for mothers aged 25 years or more (unexposed group), and the risk for all first-time mothers (total population). We used the 10-year risk of care proceedings in the total population and the unexposed group, estimated by the Kaplan Meier method, to calculate the PAF using the formula [67]:

$$\frac{\text{Incidence in the total population} - \text{Incidence in the unexposed group}}{\text{Incidence in the total population}}$$

We did not adjust for upstream confounding risk factors, such as low income, poverty, low educational attainment, exposure to violence, as these may also be part of the mechanism (or causal pathway) by which young maternal age leads to care proceedings. In a sensitivity analysis, we present the PAF adjusted for neighbourhood deprivation.

3.3 Results

3.3.1 Estimating risk of care proceedings

The first live birth cohort included 3,149,935 mothers (aged 15-50 years) who had their first live birth between April 2007 and December 2019. Mothers were followed from first birth for up to 10 years and 34,025 mothers were involved in 44,873 care proceedings over that time. We estimated that 1.3% (95% confidence interval (CI]: 1.28-1.31) of mothers would be involved in care proceedings within 10 years of first birth (Figure 3.1).

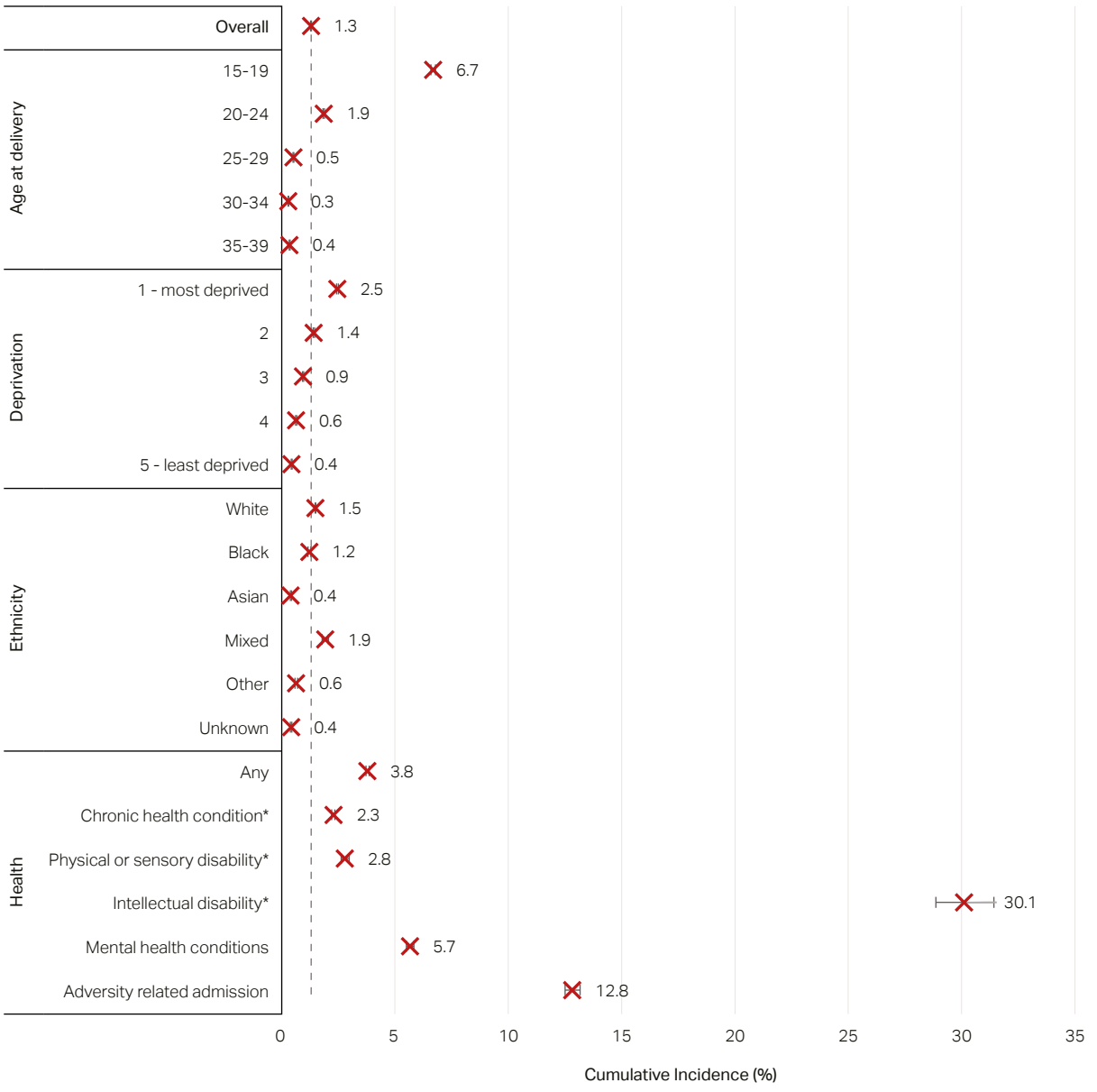
We explored error in this estimate due to missed linked between care proceedings and hospital records (see chapter 2). We re-estimated incidence including unlinked mothers whose family court records indicated a first birth between 2007 and 2019. The estimated incidence of 1.3% increased to 1.7% (confidence intervals: 1.6-1.7), which represents the plausible upper limit of risk of involvement in care proceedings within 10 years.

The youngest first-time mothers and those living in the most deprived neighbourhoods had the highest risk of care proceedings. We estimated that 6.7% (95% CI: 6.6-6.8) of mothers younger than 20 were involved in care proceedings within 10 years which reduced to 1.9% of mothers aged 20-24 years, 0.5% aged 25-29, 0.3% aged 30-34 and 0.4% aged 35-39 years. Mothers who lived in the 40% most deprived neighbourhoods had the highest risk of care proceedings (2.5%), compared to 0.4% in the 20% least deprived neighbourhoods. Kaplan-Meier cumulative incidence curves by maternal age at FLB are presented in Figure 3.2.

Around one in 26 (3.8%) mothers with any health problem recorded in hospital records the 3 years prior to first birth were involved in care proceedings within 10 years, although there were substantial differences between health problems. The rate in women without a health problem was 0.9%. The highest risk was for first-time mothers with a health record indicating intellectual disability, with three in ten (29.8%) involved in care proceedings, followed by adversity related admissions (drug or alcohol use, self harm or violence), one in seven (12.8%) mothers, and mental health conditions, one in 17 (5.7%) mothers.

Cumulative incidence of involvement in care proceedings was estimated by health region (Figure 3.3). A greater proportion of mothers were involved in care proceedings if they lived in the north of England, particularly in the North East, with rates lowest in London, East of England and South East. These findings did not change after adjustment for maternal age. Sensitivity analyses to account for the low match rates between hospital and care proceedings data (see Chapter 2) in London and East of England did not change the findings of the highest rate in the North East and lowest in London (Appendix 5).

Figure 3.1: Cumulative incidence (%) of care proceedings at 10 years after a first live birth, with 95% confidence intervals, between March 2007 and December 2019, and followed up to December 2021, estimated using Kaplan-Meier analysis (n=3,149,935).



*exclusive grouping based using a hierarchy of intellectual, physical and/or sensory disability and chronic condition

The legal outcome from first care proceedings was reported for 91.3% (31,051/34,025) of care proceedings (Appendix 6, Table 2). We created non-overlapping groups that take the most serious outcome for any of the children associated with first care proceedings. Using care proceedings where legal outcome was reported, 81.6% (25,348/31,051) of cases involved a child being removed from the family home and 18.4% (5,703/31,051) remained with their parents. A child was placed with family or friends (known as kinship care) in one-third (32.9%, 10,206/31,051) of cases, for adoption in a quarter (26.7%, 8,301/31,051), and into foster or residential care in one-fifth (22.0%, 6,841/31,051). The relationship between legal outcome is explored in relation to recurrent proceedings in chapter 4, and in relation to mortality in chapter 6.

Figure 3.2: Cumulative incidence (%) curves to show the proportion of mothers involved in care proceedings up to 10 years after a first live birth, between March 2007 and December 2019, and followed up to December 2021, by maternal age group and deprivation, estimated using Kaplan-Meier analysis (n=3,149,935).

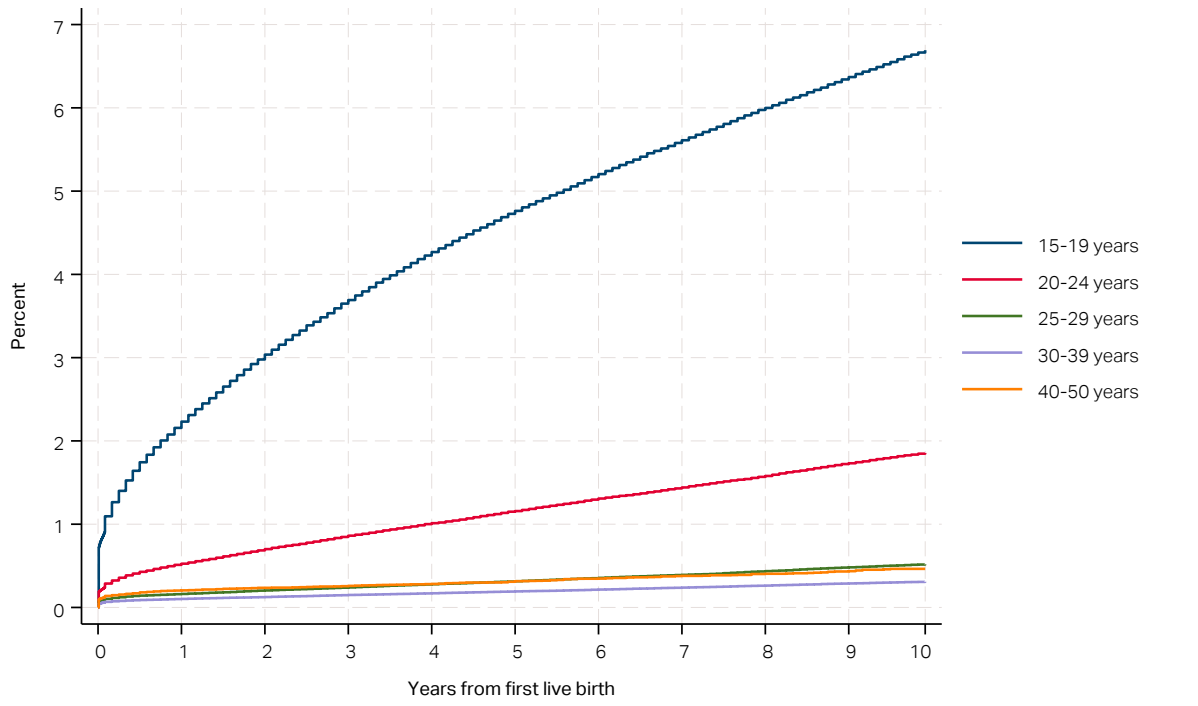
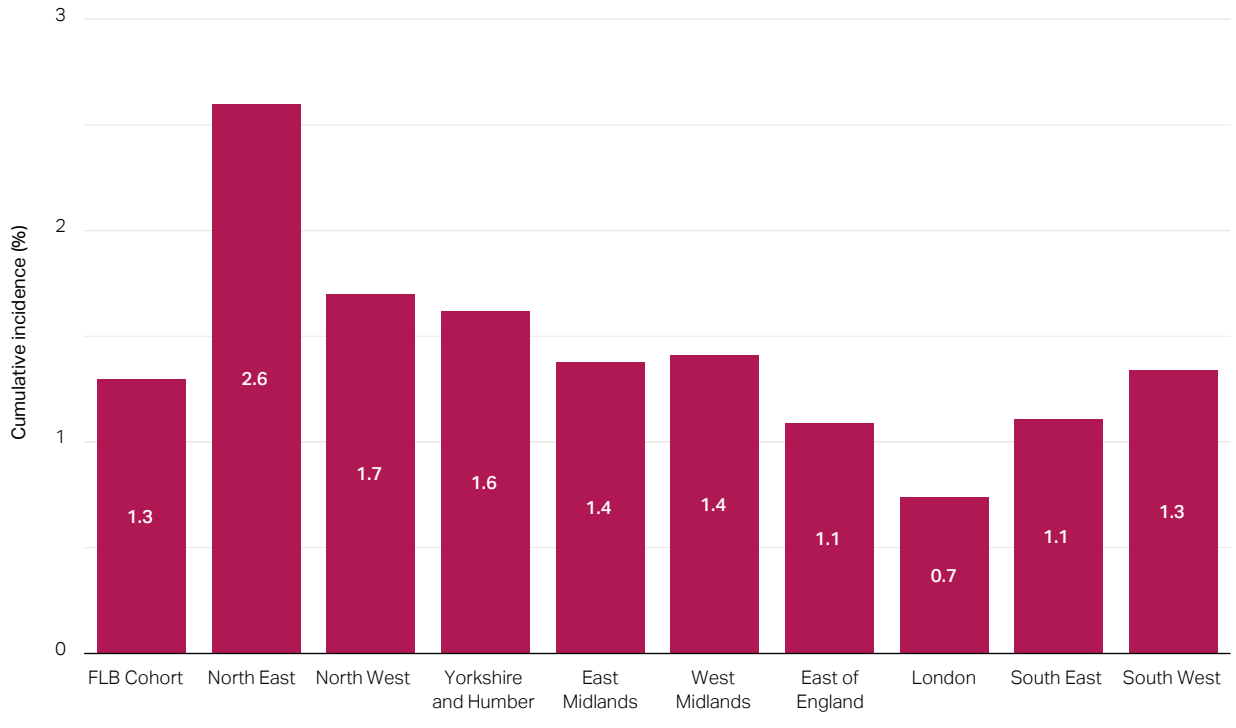


Figure 3.3: Cumulative incidence (%) of care proceedings at 10 years after a first live birth, with 95% confidence intervals, between March 2007 and December 2019, and followed up to December 2021, for all mothers and by region, estimated using Kaplan-Meier analysis (n=3,136,070*).

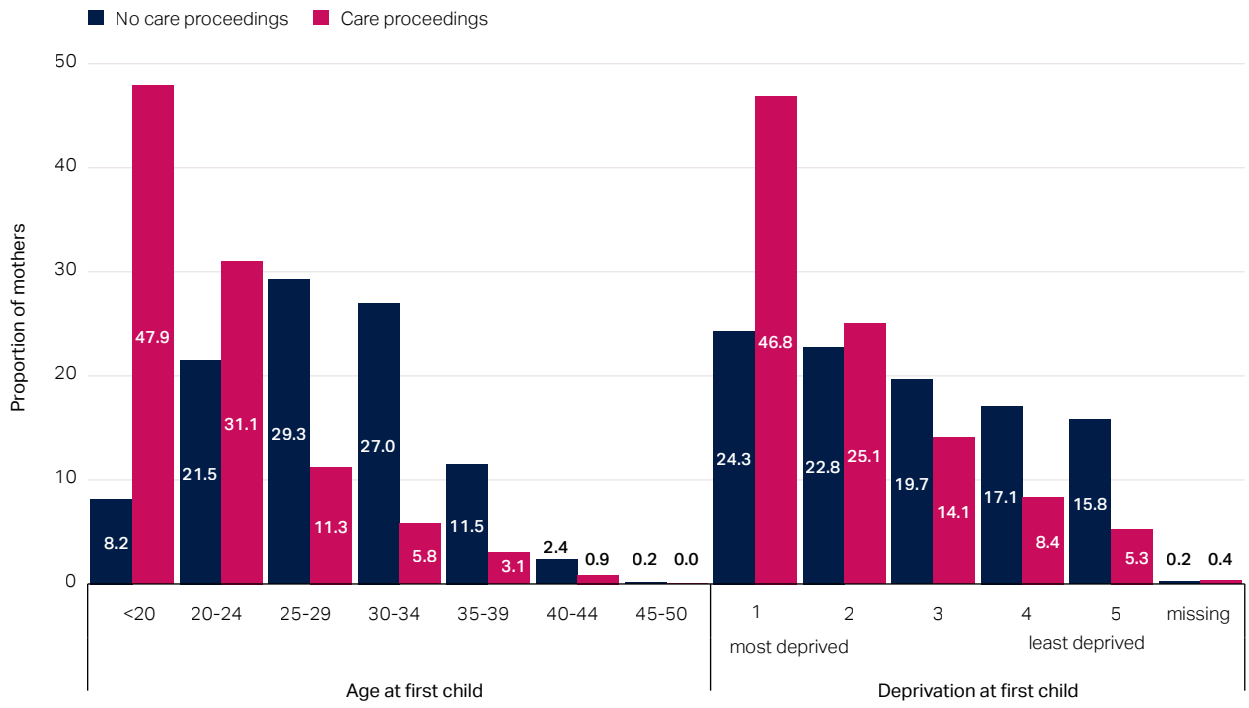


*excluding 13,865 where region of first birth was not known

3.3.2 Social and health characteristics of first-time mothers involved in care proceedings compared with other first-time mothers in England

Mothers involved in care proceedings within 10 years of first child (n=34,025) were younger than mothers who were not involved (n= 3,115,910; Appendix 3, FLB cohort; Figure 3.4, Appendix 6, Table 2). Over three-quarters (78.9%) of mothers involved in care proceedings were younger than 25 years at the birth of their first child, compared to over one-quarter (29.7%) of mothers not involved in care proceedings during follow-up, and almost three-quarters (71.9%) lived in the 40% most deprived neighbourhoods compared to almost half (47.1%) of other mothers.

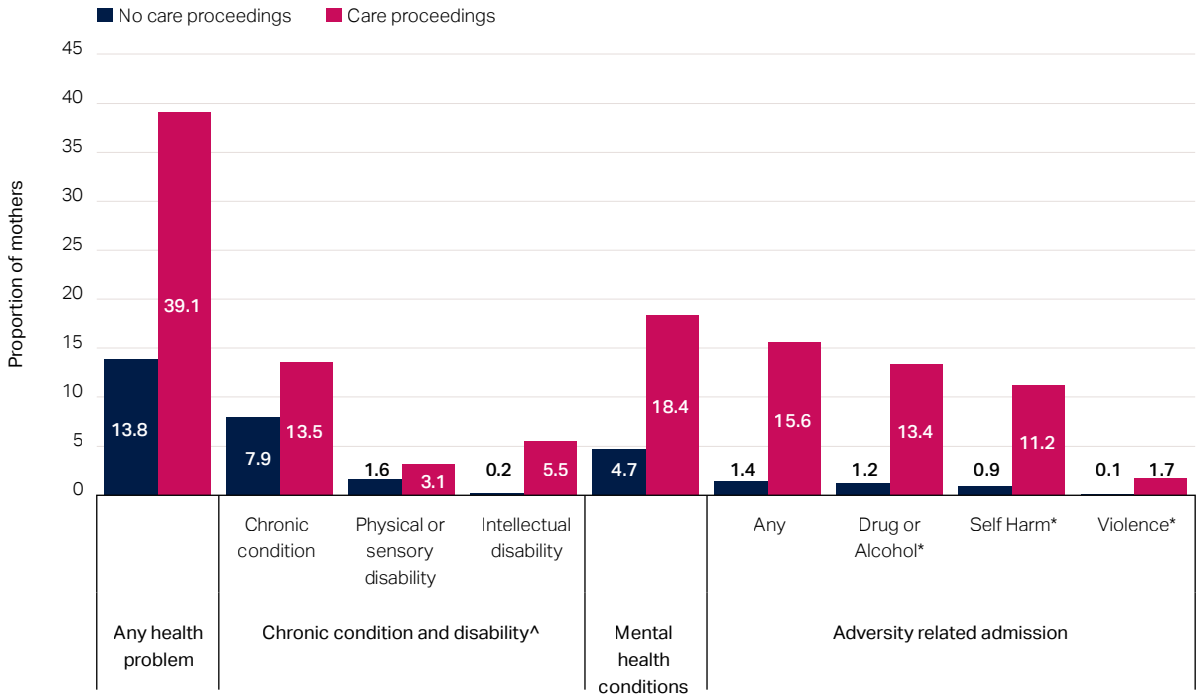
Figure 3.4: Age and deprivation of neighbourhood of mothers (n=3,149,935) at first birth, by involvement in care proceedings, as a proportion of group total.



More first-time mothers who were subsequently involved in care proceedings had a record in the three years prior to their first birth that indicated a health problem (39.1% vs 13.8%) (Figure 3.5; Appendix 6, Table 2). These mothers were more likely to have an intellectual disability reported (5.5% vs 0.2%), a physical or sensory disability (3.1% vs 1.6%) and a chronic health condition (13.5% vs 7.9%). Codes indicating mental health conditions in the three years prior to first birth were reported for 18.4% of mothers involved in care proceedings, compared with 4.7% of other mothers (Figure 3.5).

Mothers involved in care proceedings were far more likely to have had an adversity related admission in the three years prior to first birth (15.6% vs 1.4%), including one-in-seven (13.4 with an admission for drug or alcohol-related reasons, 11.2% for self-harm and 1.7% of violence, compared to 1.2%, 0.9% and 0.1% respectively in mothers not in care proceedings (Appendix 6, Table 2).

Figure 3.5: Proportion of mothers (n=3,149,935) with records indicating a health problem in the 3 years prior to first birth, by involvement in care proceedings.



^ exclusive grouping based using a hierarchy of intellectual, physical and/or sensory disability and chronic condition
* non-exclusive grouping

We calculated the population attributable risk fraction using cumulative incidence of care proceedings within 10 years of a first live birth for the total population of first-time mothers (1.3%) and the risk in first-time mothers aged 25+ (unexposed group, 0.4%). Ten-year cumulative incidence of care proceedings was 3.3% in first-time mothers 15-24 years at first birth ('exposed' group). We calculated that over two-thirds (69.2%) of all care proceedings were attributable to mothers who were 15-24 years old at first birth and could potentially be avoided if interventions could reduce the risk of care proceedings in young mothers to that of older mothers (25+ years). The sensitivity analysis, adjusted for deprivation, slightly attenuated the PAF (67.3%) (Appendix 6, Table 3).

3.4 Key findings

- Within 10 years of a first birth, 1.3% of all mothers in England were involved in family court care proceedings. The cumulative incidence of first care proceedings was highest for mothers with a first birth before age 20 (6.7%) and decreased with increasing maternal age. Where legal outcome was reported (91.3%), four-fifths (81.6%) of first-time mothers involved in care proceedings had a child removed from the family home.

- Variation in linkage quality impacted comparison of the 10-year cumulative risk of care proceedings between regions. However, the risk was consistently highest in the North East, and lowest in London, after accounting for maternal age and linkage error. The ten-year risk of care proceedings was highest (30.1%) for the 0.2% of mothers with a hospital record indicating intellectual disability and the 1.5% of mothers with a history of an adversity-related admission (12.8%). First time mothers who were subsequently involved in care proceedings were more likely than other mothers, to have had a first birth before age 25 (78.9% vs 29.7%), to live in the 40% most deprived neighbourhoods (71.9% vs 47.1%), and to have had a hospital admission record indicating health problems in the three years before their first birth (39.1% vs 13.8%).

- Over two-thirds (69.2%) of first care proceedings were attributable to mothers aged less than 25 years at first birth and could potentially be avoided if these young mothers had the same risk of care proceedings as mothers aged 25 or more.

- These results are consistent with previous population-based studies in Manitoba and Wales, that reported that mothers experiencing care proceedings or child removal were more deprived, younger, and with much higher rates of health problems, such as substance use problems, mental illness, schizophrenia or a developmental disability [5, 6, 8, 12].

4. Birth trajectories

4.1 Background

Recurrent care proceedings are widely recognised to occur in young, vulnerable mothers, often following a new birth. Services, such as Pause, which operates in 35 LAs, provide intensive support to mothers and promote birth spacing [48, 71, 72]. However, less evidence exists about the childbearing life course of all mothers involved in care proceedings, particularly those who have more children without further care proceedings.

In this chapter, we compared birth trajectories for first-time mothers who were subsequently involved in care proceedings with similar age first-time mothers, over 10 years from their first birth. We determined whether mothers involved in care proceedings had more births than their peers.

4.2 Analytic Approach

We restricted the FLB cohort for England to mothers with a first birth in April 2007-December 2011 aged 15-39 years, so that all first-time mothers had 10 years of follow up and older mothers had sufficient reproductive years to have further births, except those who died in over this period (FLB subset 1, Appendix 3). Follow up of 10-years covers the full birth history for 90% of mothers, based on findings from a subset of n=199,649 first-time mothers followed for 14 years from a first birth in 2007, which showed that only 9% of mothers had a birth more than 10 years after their first child.

We compared the median and mean number of births, and proportion of mothers with 1, 2, 3 or 4+ births for all mothers, by involvement in care proceedings and age at first birth.

4.3 Results

In total, 1,239,185 mothers in the FLB cohort had their first birth between 2007 and 2011. Of these, 15,209 (1.2%) were subsequently involved in care proceedings within 10 years. Mothers of all ages had a median of 2 births over 10 years, except those aged 35 years or older at their first birth, who had a median of 1 birth, and those aged 15-19 at first birth in the care proceedings group, who had a median of 3 births (Figure 4.1).

The mean number of births per mother was higher for mothers involved in care proceedings than other mothers, but this difference held only for young mothers. For first-time mothers under 25 years at first birth, mean number of births were higher (15-19: 2.6 vs 2.2; 20-24: 2.3 vs 2.1) (Figure 4.1). For mothers aged 25 or older, the mean number of births was similar for mothers aged 25-29 years at first birth (both 1.9), and lower for older mothers involved in care proceedings (30-34: 1.6 vs 1.7; 35-39: 1.3 vs 1.4).

Figure 4.1: The median (bars) and mean (diamond) number of births over 10 years, by involvement in care proceedings, for all mothers (15-39 years) (n=1,239,185) and maternal age at first birth.

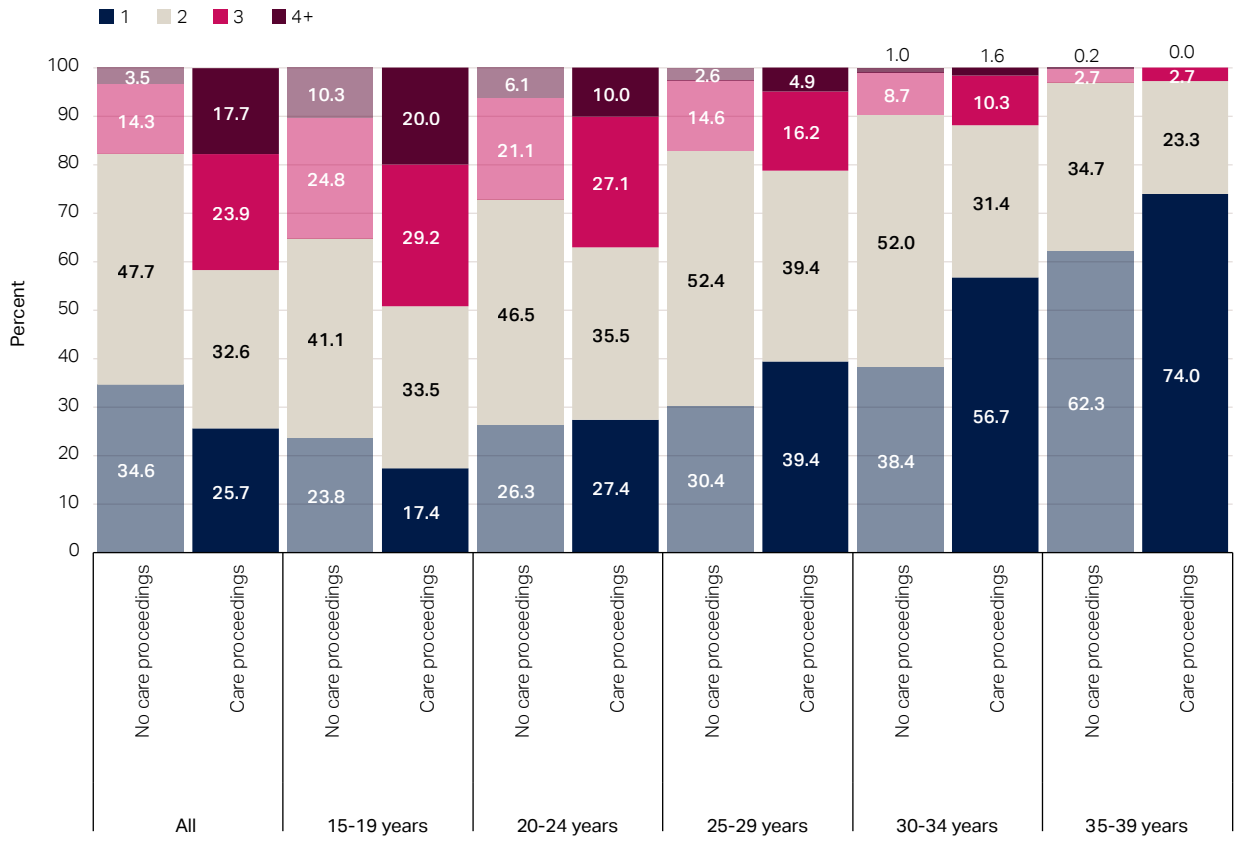
	All	15-19	20-24	25-29	30-34	35-39
No care proceeding	1,223,976	129,673	286,857	351,230	311,945	144,271
Care proceedings	15,209	7,724	4,519	1,601	875	490

* Asterix denotes that mean number of births for mother involved, or not, with care proceedings were significantly different for each age-group.

Overall, 41.6% of all mothers involved in care proceedings had 3 or more births, compared with 17.8% in those with no care proceedings (Figure 4.2). However, this difference was mainly driven by mothers aged 15-19 at first birth, where nearly half (49.2%) in the care proceedings group had 3 or more births compared with just over one-third (35.1%) of or mothers with no care proceedings (Figure 4.2). One in five mothers aged 15-19 in the care proceedings group had 4 or more births compared with one in 10 without care proceedings (10.3%). In all age groups younger than 35 at first birth, the proportion of mothers with 3 or more births was higher for mothers involved in care proceedings than mothers without care proceedings but decreased with older maternal age.

From age 20-24 at first birth, an increasing proportion of mothers involved in care proceedings than their peers had only one birth (20-24 years: 27.4 vs 26.3; 25-29: 39.4 vs 30.4; 30-34: 56.7% vs 38.4%; 35-39 years: 74.0 vs 62.3%).

Figure 4.2: The proportion who had 1, 2, 3 and 4 or more births in 10 years from first birth, by involvement in care proceedings, for all mothers (15-39 years) (n=1,239,185) and grouped by maternal age at first birth.



4.4 Key findings

- Mothers involved in care proceedings had more children on average (mean) than mothers not involved in care proceedings, but this difference was driven by young mothers (<25 years), more of whom had 3 or more births. The mean number of children for mothers over 25 was the same or lower among mothers involved in care proceedings compared with other mothers, due in part to an increasing proportion of older mothers having only one child.
- Most (58.3%) mothers involved in care proceedings group had 2 or fewer births during the 10-year follow up.

5. Recurrent family court care proceedings

5.1 Background

Evidence on which groups of mothers are at high or low risk of recurrent care proceedings can guide the type, timing and intensity of health and social care support for mothers before and after a first care proceeding. Previous studies have reported that one-quarter (26.4%) of all mothers involved in care proceedings have a subsequent case within 8 years for the same or new child(ren) [4, 37]. The majority (80%) of subsequent cases involved at least one new child, often with a short interval between first case and start of the next pregnancy [4].

Translation of this evidence into practice for health, social care and family court services faces two challenges. First, studies based only on family court records cannot follow mothers and children who are not involved in recurrent care proceedings, because new births are captured only for mothers who return to court. Services need to know which groups of mothers have no further children, or parent subsequent children without a recurrent care proceeding. This requires linkage to healthcare data that record maternities.

A second challenge arises because previous studies have not followed up mothers from their first birth and hence, first care proceeding, to determine the order and timing of what happens next: new pregnancy followed by second proceeding or not, or a second proceeding followed by a new birth or not. Better understanding of the characteristics of mothers following these different pathways towards or away from further care proceedings, is relevant to target interventions from healthcare, social care and family court practitioners.

We addressed these challenges by following all first-time mothers through their first care proceedings and each birth recorded in NHS healthcare records in England. We addressed the following questions:

1. What is the risk of second care proceedings within 8 years of the first care proceedings, overall and according to maternal characteristics?

2. What proportion of mothers have a second care proceeding, another child but no second care proceeding, and no subsequent child or care proceeding?

3. What comes next? For mothers with a new pregnancy after first care proceedings, what proportion have a second care proceedings within 8 years?

4. For mothers (in 3) with a new pregnancy, how does the risk of a second care proceedings change with increasing time since start of the new pregnancy

5.2 Analytic Approach

We addressed (1) by following first-time mothers involved in family court care proceedings from the start of first care proceedings to the first of: start of second care proceedings, 8 years, 51st birthday, death or December 2021 (FLB subset 2, Appendix 3). All women were followed for at least 2 years, unless they died within 2 years. Like Broadhurst et al (2017), the second care proceedings could be initiated prior to the conclusion of the first care proceedings [35]. Broadhurst found this overlap in timing of care proceedings occurred in one-quarter (25%) of second care proceedings. We used Kaplan-Meier methods to estimate the cumulative risk of a second care proceedings within 2, 5 and 8 years from first care proceedings, and for subgroups characterised by maternal age at first birth, neighbourhood deprivation, and court order at first care proceeding.

We addressed questions (2) and (3) by following a subset of mothers aged 15-39 years, from their first care proceedings between 2007 and 2013. All mothers were followed for 8 years, with mothers who died excluded (n=9,969, FLB subset 3, Appendix 3).

For question (2), we categorised mothers into three groups: i) second care proceeding, ii) subsequent pregnancy but no second care proceeding; iii) no subsequent pregnancy or second care proceeding within 8 years. A subsequent pregnancy was identified using delivery records. Conception was estimated by subtracting gestational age at birth, or 39 weeks if missing, from date of delivery. Conception had to be after the start date of first care proceedings and within 8 years. Date of conception was used instead of date of delivery, as over a third (36%) of second care proceedings started before the delivery date of the next child.

We addressed question (3) by following mothers who started a new pregnancy first, to assess what proportion had second care proceedings.

To address question (4), we used a subset of mothers with a new pregnancy within 6 years of first care proceedings (n=4,894, FLB subset 4, Appendix 3). We used Kaplan-Meier analysis to estimate the proportion of mothers with second care proceedings within 2 years of conception of a new pregnancy according to time between start of first care proceedings and start of a new pregnancy.

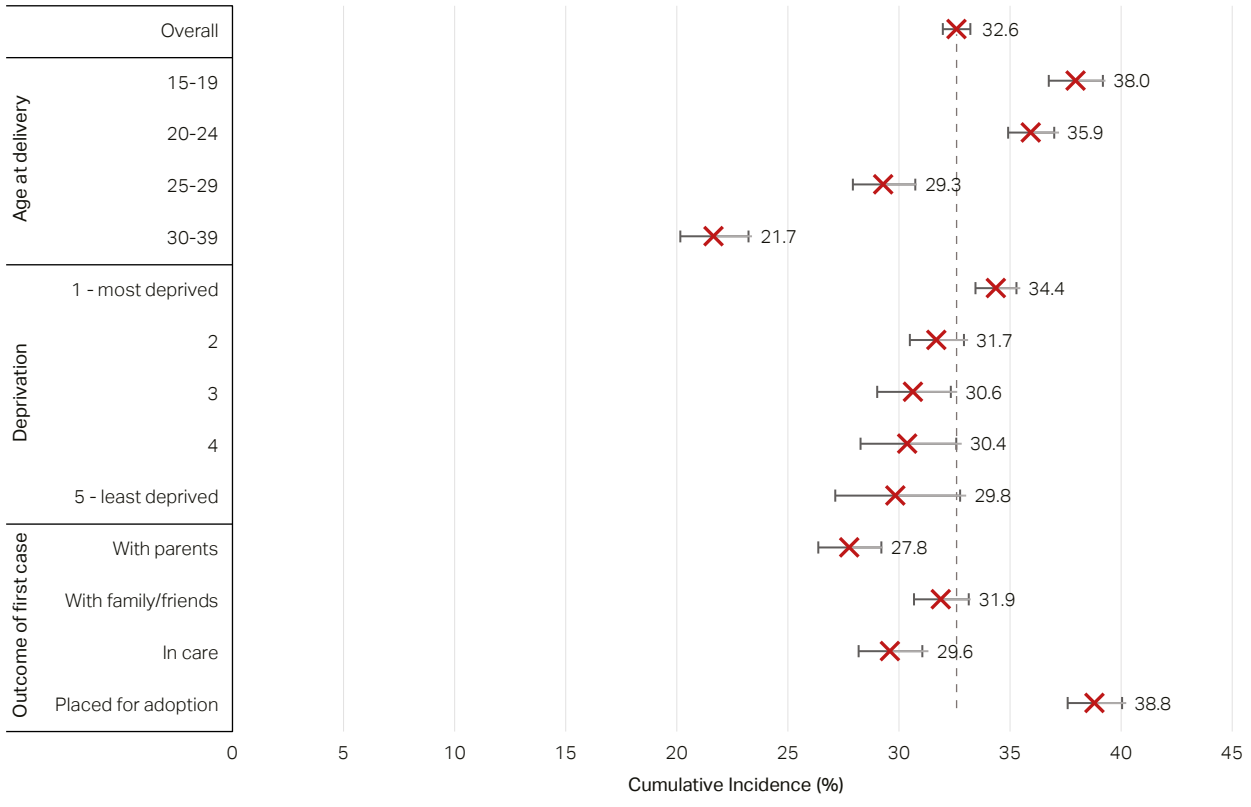
5.3 Results

5.3.1 Risk of second care proceedings

Of the 29,824 first-time mothers followed up to 8 years from their first care proceedings (median: 4.6 years, IQR: 2.6-7.5), just over one-quarter 27.7% 8,275/29,824) had a second care proceeding (Appendix 6, Table 3).

Using Kaplan-Meier analysis to account for different follow up time, we estimated that 15.2% (95%CI: 14.8-15.7) of all mothers in the cohort had recurrent care proceedings within 2 years, 26.7% (95%CI: 26.2-27.2) within 5 years and 32.6% (95%CI: 32.0-33.2) within 8 years of first care proceedings. The one-third estimate of second care proceedings within 8 years is higher than previous reports of 26.4% within 8 years of follow up based on care proceedings data alone [4]. We found a higher rate in our study because our cohort included more young mothers, with young children, who have higher rates of recurrent care proceedings. Previous estimates used data on mothers with any children aged 0-18 years at first care proceedings within the follow up period, and included families where the eldest child was 18 in contrast to 10 years in our cohort [4, 37]. Additionally, we found higher match rates to health data among mothers with more than one care proceedings (see Chapter 2). The proportion of mothers with second care proceedings reduced as maternal age at first care proceedings increased (38.0% if 15-19 years vs 11.7% if 40-50 years) and declined with level of neighbourhood deprivation at first birth (Figure 5.1). More mothers whose child was placed for adoption had a second care proceeding (38.8%) than for other court orders. Although mothers whose child remained in the family home were less likely to have second care proceedings, the proportion with second care proceedings was still over one-quarter (27.8%).

Figure 5.1: Cumulative incidence of second care proceedings at 8 years from start of first care proceedings, estimated using Kaplan-Meier analysis (n=29,824).



5.3.2 Timing of new pregnancy and second care proceedings

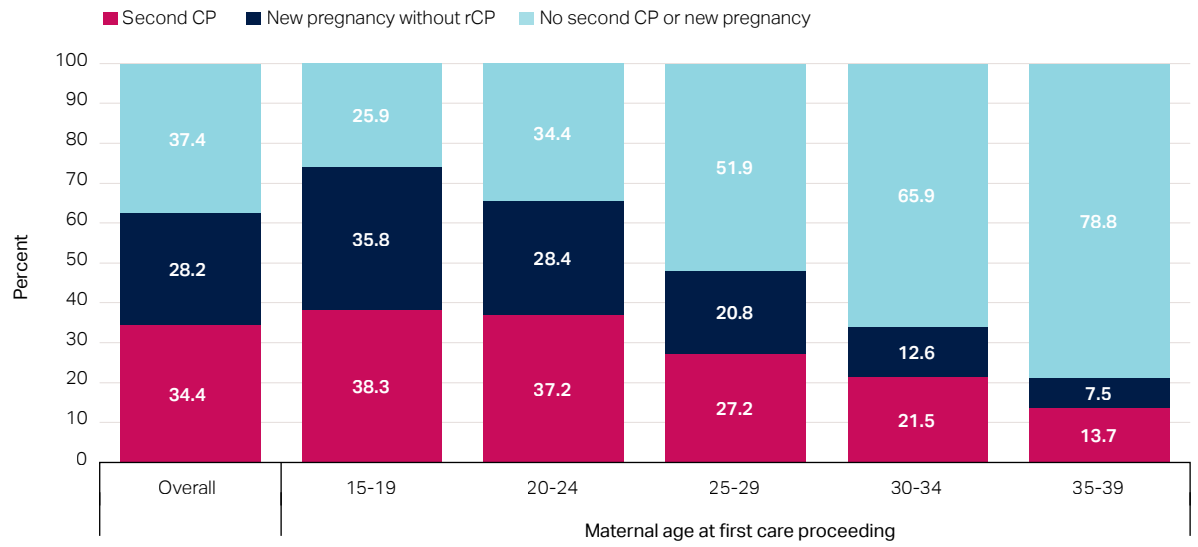
We followed the subset of 9,969 mothers with first care proceedings between 2007 and 2013 for 8 years (FLB subset 3, Appendix 3). Over three-quarters (78.6%, 7,832/9,969) of mothers had only one child at the start of their first case.

What proportions of mothers with a first care proceeding had a second care proceeding, another child but no second care proceeding, or no subsequent child or care proceeding?

Over one-third (34.4%; 3,425/9,969; Figure 5.2: pink) of mothers had a second care proceeding within 8 years of their first care proceeding. More than one-quarter (28.2%; 2,815/9,969; Figure 5.2: dark blue) had a new pregnancy without a second care proceedings. Over one-third of mothers 37.4% (3,729/9,969, Figure 5.2: light blue) had no new pregnancy or second care proceedings within 8 years.

The proportion of mothers with no new pregnancy or second care proceeding increased with maternal age at first care proceedings as the proportions with a second care proceedings, or new child with no second care proceedings reduced.

Figure 5.2: The proportion (%) of mothers who had a new pregnancy or second care proceedings within 8 years of first care proceedings, for all mothers (n=9,969) and by age at first care proceedings.



For mothers with a new pregnancy after first care proceedings, what proportion have a second care proceedings within 8 years?

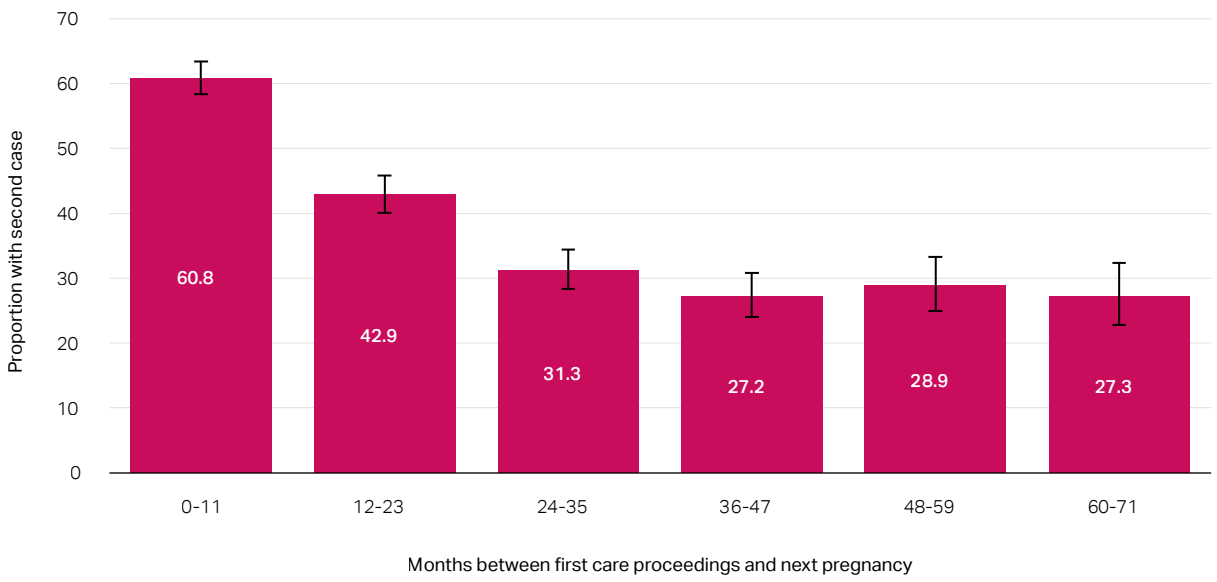
A new birth was a major risk factor for second care proceedings. More than one half of mothers had a new pregnancy after first care proceedings (53.9%, n=5,370) and nearly half of these (47.6%, 2,555/5,370) went on to have a second care proceeding. Among mothers with a new pregnancy, the proportion with second care proceedings was similar for each maternal age group at first care proceedings.

The median time to next pregnancy was 1.3 years (IQR: 0.6-2.7) for mothers who had a new pregnancy before a second care proceedings and 2.9 years (IQR: 1.6-4.7) for mothers who had a new pregnancy but did not return to court.

How does the risk of a second care proceedings change with increasing time since start of the new pregnancy?

We analysed 4,894 mothers with a new pregnancy within 6 years (<72 months) of start of first care proceedings (Figure 5.3; FLB subset 4, Appendix 3). Two-fifths (41.7%, 2,039/4,894) had a second care proceeding within two years of the start of the new pregnancy. If the new pregnancy started between 0 and 11 months after first care proceedings, 60.8% (95%CI: 58.3-63.4) of mothers had a second case initiated within 2 years of conception, but this reduced to 31.3% (95%CI: 28.3-34.4) of mothers if the new pregnancy started 24-35 months after first care proceedings.

Figure 5.3: Proportion (%) of mothers with a second care proceedings at 2 years from start of a new pregnancy, according to months between first care proceedings and start of new pregnancy, estimated using Kaplan-Meier analysis (n=4,894).



Months	0-11	12-23	24-35	36-47	48-59	60-71
N=4,894	1,422	1,136	883	665	454	334

5.4 Key findings

- Within 8 years of first care proceedings, one-third (32.6%) of mothers had second care proceedings initiated. The risk of second care proceedings was highest for young (<25) mothers, living in the most deprived neighbourhoods and with a child placed for adoption.
- For mothers followed for 8 years from their first care proceeding, one third (34.4%) had a second care proceeding, over one quarter (28.2%) had a new child and no second care proceedings and over one-third (37.4%) had no further children or care proceedings.
- A new birth was a major risk factor for second care proceedings. In the one half of mothers (53.9%) who had a new pregnancy following first care proceedings, nearly one-half (47.6%), had second care proceedings.
- As the period between the first care proceedings and next pregnancy increased, mothers were less likely to have a second care proceedings initiated.

6. Risk of mortality

6.1 Background

There is limited evidence in England on the mortality of mothers involved in care proceedings. However, studies using linked administrative data in Canada and Sweden report increased mortality of mothers whose children were taken into care [11, 14, 15]. In Manitoba, Canada the all-cause mortality rate was 3.2 times higher than matched sibling controls, and in Sweden 3.3 times higher than age matched controls, with increased rates of suicide compared to controls. Increased mortality among mothers involved in care proceedings is associated with deprivation, substance use, serious mental health problems and exposure to domestic and neighbourhood violence. For example, parallel studies in England and Ontario found that 1 in 20 mothers of children born with neonatal abstinence syndrome, due to maternal opioid use in pregnancy, died within 10 years of delivery, 10 to 12 times the rate of similar age mothers without opioid use [73]. The stress of court proceedings and removal of children from the family home may also contribute to mortality, through poorer health, potentially compounded by the removal of supportive services after child removal.

In this chapter we describe differences in the risk of mortality, overall and due to preventable causes, among mothers involved in, compared with those not involved in, care proceedings.

6.2 Analytic Approach

Deaths of mothers in the FLB cohort were identified using death registrations linked to hospital records or from an inpatient admission where mothers had death recorded as their discharge method. If mothers had an admission recorded after death then information on mortality was discarded as it was likely due to mis-recording or a false link. There may be a delay in registering deaths if they involve a coroner inquest, around 1% of deaths are registered over 1 year after occurrence [74].

6.2.1 10-year risk and cause of death from first birth

We used a subset of the FLB cohort to compare mortality in mothers involved in care proceedings (n=28,406) and other mothers (n=2,385,217), and to assess cause of death (FLB subset 5, Appendix 3). First-time mothers aged 15-39 years at first birth (April 2007 to December 2017) were followed to the first of; 10 years, 31st December 2019 or death.

We used Kaplan-Meier survival analysis to estimate 10-year cumulative mortality, i.e. the proportion of mothers who died within 10 years of their first birth. Ten-year cumulative mortality was calculated by 5-year age band and mortality rates were compared using a Poisson regression model, adjusted for age-group. The mortality rate ratio was also calculated for each 5-year age band.

To assess cause of death, we used underlying cause of death on the death registration record, coded using ICD-10. We identified deaths due to adversity and injury, made up of the following non-overlapping categories; suicide, drug-related, alcohol-related, homicide, other injury (excluding where in previous categories), and other medical problems. Where deaths could be coded as suicide and drug or alcohol related, they were preferentially coded as suicide. Information on the ICD-10 codes used to classify cause of death are available in Appendix 4.

6.2.2 Risk of death after care proceedings

We assessed the risk of death after the start of the first care proceedings for mothers aged 15-39 years at start of care proceedings (n=29,040, FLB subset 6, Appendix 3). Mothers were followed from their first care proceedings (April 2007-December 2017) to the first of; 8 years, December 2019, 51st birthday or death.

Kaplan-Meier survival analysis was used to estimate 8-year cumulative mortality, by maternal and case characteristics. As cumulative mortality differed substantially by maternal age at care proceedings, age-standardised mortality rates, standardised to the age profile of all mothers involved in care proceedings, were used to explore differences by region. A Poisson regression model, adjusted for maternal age at first care proceedings, was used to assess differences in mortality according to deprivation, legal outcome and region of first care proceedings.

6.3 Results

6.3.1 10-year risk and cause of death from first birth

We compared 10-year risk of mortality in mothers with (n=28,406) and without care proceedings (n=2,385,217). Mothers were followed from first birth for up to 10 years (median: 8.1 years, IQR: 5.6-10).

There were 289 deaths of mothers involved in care proceedings and 4,500 deaths of mothers with no care proceedings.

The 10-year risk of death was estimated using Kaplan-Meier survival analysis, to take account of the different lengths of follow up in the cohort. We estimated that 1.56% (95% CI: 1.38-1.76) of mothers involved in care proceedings will have died by the time their eldest child is 10 years old (Table 6.1), whereas this risk was 0.27% (95%CI: 0.26-0.28) for mothers without care proceedings. When adjusted for maternal age at first child, mothers involved in care proceedings had a death rate 7.0 (95% CI: 6.3-7.8) times higher than other mothers.

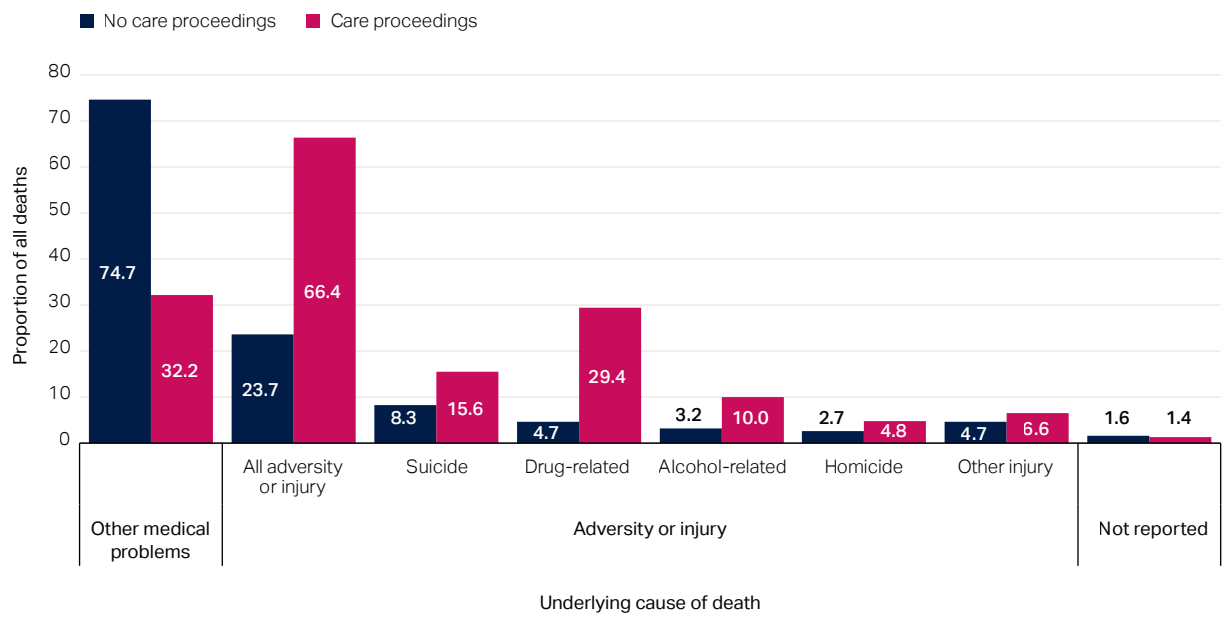
Table 6.1: Cumulative mortality (%) at 10 years from first birth (n=2,413,623), by 5-year age band and involvement in care proceedings, estimated using Kaplan-Meier analysis, and Mortality Rate Ratio (MRR), calculated using Poisson regression.

	No care proceedings		Care proceedings		Mortality Rate Ratio	
	10-year	95% CI	10-year	95% CI	MRR	95% CI
15-19	0.24	0.21-0.26	0.67	0.51-0.87	2.7	2.1-3.4
20-24	0.21	0.20-0.23	1.37	1.08-1.75	6.4	5.2-7.8
25-29	0.23	0.22-0.25	3.83	3.00-4.88	16.0	13.0-19.7
30-34	0.29	0.27-0.31	3.99	2.94-5.40	16.2	12.6-20.9
35-39	0.48	0.45-0.52	5.38	3.73-7.71	10.6	7.6-14.7
Overall	0.27	0.26-0.28	1.56	1.38-1.76	7.0*	6.3-7.8

* adjusted for 5-year age bands

Among mothers involved in care proceedings, two-thirds (66.4%) of all deaths were due to adversity or injury (suicide, drug, alcohol, homicide or other injury) (Figure 6.2). In contrast, among mothers not involved in care proceedings, three-quarters (74.7%) of deaths were due to other medical problems, 61.5% (2,066/3,362) of which were due to neoplasms.

Figure 6.1: Proportion of deaths due to adversity or injury and other medical problems among mothers (n=4,789) who died within 10 years of a first birth, by involvement in care proceedings and based on underlying cause of death.



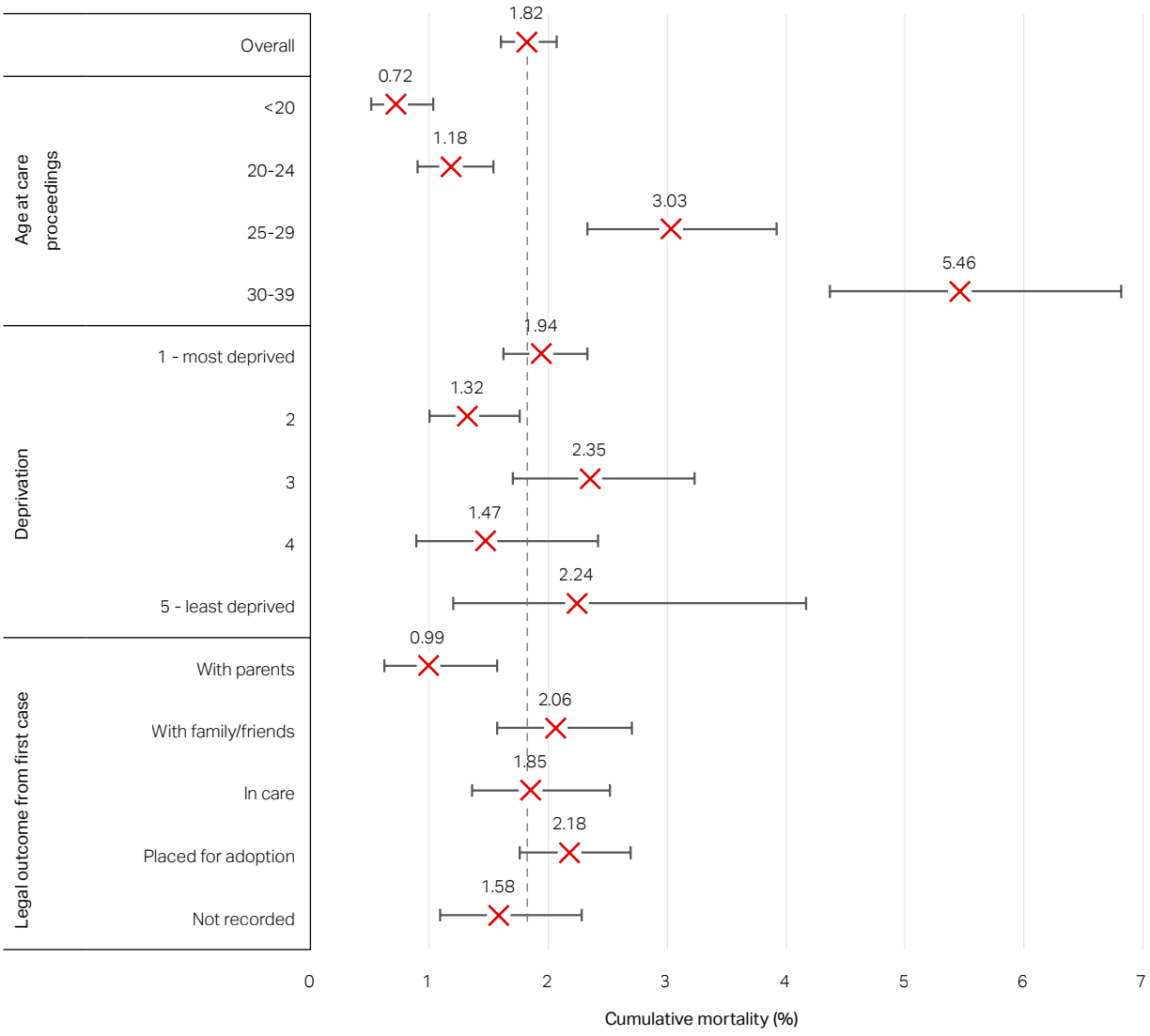
Over 6 times more deaths were due to drug-related causes in mothers involved in care proceedings (29.4% vs 4.7%), over 3 times more for alcohol-related deaths (10.0% vs 3.2%), over 1.8 times more due to suicide (15.6% vs 8.3%) and almost 1.8 times as many due to homicide (4.8% vs 2.7%).

6.3.2 Risk of death after care proceedings

We followed 18,835 mothers from their first care proceedings between 2007 and 2017 for up to 8 years (median: 6.2 years, IQR: 4.3-7.9 years). Overall, 257 mothers died over this period.

We estimated that 1.82% (1.60-2.07%) of mothers will have died within 8 years of their first care proceedings. Older mothers had the highest mortality, with 1 in 18 (5.46%) aged 30-39 years at first case expected to die within 8 years (Figure 6.3). There was little difference in estimated mortality by deprivation.

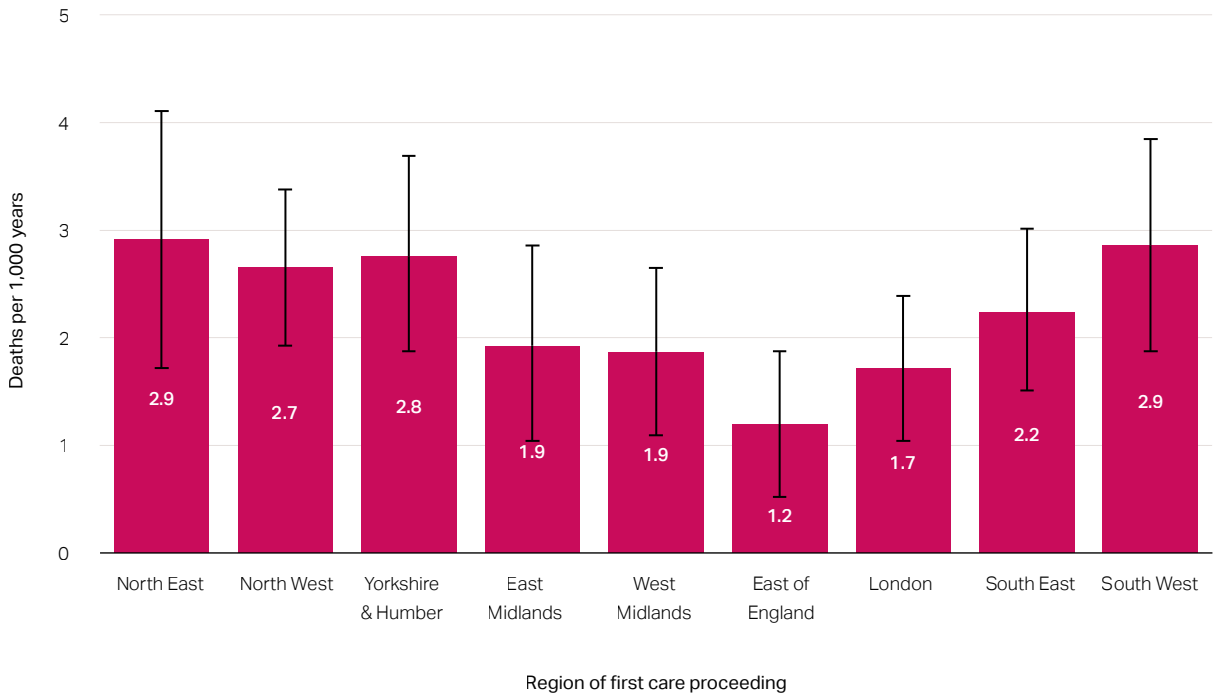
Figure 6.2: Cumulative mortality (%) at 8 years from first care proceedings in England by maternal age at start of first care proceedings, neighbourhood deprivation and court order from first care proceedings, estimated using Kaplan-Meier analysis (n=18,835).



Estimated mortality at 8 years was higher for mothers where at least 1 child was removed from the family home during the first care proceedings: 2.18% of mothers were estimated to have died within 8 years if their child(ren) were placed for adoption, 2.06% if placed with family or friends, and 1.85% if placed in foster or residential care, and 0.99% where the child(ren) remained with parents. These differences in mortality rates were confirmed using Poisson regression, adjusted for maternal age.

Using age-standardised mortality rates, we found that mortality rates were highest in the North East and South West (both 2.9 per 1,000 years) and lowest in the East of England (1.2 per 1,000 years), although these differences were not statistically significant (Figure 6.3).

Figure 6.3: Age standardised* mortality rate (per 1,000 years of follow-up) by region of first case (n=18,780^).



*to age structure of mothers involved in care proceedings
^ Region of first care proceedings unknown for 55 of 18,835, and excluded from analysis

6.4 Key findings

- Within 10 years of their first birth, mothers involved in care proceedings were 7.0 times more likely to die than mothers not involved in care proceedings. One in 62 (1.56%) mothers with care proceedings died compared to one in 357 (0.27%) without care proceedings.

- Two-thirds (66.4%) of deaths in the care proceedings group were caused by adversity or injury (drug or alcohol, suicide, homicide or injury) compared with one-quarter (23.7%) of the no proceedings group.

- One in 55 (1.82%) mothers died within 8 years of their first care proceedings.

7. Mental health and substance use services in South London

7.1 Background

We conducted a separate linkage between family care proceedings data and mental health services data in south London, as mental health services data were not research ready for England at the time of the study. The hospital data used for analyses in chapters 3-6 contains mental health-related presentations to acute hospital services but not mental health outpatient or inpatient services.

There is strong evidence from population-based studies that mothers involved in public law family court care proceedings have a higher prevalence than other mothers of mental health problems and that their problems are more severe [5, 6, 8, 12]. A study of mothers involved in care proceedings in Wales reported that over three-quarters had a mental health contact recorded in general practice or hospital records in the two years before birth, far more frequently than among matched control mothers not involved in care proceedings (38%), and one-fifth had records indicating substance use (21.5% vs 1.0% of controls) [6, 8]. A series of qualitative studies of mothers involved in care proceedings provides strong evidence of serious mental health problems and challenges in accessing continuing care, particularly after child removal [4, 9, 17, 18, 75].

These high rates of mental health service use contrast with recent national studies of all mothers before or after childbirth. Maternal mental health problems were recorded in GP or linked hospital records during the first 1,000 days of life for nearly one-quarter of mother-child pairs [25]. A recent study of all hospital data for mothers giving birth in the English NHS unit in England linked to mental health services data, reported that 9.0% of mothers had used secondary or tertiary mental health services in the 10 years before birth [27]. These figures represent mothers with serious mental health problems that exceed thresholds for management by general practice or the IAPT (talking therapies) service.

In this chapter we report on the characteristics of mothers involved in care proceedings in south London who used mental health and substance use services provided by SLaM between 2005 and 2020. Analyses of the SLaM database were completed in 2021 and results are published [43-45]. Details of linkage between care proceedings and mental health services data are described in Chapter 2 (Section 2.3).

We report findings related to the following questions.

1. What are the characteristics of mental health service use among mothers involved in care proceedings compared with other women using services?

2. What is the risk of death for these two groups?

3. What are the patterns of mental health service access and continuity of use before and after start of care proceedings?

7.2 Analytic Approach

The SLaM-family courts database included 3,226 mothers involved in family court care proceedings (1st April 2007 to 31 March 2019) who were resident in south London (Lambeth, Southwark, Lewisham, Croydon; see SLCP cohort in Appendix 3). Two-thirds of mothers involved in care proceedings had a SLaM mental health record during this period (66.2%; 2,137/3,226).

We derived a comparator group of women who used SLaM services but who were not involved in care proceedings, the Matched Controls Cohort, from an open cohort of all women aged 16-55 years using SLaM services between April 2007 and 31 March 2019 and residing in the same four LAs (n=155,889). We randomly selected women matched at a ratio of 8:1 with mothers in the care proceedings group, on the calendar year of first SLaM contact and the type of service (IAPT or secondary/tertiary care from 2007-2019). This process resulted in a matched-control group of 17,096 women. Mothers involved in care proceedings were younger at first SLaM contact (28.2 vs 30.7 years) and a higher proportion were from a Black or mixed ethnic background (black; 32.8% vs 22.1%, mixed; 7.0% vs 4.8%).

For research question one, we described the prevalence of mental health and substance use problems among all mothers involved in care proceedings in south London (n=3,226) (SLCP Cohort, Appendix 3). Next, we compared mental health service use and diagnoses among mothers involved in care proceedings who linked to a SLaM record (n=2,167, SLCP subset 1, Appendix 3) and the Matched Controls (n=17,096, Matched Controls Cohort, Appendix 3). The observation period for mental health service use and diagnoses for these analyses was January 2005 to March 2020.

We determined the mortality risk (question 2) for both cohorts, by calculating expected mortality rates within 10 years from first SLaM contact. We corrected for immortal time bias and we report predicted ten-year mortality holding age constant at the 50th centile of age (28 years) at first SLaM contact in the care proceedings cohort (see Pearson, 2021 for details) [43].

To address research question three, we explored patterns of SLaM service use in the two years before and one year after care proceedings. For these analyses, we restricted the cohort to mothers with a first care proceeding between April 2009 and March 2019, to capture implementation of IAPT services across the 4 LAs (n=1,709; SLCP subset 2, Appendix 3). Latent class analysis of the number of days women had contact with SLaM outpatient attendance or inpatient bed day by quarter was used to define distinct patterns of service use.

7.2.1 Measures of mental health service use and mental health conditions

SLaM service use was categorised into four types of activity: 1) referrals (accepted and rejected), 2) outpatient appointments (planned and attended), 3) inpatient admissions and 4) being sectioned under the mental health act. Referrals and outpatient appointments were further categorised by whether the SLaM service was talking therapies (IAPT).

We derived measures of engagement with services, including rejected referrals, discharged due to 'failure to engage' (i.e., persistent non-attendance or poor engagement with the service) and the proportion of outpatient appointments over the observation window that were missed due to non-attendance, attending too late to be seen, or patient cancellation.

Mental health conditions were identified using ICD-10 codes and structured text fields. Natural language processing applications, developed by the NIHR Maudsley Biomedical Research Centre, were used to extract diagnoses from structured text fields. Serious mental illness was defined as a diagnosis of schizophrenia, schizotypal, delusions or bipolar disorder [76].

Women were recorded as having substance use problems if they had a substance use related disorder (F10-19, excl 17) or accessed any SLaM substance use services (excluding services for smoking), and an intellectual disability if they have a related ICD-10 code or accessed any SLaM service for people with intellectual disabilities. Women were recorded as having a dual-diagnosis if they had a mental health condition (excluding drug and alcohol associated diagnoses) and substance use.

7.3 Results

7.3.1 What are the characteristics of mental health service use among mothers involved in care proceedings and matched controls using services?

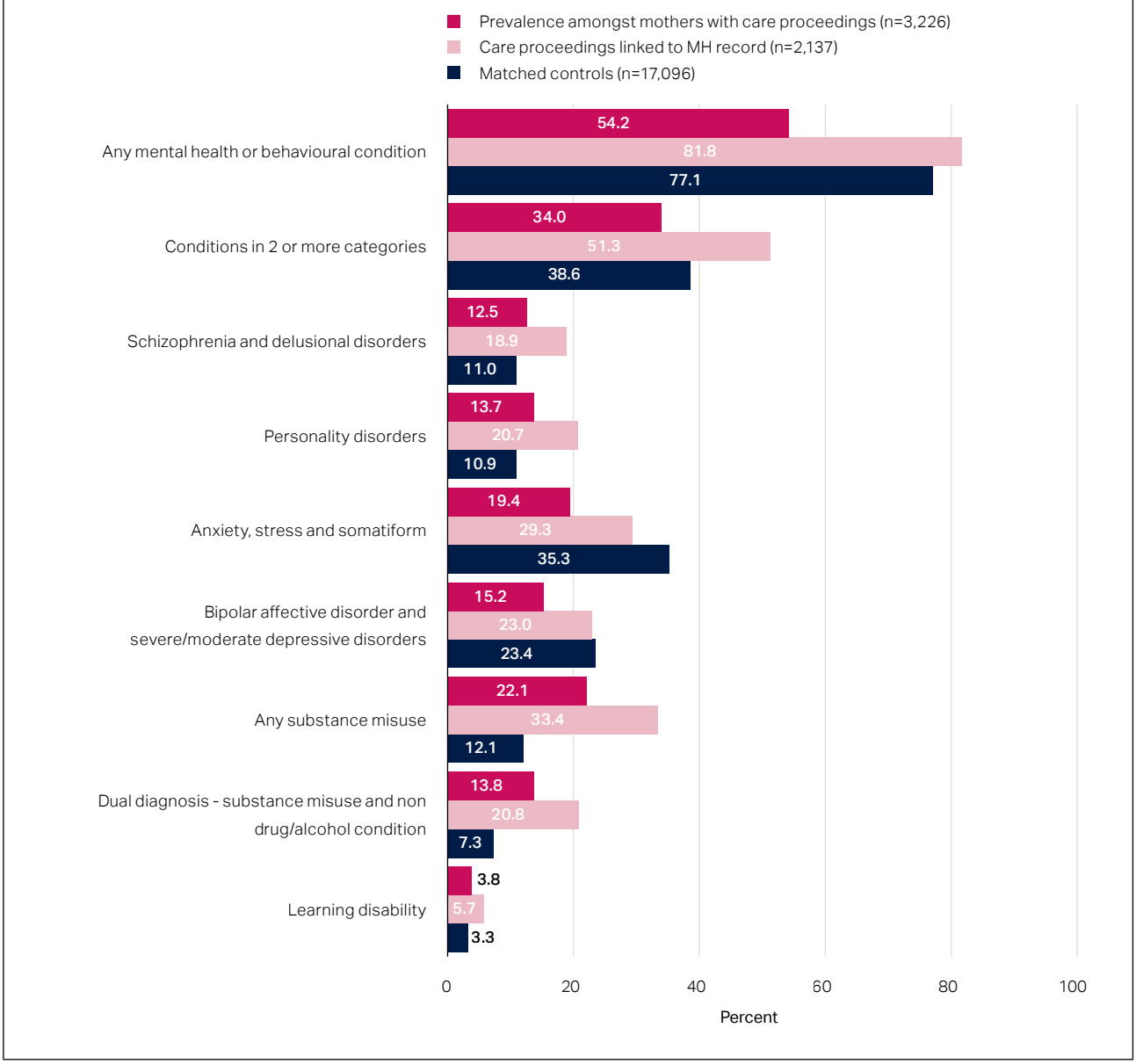
Prevalence of mental health conditions amongst all mothers in care proceedings

For the perspective of family courts or social services we present the prevalence of mental health or behavioural conditions as a proportion of all mothers involved in care proceedings (n=3,226, SLCP Cohort, Appendix 3).

Two-thirds (66.2%, 2,137/3,226) of mothers in south London care proceedings were known to mental health services (Figure 7.1). Over half (54.2%, 1,747/3,226) of these mothers had at least 1 mental health or behavioural condition, and one-third (34.0%) had conditions in two or more categories. The most common mental health conditions were anxiety and stress-related (19.4%) and drug and alcohol-related conditions (19.3%), followed by severe mood disorders (15.2%), personality disorders (13.7%) and schizophrenia, schizotypal and delusional disorders (12.5%)(Figure 7.1). One fifth of mothers (22.1%) had substance use problems and 3.8% had a learning disability recorded. One in seven (13.8%) had a dual diagnosis of substance use problems and non-drug or alcohol-related conditions.

Half of mothers (52.3%, n=1,686/3,226) were known to mental health services before their index care proceedings and had their first contact with SLaM services a median of 2.3 years before start of care proceedings (IQR: 53 days-5.5 years).

Figure 7.1: Prevalence of mental health and behavioural conditions in mothers involved in care proceedings in south London (n=3,226, dark pink), amongst mothers involved in care proceedings who linked to mental health service records (n=2137, light pink) and matched controls (n=17,096, dark blue).



Mental health diagnoses and service use among mothers involved in care proceedings compared with matched controls

We compared 2,137 mothers involved in care proceedings between 2007-2019 who matched to a SLaM mental health service record with 17,096 matched control women (SLCP subset 1& Matched-Controls Cohort, Appendix 3). Mothers involved in care proceedings were younger than control women, more of them were from Black (32.8% vs 22.1%) or mixed (7.0% vs 4.8%) ethnic backgrounds, and fewer were from Asian (2.1% vs 2.7%) or Other ethnic backgrounds (6.7% vs 10.6%).

Over a quarter (27.2%) of mothers involved in care proceedings had at least one SLaM inpatient admission (vs 13.4% of matched controls; Table 7.1) and one-quarter of those admitted had four or more inpatient stays recorded (median: 2, IQR: 1-4). Compared with control women, fewer mothers involved in care proceedings attended the IAPT service (35.0% vs 45.4%). Almost one-fifth (18.9%) of mothers involved in care proceedings had been detained under the Mental Health Act 1983 compared to 7.2% of controls (Table 7.1).

Access to services and continuing care was worse for mothers involved in care proceedings than for matched controls (Table 7.1). One third (34.0%) of mothers in the care proceedings group had ever had a secondary care referral rejected, compared to 24.2% of controls, and nearly two-fifths (39.2%) had been discharged from secondary care at least once for failure to engage, compared to 20.1% of controls. Rates of rejected referrals and discharge for failure to engage from IAPT services were also higher for mothers involved in care proceedings (14.1% and 75.8% vs 9.4% and 61.8%). The proportion of secondary services and IAPT appointments that were missed were higher for mothers involved in care proceedings (Table 7.1).

As expected for a cohort derived from services with a high threshold for access, four-fifths of mothers involved in care proceedings and the matched controls had a mental health or behavioural conditions (81.8% and 77.1% respectively) (Figure 7.1). More mothers involved in care proceedings had conditions in two or more categories than controls (51.3% vs 38.6%), and a greater proportion were diagnosed with schizophrenia and delusional disorders (18.9% vs 11.0%) and personality disorders (20.7% vs 10.9%). More women in the comparator group than those with care proceedings had anxiety and stress disorders (35.3% vs 29.3%) but bipolar affective disorder or severe to moderate depressive disorder affected nearly one-quarter of women in both groups (both 23%). One-third (33.4%) of mothers involved in care proceedings had a record of substance use problems, compared to 12.1% of comparator women, and almost three-times as many mothers involved in care proceedings had a mental health condition and a record of substance use problems (20.8% vs 7.3%).

Table 7.1: Characteristics of SLaM service use amongst mothers involved in care proceedings with a SLaM record (n=2,137) and the matched controls (n=17,096)

	Care proceeding		Matched controls	
	Frequency or median	**Percent or IQR**	**Frequency or median**	**Percent or IQR**
Number with SLaM service record	2,137		17,096	
Service type used				
Secondary/tertiary care mental health services				
Any accepted referrals	1,817	85.0	14,287	83.6
Any outpatient attendances	1,847	86.4	14,882	87.0
Any inpatient admissions	582	27.2	2,373	13.9
Median inpatient stay (per woman; IQR)	27	11.3 - 52.3	23	8.0 - 52.0
Detained under Mental Health Act 1983	404	18.9	1,287	7.5
Section 135/136 (ie police)	226	10.6	530	3.1
Section 2 /3 (ie assessment or treatment)	331	15.5	1,081	6.3
Section related to criminal justice	15	0.7	34	0.2
IAPT (talking therapies)				
Any accepted referrals	1,012	47.4	9,210	53.9
Any IAPT attendance	748	35.0	7,598	44.4
Access to services and continuing care				
Secondary/tertiary care mental health services				
Any rejected referrals	726	34.0	4,130	24.2
Ever discharged for failure to engage^	712	39.2	2,874	16.8
Median proportion of planned outpatient attendances missed or cancelled per woman	0.2	0.1 - 0.3	0.11	0.0-0.3
IAPT				
Any rejected referrals	301	14.1	1,612	9.4
Ever discharged for failure to engage^	767	75.8	5,691	61.8
Median proportion of planned outpatient attendances missed or cancelled per woman	0.3	0.0 - 0.5	0.2	0.0 - 0.4
Deaths				
Mortality	77	3.6$	587	2.6$
10-year mortality (%) aged 28 at first SLaM contact*	3.1	2.5 - 3.9	1.5	1.3 - 1.7

IQR: Interquartile range
$ age-standardised to study cohort
* calculated using Cox regression analyses
^ of accepted referrals

7.3.2 What is the risk of death?

Linked mortality information within the SLaM patient record was used to compare deaths amongst the 2,137 mothers involved in care proceedings and 17,096 matched controls (SLCP subset 1& Matched-Controls Cohort, Appendix 3). Mothers involved in care proceedings were twice as likely to die than matched controls (hazard ratio: 2.2, 95% CI 1.7–2.7). The expected 10-year risk of death for women aged 28 at first SLaM contact was estimated to be 3.1% (95% CI: 2.5–3.9%) for mothers involved in care proceedings and 1.5% (95% CI: 1.3–1.7%) for matched controls.

7.3.3 What are the patterns of mental health service use before and after start of care proceedings?

Using a cohort of 1,709 mothers whose first care proceeding started between April 2009 and March 2019 in south London and linked to a SLaM patient record, we explored trends in contact with SLaM services in the 2 years prior to and 1 year after the start of the first recoded care proceeding in the database (SLCP subset 2, Appendix 3).

Most women (n = 1,344, 78.6%) in the study cohort had at least one inpatient admission or outpatient attendance with a SLaM service over their three-year observation window. The number and frequency of inpatient admissions and outpatient attendances increased in the three-month period before onset of care proceedings. Half of women with at least one attendance over this period had at least fortnightly outpatient attendances at secondary mental health services. Missed or cancelled appointments affected almost two-thirds (63.4%, n=1,083/1709) of mothers, but were lowest during the three-month period before and after proceedings start. Almost one-third of mothers referred to services (29.4%; 365/1243) had a rejected referral during the three years and nearly one-third of all mothers had at least one discharge for failure to engage over the observation window (31.9%; 546/1709) (see chapter 6 in Pearson 2021 [43]).

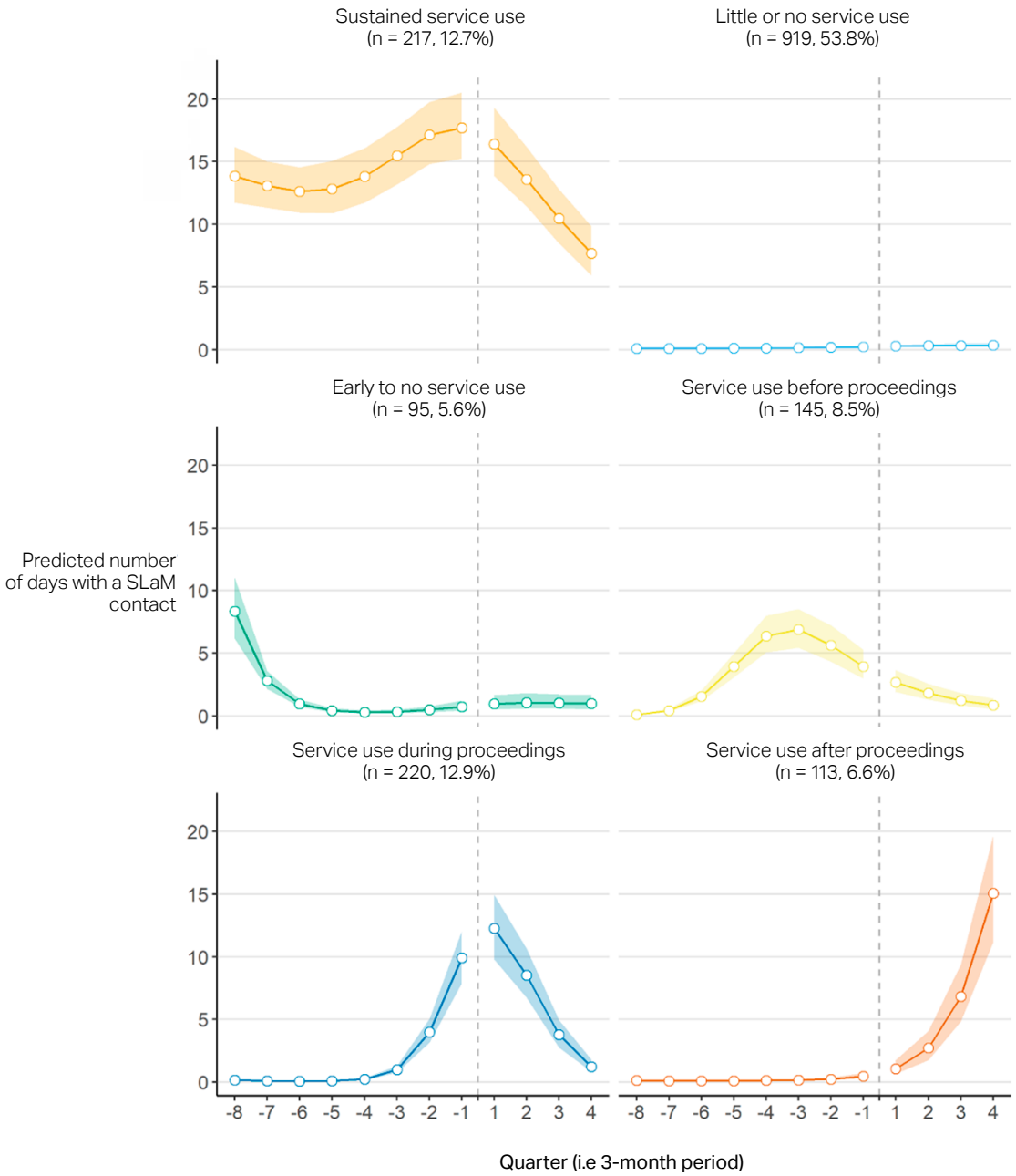
We used a latent class analysis to distinguish groups with different patterns of service use pre and post care proceedings and found 6 patterns of service use over the observation period. Results are shown in Figure 7.2.

Most women (53.8%, n=919) were characterised as having little or no service use across the three-year period, despite the majority being known to SLaM services before proceedings began. Almost two-thirds (67.1%) of mothers in this group had at least one referral to mental health services over the observation window, and 19.3% had at least one referral rejected.

A smaller group was characterised as having sustained service use over the period (12.7%, n=217). Half the mothers in this group had at least one admission to a psychiatric unit and half (50%) had at least 100 attendances per mother over the 3-year period.

A similar sized group was characterised as service use during proceedings (12.9%, n=220). Early to no service use was observed in 5.6% (n=95) of mothers, service use before proceedings in 8.5% (n=145) and service use after proceedings in 6.6% (n=113).

Figure 7.2: Modelled, expected trajectories of number of mental health inpatient and outpatient contacts per quarter in the two years before and one year following the start of mothers' care proceedings. (n=1,709)



Three of the six longitudinal patterns (*sustained service use, service use before proceedings, and service use during proceedings*) showed decreased service use in the year following onset of proceedings. This could be explained by different mechanisms, including the trauma of care proceedings, which might lead mothers to disengage with support services such as mental health services or reduced involvement of services for the mother at child removal [77].

7.4 Key findings

- Two-thirds (66.2%) of all mothers involved in care proceedings had contact with mental health services. Half (52.3%) of all mothers with care proceedings in South London were known to mental health services before their first care proceeding.
- Contact with mental health services increased around care proceedings initiation, as did engagement with active referrals.
- High levels of rejected referrals indicate high levels of unmet need for mothers involved in care proceedings and suggest a need for improved referral pathways from social services and primary care to specialist mental health services for mothers at risk of child removal.
- A substantial proportion of mothers were discharged due to failure to engage. Further work is required to understand why mothers are not engaging with services and to evaluate whether services are designed to best enable patient engagement by vulnerable mothers at risk of care proceedings.

8. Conclusion and implications

1.3%

of all first-time mothers in England were involved in care proceedings

6.7%

of all first-time mothers aged 15-19 years were involved in care proceedings

Two-thirds

of all care proceedings could potentially be avoided if the risk for young (<25 years) first-time mothers could be reduced to that of older mothers

32.6%

of mothers with care proceedings had a second proceeding within 8 years

7 times

more likely to die within 10 years of their first birth than mothers without care proceedings

52.3%

of mothers with care proceedings in South London were known to mental health services before care proceedings

This study addressed the need for evidence on the social and health characteristics of mothers involved in care proceedings in two separate studies using different databases that linked care proceedings data to the health records of mothers. The first linked mothers' hospital admission records to care proceedings in England, embedded within a national cohort of all first-time mothers giving birth in the English NHS. The second linked mental health service data in south London to mothers involved in care proceedings and included matched controls from other women using services.

Both studies demonstrated that **linkage of health and family court data achieved acceptable linkage quality for national population analyses.** However, data permissions and processing of hospital data for England (sub-study 1) took almost five years from application to researcher access. As this study established the legal basis for data flows and linkage, we anticipate that future studies using health data for England will encounter fewer hurdles. Continued efforts are needed to improve the quality of identifiers in family court data to minimise biases due to linkage error that limit interpretation of differences between regions and ethnic minority groups.

We found that **1 in 77 (1.3%) first-time mothers in England were involved in one or more care proceedings** by the time their eldest child was 10 years old, increasing to 1 in 15 (6.7%) mothers younger than 20 at their first birth. Based on our estimate of risk of care proceedings (1.3%, upper limit 1.7%), over 10 years between 33,000 to 43,000 first time mothers in England will be involved in care proceedings before their eldest child leaves primary school [78]. **We calculated that over two-thirds (69.2%) of first care proceedings could potentially be avoided** if the risk for first-time mothers younger than 25 could be reduced to that of first-time mothers aged 25 or more. This figure quantifies the hypothetical benefit of investment in implementation of interventions to reduce the risk of care proceedings among young mothers.

Our analyses of all first-time mothers in England and of women using mental health services in south London found that mothers involved in care proceedings were highly vulnerable due to their young age, levels of deprivation and serious health problems. Of first-time mothers involved in care proceedings, **almost three-quarters (71.9%) lived in the most deprived 40% of neighbourhoods and over three-quarters (78.9%) had their first child**

before age 25. Their hospital and mental health service histories showed **high rates of physical and mental health problems, intellectual disability, and past admissions to hospital for self-harm, substance use or violence.** That these serious health problems were more common in mothers involved in care proceedings is evident prior to the birth of their first child, with almost 4 in 10 (39.1%) mothers having health problems related to chronic physical or mental health problems or to self-harm, drug or alcohol use or violence recorded in hospital admissions in the three-years prior to their first birth. These figures underestimate the overall health burden, as we used hospital admissions, which under-record health problems, especially related to mental health and domestic abuse [79]. A recent survey of 70 professionals highlighted how perinatal practitioners endeavour to address these complex needs through a trusted, supportive service but face multiple challenges in doing so [23].

First-time mothers involved in care proceedings were 7 times more likely to die within 10 years of their first birth than other mothers and **two-thirds (66.4%) of deaths were related to drugs, alcohol, suicide, homicide or injury** – widely considered to be preventable. **One in 55 (1.82%) mothers died prematurely within 8 years of their first care proceedings.** These findings echo those of the UK saving lives study which found that 20% of maternal deaths from pregnancy to 12 months were among mothers involved with social care services [80].

By analysing all first-time mothers in England, we provide insights into birth trajectories, which is relevant for healthcare and other services designed to support first-time mothers and children in the early years. **On average, mothers involved in care proceedings had more children over 10 years than other mothers,** but this **difference was driven by young mothers** (<25 years). First-time mothers aged 25 or more who were subsequently involved in care proceedings had fewer children on average and more of them had only one child compared with same age peers.

We found that **one-third (32.6%) of mothers had a second care proceedings within 8 years.** This is higher than the previous estimate for England of one-quarter within 8 years due to our study following first-time mothers, who are younger and with younger children on average than a cross section of all mothers involved in care proceedings in a given year, and more likely to have recurrent care proceedings. A **further 28.2% of mothers had a new child without further care proceedings** and just over **one-third (37.4%) had no new child and no further care proceeding**. Recurrent care proceedings occurred **more frequently in mothers who had a new child (47.6%)** and increased to almost two-thirds (60.8%) of mothers for whom the interval between first care proceedings and start of next pregnancy was less than one year.

These diverse patterns of childbearing among women involved in care proceedings dispel perceptions that most of these mothers have repeated pregnancies and care proceedings. **Only 41.6% of first-time mothers involved in care proceedings had 3 or more children** compared with 17.8% of peers, but these mothers were predominantly younger than 25 at first birth.

These findings indicate a need for resources and support for mothers at high risk of involvement in care proceedings, early on in their childbearing life course, especially for young mothers. If barriers to service access and capacity can be overcome, improved support for vulnerable mothers and children offer the potential to reduce the need for, and mitigate the consequences of care proceedings, and support planning and parenting for subsequent children [23]. However, second care proceedings in one-third of mothers suggests that intensive support may be needed beyond the 2 years post birth support provided by the government in the first 1,000 days, or intensive home visiting such as the FNP for first-time teenaged mothers or MESCH early years programmes [19, 20, 81].

We found that **two-thirds (66.2%) of mothers involved in care proceedings in south London had contact with SLaM mental health services and over half had a mental illness that required secondary mental health services.** Despite the high prevalence of serious mental illness, mothers involved in care proceedings were **more likely than other users to have referrals rejected and to be discharged for failure to engage**. Among mothers known to mental health services, patterns of limited contact in the year before and after care proceedings suggested unmet need. These findings are consistent with qualitative research reporting that mothers feel abandoned and struggle to access social care or mental health support once the process has started to remove their child(ren) [4, 16-18]. They also reflect challenges reported by perinatal professionals that vulnerable mothers face in accessing services [23].

8.1 Implications for policy and practice

1. Linked administrative data from family courts and healthcare in England should be used to generate evidence for policy and practice

These studies demonstrate the value of linked family court care proceedings and healthcare data for characterising subgroups of mothers in care proceedings with different vulnerabilities, patterns of service use and outcomes. Linked data can be used to plan and monitor interventions for first-time mothers with potential benefits for mothers and their children. This study sets a precedent for public benefit, technical and governance feasibility that should enable ongoing linkage of family court and healthcare data for policy and practice.

2. Findings from these linked data could inform the delivery of preventative interventions for vulnerable mothers and their children in the first 1,000 days and childhood years.

Our findings indicate potential for early, preventative interventions for vulnerable families to reduce poor outcomes for mothers, adverse childhood experiences, child maltreatment and thereby reduce care proceedings. GPs and health visitors are the first point of contact for mothers at their first pregnancy and provide the bedrock of universal healthcare for children and families. These universal healthcare services underpin targeted programmes such as a Better Start for Life - the first 1,000 days, the FNP and MESCH intensive home visiting programmes, and children's social care [19-22]. However, both universal and targeted services suffer from rising demands, understaffing, and patchy commissioning [23]. For example, a recent study reported FNP commissioning in only two-thirds of LAs in England, with capacity to enrol only one-quarter of all first-time teenaged mothers intended for support [24].

Fully funded provision of effective universal and targeted preventative services could reap benefits by reducing the rising numbers of mothers involved in care proceedings, improving outcomes for their children, and by improving outcomes for the much larger proportion of children, estimated to be 4 in every 10 children, who are exposed to adverse childhood experiences, including child maltreatment, domestic abuse, parental mental health problems and substance use in the first 1,000 days [25].

3. Improved access and continuity of mental health services is needed for vulnerable mothers

Rejected referrals and repeated discharge due to failure to engage disproportionately affected mothers involved in care proceedings. Improving access and continuity of care may need service redesign and more capacity to enable mothers to engage successfully with mental health services to improve their own and child's health and development. A survey of perinatal health and mental health practitioners, indicates multiple challenges, including capacity, inflexible referral pathways, poor continuity and tension between building trusted relationships with mothers and sharing information with children's social care [23]. Use of linked data, as used in our study, could assess how the expansion of perinatal mental health teams in England since 2018 is supporting these vulnerable mothers who become involved in care proceedings [26, 27].

4. Joint working between social care, family courts and mental health services is needed for mothers before, during and after care proceedings

Improved engagement between social care, family courts and healthcare, particularly with mental health services, in the periods before, during and after care proceedings, could improve maternal health, and, in turn, capability for current and subsequent parenting. The 10-year life course perspective in this study highlights that health of first-time mothers is important for their own health and the health and development of their children, with whom, in most cases, they will stay connected, even if not the main carer [28-31].

8.2 Implications for research

1. Extend linkages between healthcare and family court data for research

Inclusion of private and public law family court data for mothers, fathers and children in future linkages with healthcare data could generate evidence for early intervention in the family life course to reduce parental conflict and child maltreatment, and provide more timely and intensive interventions for mental health and substance use before, during and after FC involvement to promote recovery. We estimate that, in addition to the 1.3% of first-time mothers involved in public law, a further 3.3% use private family law, with 3% of the families involved with private family law also using public family law courts at some point [3, 32, 33].

Research using linked administrative health and family court data in Wales has advanced understanding of the health determinants and outcomes for fathers, mothers and children involved in private and public law [6, 8, 34]. These studies found that parents involved with private law family courts had higher levels of social and economic disadvantage, poor parental health, child maltreatment and domestic violence than the general population but these differences were less stark than for parents involved in public law care proceedings.

Research using linked health and family court data across all family law should be developed for England and used to understand and monitor regional variation and the impact of policy changes on the health needs and outcomes of parents and children involved in family courts. New linked data should include newly available healthcare data on community services (which includes health visiting), maternity services, an expanded mental health services dataset, and birth notifications data which includes a mother-baby link [35]. These datasets have matured in the last five years and can be linked by the data provider (NHS England). Inclusion of these additional datasets could support more joined up services and identify more prevention opportunities.

2. Research to improve and adapt services to the needs of mothers, parents and children.

Research is needed to understand the diverse needs of parents and children before, during and after involvement in care proceedings to inform joint working between different healthcare services, social care and family courts. Research could investigate how to build trusted and tailored services for vulnerable families, based on a 'think-family' approach, in which services for adults ask about and address the needs of their children, and services for children consider the needs of the parents, particularly parent and child mental health, conflict and domestic abuse [23, 25, 36]. How this is done within the different service contexts, and what changes could lead to improvements, requires research.

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Appendix 1: Abbreviations & Glossary

Abbreviations	
ARA	Adversity related admission
BRC	NIHR Maudsley Biomedical Research Centre
CAFCASS	Children and Family Court Advisory and Support Service
CAG	Health Research Authority Confidentiality Advisory Group
CDLS	SLaM Clinical Data Linkage Service
CLA	Children Looked After
CI	Confidence interval
CRIS	Clinical Research Interactive Service
DSA	Data Sharing Agreement
FC	Family court
FLB	First Live Birth Cohort
FNP	Family Nurse Partnership
GDPR	General Data Protection Regulation
GP	General Practice
HES	Hospital Episode Statistics
IAPT	Improving Access to Psychological Therapies programme
ICD-10	International Statistical Classification of Diseases and Related Health Problems 10th Revision
IMD	Indices of Multiple Deprivation
IQR	Interquartile range
LA	Local Authorities
MESCH	Maternal Early Childhood Sustained Home-visiting
MRR	Mortality rate ratio
NHS	National Health Service
NHSE	NHS England
ONS	Office for National Statistics
REC	NHS Research Ethics Committee
PAF	Population attributable fraction
PDS	Patient Demographic Service
PPEI	Public and patient engagement and involvement
SLaM	South London and the Maudsley NHS Trust
SLCP	South London Care Proceedings cohort

Glossary	
Legal terms	
Term	Definition
Family proceedings	Family proceedings are cases heard by the family courts concerning the upbringing of children. In all cases, the paramount consideration is the welfare of the child and the court must consider whether making an order is better than no order at all; if not, the court must not make an order. In **public law** cases, also called **care proceedings**, the court determines applications brought by local authorities (through their children's social care services) for **care** or **supervision orders** (Children Act 1989, section 31). The court can make a care or supervision order as well as any other order, such as the private law **section 8 orders**. An application for an order under section 31 can only be made by a local authority, who is responsible for completing the application form (current designation C110A). In **private law** cases, the court determines applications made by private individuals concerning the upbringing of children (such as where a child will live following relationship breakdown). Private proceedings are predominantly for child arrangements orders under **section 8** of the Children Act 1989. The court cannot make a care or supervision order, however, the court does have the power to ask the local authority to investigate and consider applying for one.
Recurrent proceedings	A new set of proceedings initiated with respect to the same mother any time after the end of her first set of proceedings. This may be in relation to the same child(ren) as the original application or other child(ren), and by the same or a different local authority anywhere in England.
Children Act 1989	The Children Act 1989 reformed and consolidated the law relating to the protection of children from harm and the promotion of their welfare. It is the core piece of legislation concerning family proceedings. In addition to making rules about parental responsibility and other matters, the Act provides for local authority services for children in need of support, for investigation of child maltreatment and for court proceedings.

Case and application	A court case may concern one or more children, one or more application for one or more orders and one or more legal outcomes. One mother can be involved in several court cases, for example if a case is brought for a child born after the initial case.
Children's social care services	Children's social care refers to various forms of personal care provided by social services to children and young people who need extra support. This includes when the child's needs are such that parents are not able to meet them at home or if parents' needs prevent them from looking after a child. It can also be because the child is at risk of harm from someone at home or outside their family.
Cafcass - The Children and Family Court Advisory and Support Service	Cafcass was established by section 11 of the Criminal Justice and Court Services Act 2000. It represents the interests of children and young people in the family court and independently advises the court about what is safe for children and in their best interests. Cafcass represents all children in public proceedings. In private proceedings, Cafcass carries out safeguarding checks but ceases involvement in approximately 70% of cases before the first hearing.
Care order	A care order enables the local authority to look after a child in state care. Where a care order is granted, parental responsibility is shared between the parents and local authority, meaning the authority is empowered to make decisions about the child. Placements under a care order could be at home with the parents, with kin or non-kin fosterers or residential or secure settings. The threshold for making an order is that the child is suffering or at risk of significant harm where the harm is attributable to the care given by the parents, or where the child is beyond parental control.
Supervision order	A supervision order places a child under local authority supervision. The threshold is the same for care orders. Under a supervision order, parental responsibility is NOT shared with the authority.
Section 8 order	Section 8 orders include child arrangements orders (which replaced contact orders and residence orders from April 2014), specific issue orders and prohibited steps orders. They are brought by relevant parties such as parents, though family members may be supported by a local authority as an alternative to care proceedings.
Parental responsibility	The bundle of rights, duties, powers and responsibilities that a parent has towards a child and their property. The Children Act 1989 determines where parental responsibility exists, e.g., both married parents (or those in a civil partnership) have parental responsibility for a child when the child is born.
Party to proceedings	Under the Family Procedure Rules, in both private and public proceedings, the child's parents and anyone else with parental responsibility for the child will generally be considered "parties to proceedings." Other individuals can apply to the court to be made party to proceedings.
Accommodation under section 20	Under section 20 of the Children Act 1989, the local authority may, if the parents do not object, accommodate a child and must do so in certain other circumstances (e.g., unaccompanied asylum seeking children). Such a child becomes looked after by the local authority. Unlike under a care order, the local authority does NOT obtain parental responsibility. Accommodation under section 20 happens without recourse to the courts and therefore data on children accommodated under section 20 are not captured in Cafcass data or this study. According to Department for Education statistics, approximately half of all children starting to be looked after each year are looked after under section 20, though these children may also be subject to court proceedings at other times.

Healthcare terms	
Term	Definition
Improving Access to Psychological Therapies (IAPT)	Now known as the NHS Talking Therapies for anxiety and depression programme, IAPT was developed to improve the delivery of, and access to, evidence-based, NICE recommended, psychological therapies for depression and anxiety disorders within the NHS. Patients can be referred by the NHS, community or voluntary services or via self-referral.
Secondary and tertiary mental health services	Secondary mental health services include hospitals, some psychological wellbeing services, community mental health teams (CMHTs), crisis resolution and home treatment teams (CRHTs). Assertive outreach teams and early intervention teams are also secondary services. Tertiary care is highly specialised treatment. Perinatal mental health services are secondary care. The NHS Long Term Plan transformation is ongoing to create integrated community mental health services, which includes primary mental health services, such as primary care and IAPTs.

Data terms	
Term	Definition
Administrative data	Data that are routinely collected by public services (such as hospitals and Cafcass) to support daily operations and service planning and which cover all contacts with all service users. For the purposes of research, such datasets are deidentified (i.e., researchers have no access to data such as names or addresses) and processed in secure research environments under legally binding data sharing agreements.
Data linkage	The process of matching information about an individual in Cafcass data with information about the same individual in the health data. As recording of identifiers used in the matching process may be subject to error (for example, a misspelt name), there is the risk that information belonging to the same individual does not match (a missed link) or, conversely, that information from two separate individuals is matched (a false link). For this study, NHS England carried out the linkage between Cafcass and Hospital Episode Statistics data, and we carried out evaluation, as detailed in chapter 2.
Risk	The chance, or probability, of something happening. In the present study, for example, the risk of care proceedings refers to the chance that a mother will be subject to care proceedings following a first live birth.
Cumulative incidence of proceedings	The risk that a mother will ever experience care proceedings up to 10 years following her first live birth. The cumulative incidence takes account of the fact that not all mothers have the same follow up time because, for example, they gave birth later or died earlier than other mothers (using a method known as Kaplan-Meier estimation).
Cumulative incidence of mortality	The risk that a mother dies up to 10 years following her initial care proceedings, taking account of differences in follow-up time.
Population attributable fraction (PAF)	The proportion of care proceedings that could be prevented if first-time mothers younger than 25 years had the same risk of care proceedings as first-time mothers aged 25 years or older. This calculation assumes an unconfounded causal effect of young maternal age at FLB on care proceedings, and the existence of effective interventions that could reduce the risk for young mothers to that of mothers 25 years and above at FLB. Although these assumptions do not hold, the PAF is used in public health to provide an upper estimate of potential reductions in the outcome if adverse outcomes attributable to young maternal age could be mitigated. Calculated using the formula: $$\frac{\text{Incidence in the total population} - \text{Incidence in the unexposed group}}{\text{Incidence in the total population}}$$

Appendix 2: List of study publications

- Pearson RJ, Jewell A, Wijlaars L, Bedston S, Finch E, Broadhurst K, Downs J, Gilbert R. Linking data on women in public family law court proceedings concerning their children to mental health service records in South London. *Int J Pop Data Sci* 2020;6(1):06.
- Bedston S, Pearson R, Jay MA, Broadhurst K, Gilbert R, Wijlaars L. Data Resource: Children and Family Court Advisory and Support Service. *Int J Pop Data Sci* 2020;5:1:1:17.
- Pearson RJ. Using longitudinal administrative data to characterise mental health problems and substance misuse among women whose children enter care in England. 2021. Doctoral thesis, UCL.
- Pearson R, Grant C, Wijlaars L, Finch E, Bedston S, Broadhurst K, Gilbert R. (2022) Mental health service use among mothers involved in public family law proceedings: linked data cohort study in South London 2007–2019. Social Psychiatry and Psychiatric Epidemiology; 57:2097-2108.
- Ireland, G., Wijlaars, L., Jay, M., Feng, Q., Harron, K., Grant, C., Gilbert, R. (2024) Linkage of administrative family court care proceedings and hospital records for mothers in England: linkage accuracy and cumulative incidence of family court care proceedings after a first live birth *Int J Pop Data Sci* In press.

Appendix 3: Analysis cohorts

Appendix 3 Table 1: Delivery Cohort, First Live Birth cohort, and first live birth cohort subsets, that were used in different analyses in sub-study 1.

Cohort & subset name	Chapter	Analysis	Population	Years of follow-up available (median, IQR)	Care Proceedings	Cohort size
Delivery Cohort	2	- Linkage results and evaluation	Any still or live birth between April 1997 – December 2021 in mother 15-50 years old (including where not first birth)	Followed until death, 51st birthday or December 2021.	Identified where matched	8,488,511 total - 92,891 with care proceedings
First Live Birth Cohort (FLB)	3	- Cumulative incidence - Comparison of maternal characteristics	First birth between April 2007 and December 2019 in mother 15-50 years old	Followed until death, 51st birthday, 10 years or December 2021. Unless died or turned 51 years old within 2 years of first birth should all have at least 2 years FU available (8.6 years, IQR: 5.4-11.8 years)	**Analysis outcome:** • First care proceeding within 10 years of first birth	3,149,935 total – 34,025 with care proceedings
FLB subset 1	4	- Number of births within 10 years of first birth	First birth between April 2007 and December 2011 in mother 15-39 years at first birth	Followed until death, 51st birthday, 10 years. All followed for 10 years, unless died over period	**Comparison variable:** • First care proceedings started within 10 years of first live birth	1,254,394 total - 15,209 with care proceedings
FLB subset 2	5	- Proportion with a second case	First birth and care proceedings between April 2007 and December 2019 in mother 15-50 years old at first care proceedings	Followed until death, 51st birthday, 8 years or December 2021. Unless died or turned 51 years old within 2 years of first birth should all have at least 2 years FU available (4.6 years, IQR: 2.6-7.5)	**Requirement for inclusion in analysis:** • First care proceeding within 10 years of first birth **Analysis outcome:** • Second care proceedings within 8 years of first (up to 31st December 2021)	29,824
FLB subset 3	5	- Proportion with new pregnancy and/or second care proceedings	First birth and care proceedings between April 2007 and December 2013 in mother 15-39 years at first care proceedings	Followed for 8 years, mothers who died before 8 years were excluded (All 8 years follow up)	**Analysis outcome:** • Second care within 8 years of first (up to 31st December 2021)	9,969

Appendix 3 Table 1: Delivery Cohort, First Live Birth cohort, and first live birth cohort subsets, that were used in different analyses in sub-study 1.

Cohort & subset name	Chapter	Analysis	Population	Years of follow-up available (median, IQR)	Care Proceedings	Cohort size
FLB subset 4	5	- Proportion with second care proceedings from conception of new pregnancy	First birth and care proceedings between April 2007 and December 2013 in mother 15-39 years at first care proceedings with new pregnancy conception date <6 years after first care proceedings	Followed for 8 years, mothers who died before 8 years were excluded (All 8 years follow up)	**Requirement for inclusion in analysis:** • New pregnancy conception date <6 years after first care proceedings **Analysis outcome:** • Second care within 2 years of conception	4,894
FLB subset 5	6	- Mortality rate and cause of death	First birth between April 2007 and December 2017 in mothers 15-39 years old	Followed until death, 10 years or 31st December 2019. (8.1 years, IQR: 5.6-10)	**Comparison variable:** • First care proceedings started within 10 years of first live birth	2,413,623 total - 28,406 with care proceedings
FLB subset 6	6	- Characteristics at first care proceedings associated with mortality	First birth and care proceedings between April 2007 and December 2017 in mothers 15-39 years old at first care proceedings	Followed until death, 8 years or 31st December 2019. (6.2 years, IQR: 4.3-7.9 years)	**Requirement for inclusion in analysis:** • First care proceeding within 10 years of first birth	18,835

Appendix 3 Table 2: South London care proceedings cohort, and data subsets, and Matched Controls cohort that were used in different analyses in sub-study 2 (chapter 2 and 7).

Cohort & subset name	Analysis	Population	Mental health service use record	Years of follow-up available (median, IQR)	Compared to matched controls cohort	Cohort size
South London Care Proceedings (SLCP) Cohort	- Linkage results and evaluation - Prevalence of mental health diagnoses amongst all mothers in care proceedings	Mother with care proceedings between April 2007 and March 2019 and resident in South London*	Between January 2005 to March 2020.		No	3,226
SLCP subset 1	- Comparing mental health diagnoses and service use to other service users - Mortality	Mother with care proceedings between April 2007 and March 2019 and resident in South London*	Between January 2005 to March 2020.	Time from first SLaM contact to 31st March 2020 or death (10.6 years, IQR: 7.0-13.2)	Yes	2,137
SLCP subset 2	- patterns of mental health service use before and after start of care proceedings	Mother with first care proceedings between April 2009 and December 2019 and resident in South London*	Service use in the two years before and 1 year after start of first care proceedings	3 years	No	1,709
Matched Controls Cohort	- Comparing mental health diagnoses and service use to other service users - Mortality	Women aged 16-55 years using SLaM services between April 2007 and 31 March 2019 and resident in South London* Matched to SLCP Cohort on year of first service use and service type	Between January 2005 to March 2020.	Time from first SLaM contact to 31st March 2020 or death (10.6, IQR: 7.0-13.2)	n/a	17,096

*Lambeth, Southwark, Lewisham, Croydon

Appendix 4: Coding health problems and cause of death

Appendix 4 Table 1: ICD-10 codes used to identify health problems in the 3 years prior to first birth		
Health Problem	**ICD-10 Codes**	**Other criteria**
Chronic conditions or disability		
Chronic condition (adapted from Charlson Comorbidity Index)	B18, B20-22, B24, C00-26, C30-34, C37-41, C43, C45-58, C60-88, C90-97,E100-10.1, E10.6, E10.8-10.9, E11.0-11.1, E11.6, E11.8-11.9, E12.0-12.1, E12.6, E12.8-12.9, E13.0-13.1, E13.6, E13.8-13.9, E14.0-14.0, E14.6, E14.8-14.9, E10-2-10.5, E10.7, E11.2-11.5, E11.7, E12.2-12.5, E12.7, E13.2-13.5, E13.7, E14.2-14.5, E14.7, F00-03, F05.1, G30, G31.1, G45-46, G04.1, G11.4, G80.1-80.2, G81-82, G83.0-83.4, G83.9, H34.0, I09.9, I11.0, I12.0, I13.0-.2, I21-22, I25.2, I25.5, I27.8-27.9, I42.0, I42.5-42.9, I43, I50, I60-71, I73.1, I73.8-73.9, I77.1, I79.0, I79.2, I85.0, I85.9, I86.4, I98.2, J40-47, J60-67, J68.4, J70.1, J70.3, K25-28, K55.1 ,K55.8-55.9, K70.0-70.3, K70.9, K71.3-71.5, K71.7, K72-74, K76.0, K76.2-.9, M05-06, M31.5, M32-34, M35.1, M35.3, M36.0, N03.2-03.7, N05.2-05.7, N18-19, N25.0, P29.0, Z49.0-49.2, Z94.0, Z94.4, Z95.8-.9, Z99.2	
Physical or sensory disability	B91, E10.2-.3, E11.2-.3, E22.0, 23.0, E34.3, G10-12, G20-21, G23, G25, G31.8, G32.8, G35-37, G40, G54-55, G57-58, G60-63, G70-72, G80-83, G90, G95, H20.1, H25-26, H30-31, H34-36, H40, H42, H44, H47.6, H54-55, H90, H91.3, H91.8-.9, I69, M05-06, M21.8, M22.4, M23.2, M23.5, M23.8-.9, M35.3, M42, M45-47, M50.0, M50.2-.3, M50.8-.9, M51.0-51.4, M51.8-.9, M80, M86.3-.6, M87, M91-93, Q01.9, Q02-06, Q07.8-.9, , Q11.1-.2, Q13.1, Q13.3, Q13.8, Q15.0, Q16.0-.9, Q66, Q67.5-.8, Q70-79, S02.0-.1, S02.3, S02.7-.9, S06.1-.9, S07, S14.0-.1, S24.0-.1, S32.4-.5, S32.7-.8, S34.0-.3, S48, S58, S68.3-.4, S77-78, S87-88, S97.0, S98.0, S98.3, T02.0, T04.1, T04.3-.4, T04.7-.8, T05, T06.0-.1, T90.5, T91.2-.3, Z89.1-.8, Z99.3, Z99.8	
Intellectual disability	D82.1, E00, E70.0, E77.1, E77.8, F70-73, F78-79, F81.9, F83-84, Q00-02, Q04.1-.3, Q04.8, Q27, 85.1, Q86.0-.1, Q87.1-.3, Q87.8, Q90-93, Q97.1, Q99.2, Q99.8	
Mental health conditions		
	F20-31, F320, F321, F322, F323, F328, F329, F330, F331, F332, F333, F338, F339, F341, F40-45, F48, F50, F54, F60, F62, F63, F68, F69, F90-93, F94.0, F94.1, F94.2, F98,	
Adversity related admission (Adapted from Herbert et al. (2017))		
Drug and alcohol	F10-16, F18-19, E24.4, G31.2, G40.5, G62.1, G72.1, I42.6, K29.2, K70, K85.2, K86.0, O35.4, R78.0- R78.5, T36-T51 (excl T50.6), X40- X49, X69, Y10-Y19, Y90 -91, Z04.0, Z50.2, Z50.3, Z71.4, Z71.5, Z72.1, Z72.2,	Admission method = 21-24 or 28
Self-harm	X60-69, X70-X84, Z91.5	Admission method = 21-24 or 28
Violence	T74, T73, Y04- Y09, X85- Y03, Y20-Y34, Z04.5, Z04.8	Admission method = 21-24 or 28

Appendix 4 Table 2: ICD-10 codes used to categorise underlying cause of death		
Underlying cause of death		**ICD-10 codes**
Adversity or Injury	Suicide	X60-84, Y10-34 (excluding Y33.9)
	Alcohol related	E24.4, F10, G31.2, G62.1, G72.1, I42.6, K29.2, K70, K85.2, K86.0, Q86.0, R78.0, X45
	Drug related	F11–F16, F18–F19, X40–X44, X85
	Homicide	T73-74, Y04-07, X86-99, Y01-09, U50.9
	Injury other	All remaining S, T, V, W, X and Y codes
Medical/other		All remaining ICD-10 codes

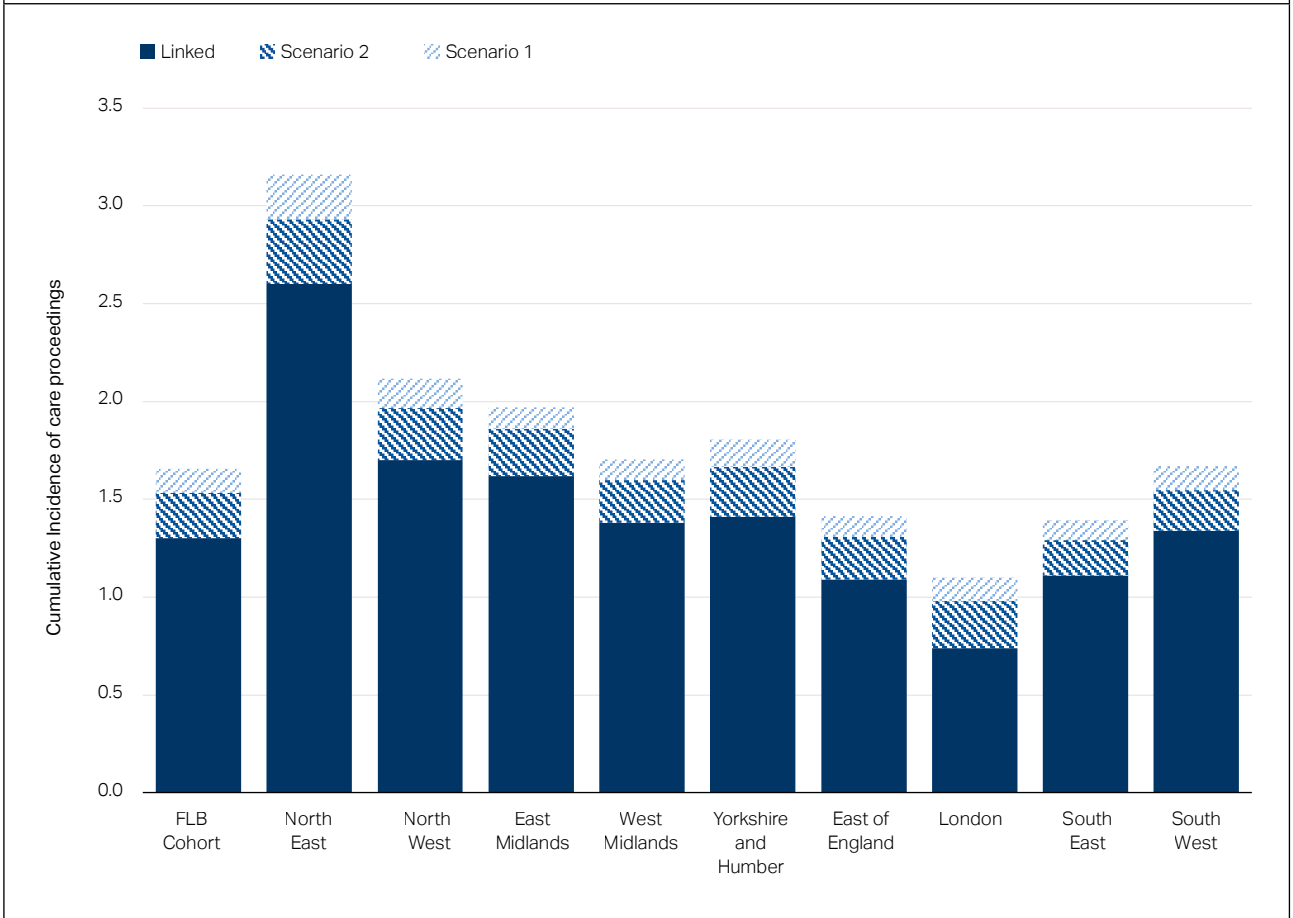
Appendix 5: Sensitivity Analysis

Underestimation of cumulative incidence due to missed matches was explored using the records of mothers who did not link to HES.

Among unlinked mothers recorded only in Cafcass, year of FLB was estimated using maternal age at oldest child and first case start (where available). We excluded mothers with an estimated FLB before 2007, but included mothers where FLB could not be calculated (ie no maternal date of birth or age available). Under scenario 1, the least conservative estimate, all remaining mothers were added to the crude numerator of mothers who experienced care proceedings within 10 years of a FLB. Under scenario 2, only mothers with a child younger than 2 years at first case were added to the numerator, as we assumed that births close in time to care proceedings were more likely to have been in England. The percent increase in crude incidence from scenario 1 and 2 was applied to Kaplan-Meier estimates of cumulative incidence. These scenarios assume there are no duplicate mothers in the unlinked pool, that all children associated with the case were delivered within the NHS in England, all mothers without a date of birth were 15-50 years old at case start and that unlinked mothers would contribute similar follow-up time to linked women.

Scenarios 1 and 2 increased crude incidence of care proceedings from 1.1% (34,025/3,149,935) to 1.4% (43,390/3,149,935) and 1.3% (40,143/3,149,935) respectively, representing an increase of 27.5% and 18.0%.Impact varied by region (Appendix 4 Figure 1), with the percent increase being greatest in London and the East of England (48.6% and 29.8% increase under scenario 1 and 32.4% and 20.2% under scenario 2). When the percent increases were applied to Kaplan-Meier cumulative incidence estimates for the FLB Cohort, incidence increased to 1.66% (95% CI: 1.63-1.67) under scenario 1 and 1.53% (95%CI: 1.51-1.55) under scenario 2.

Appendix 5 Figure 1: Cumulative incidence of care proceedings within 10 years of a first live birth as estimated from 1) mothers involved in care proceedings who linked to the first live birth cohort via Kaplan Meier analysis, 2) Kaplan Meier estimated cumulative incidence adjusted by percent increase in crude incidence via sensitivity scenario 1, and, 3) Kaplan Meier estimated cumulative incidence adjusted by percent increase in crude incidence via sensitivity scenario 2.



Mothers included in Scenario 2 also contribute to mothers included in Scenario 1.

Appendix 6: Additional data tables

Appendix 6 Table 1: Characteristics of mothers in the South London Care Proceedings Cohort.			
	Overall	**Unlinked**	**Linked**
Mothers	32,266	1,089 (33.8%)	2,137 (66.2%)
Age at birth of oldest child recorded in Cafcass' case management system			
Under 20 years	804 (24.9)	188 (17.3)	616 (28.8)
20-24 years	699 (21.7)	193 (17.7)	506 (23.7)
25-29 years	536 (16.6)	168 (15.4)	368 (17.2)
30 years and over	746 (23.1)	188 (17.3)	558 (26.1)
Unknown	441 (13.7)	352 (32.3)	89 (4.2)
Age at index set of proceedings			
Under 20 years	313 (9.7)	64 (5.9)	249 (11.7)
20-24 years	457 (14.2)	96 (8.8)	361 (16.9)
25-29 years	490 (15.2)	119 (10.9)	371 (17.4)
30 years and over	1,525 (47.3)	458 (42.1)	1,067 (49.9)
Unknown	441 (13.7)	352 (32.3)	89 (4.2)
Ethnicity			
White or White British	805 (25.0)	206 (18.9)	599 (28.0)
Black or Black British	637 (19.7)	226 (20.8)	411 (19.2)
Mixed Heritage	167 (5.2)	42 (3.9)	125 (5.8)
Asian or Asian British	61 (1.9)	31 (2.8)	30 (1.4)
Other*	66 (2.0)	34 (3.1)	32 (1.5)
Missing	1,490 (46.2)	550 (50.5)	940 (44.0)
IMD 2010 quintile associated with their recorded address during index set of proceedings			
1 – most deprived	1,276 (39.6)	364 (33.4)	912 (42.7)
2	983 (30.5)	297 (27.3)	686 (32.1)
3	347 (10.8)	117 (10.7)	230 (10.8)
4	99 (3.1)	42 (3.9)	57 (2.7)
5 – least deprived	23 (0.7)	12 (1.1)	11 (0.5)
missing	498 (15.4)	257 (23.6)	241 (11.3)
Year (April-March) that index set of proceedings began			
Before 2007	118 (3.7)	44 (4.0)	74 (3.5)
2007/08-2009/10	728 (22.6)	284 (26.1)	444 (20.8)
2010/11-2012/13	825 (25.6)	254 (23.3)	571 (26.7)
2013/14-2015/16	736 (22.8)	231 (21.2)	505 (23.6)
2016/17-2018/19	819 (25.4)	276 (25.3)	543 (25.4)
Final legal orders made in any set of proceedings for at least one child†			
Any legal order made	2,871 (89.0)	936 (86.0)	1,935 (90.5)
Returned or remained home	437 (13.5)	170 (15.6)	267 (12.5)
Supervision at home	670 (20.8)	184 (16.9)	486 (22.7)
Placed into OOHC	1,004 (31.1)	346 (31.8)	658 (30.8)
Placed with extended family	952 (29.5)	213 (19.6)	739 (34.6)
Placed for adoption	740 (22.9)	223 (20.5)	517 (24.2)
Two or more sets of care proceedings recorded			
2+	1,062 (32.9)	255 (23.4)	807 (37.8)

*Other includes the Chinese and 'other' categories which captures all other ethnicities.
IMD = Indices of Multiple Deprivation; OOHC = out-of-home care.
† Non-mutually exclusive categories

Appendix 6 Table 2: Characteristics of mothers in the First Live Birth Cohort						
	Women*		**Not experienced care proceedings**		**Experienced care proceedings**	
	n	**%**	**n**	**% of total**	**n**	**% of total**
Total	3,149,935	100	3,115,910	100	34,025	100
Age at first delivery						
<20	271,268	8.6	254,978	8.2	16,290	47.9
20-24	680,802	21.6	670,232	21.5	10,570	31.1
25-29	916,252	29.1	912,409	29.3	3,843	11.3
30-34	843,244	26.8	841,261	27.0	1,983	5.8
35-39	359,033	11.4	357,995	11.5	1,038	3.1
40-50	79,336	2.5	79,035	2.5	301	0.9
Ethnicity						
White	2,372,169	75.3	2,342,441	75.2	29,728	87.4
Black	125,294	4.0	124,000	4.0	1,294	3.8
Asian	316,722	10.1	315,678	10.1	1,044	3.1
Mixed	50,715	1.6	49,908	1.6	807	2.4
Other	108,349	3.4	107,786	3.5	563	1.7
Not reported	176,686	5.6	176,097	5.7	589	1.7
IMD Quintile[1]						
1 - most deprived	773,956	24.6	758,018	24.3	15,938	46.8
2	719,432	22.8	710,906	22.8	8,526	25.1
3	618,075	19.6	613,288	19.7	4,787	14.1
4	535,367	17.0	532,509	17.1	2,858	8.4
5 - least deprived	495,298	15.7	493,503	15.8	1,795	5.3
Not reported	7,807	0.2	7,686	0.2	121	0.4
Region[1,2]						
North East	141,880	4.5	138,885	4.5	3,000	8.8
North West	405,530	12.9	399,820	12.8	5,710	16.8
York. & Humber[3]	300,810	9.5	296,665	9.5	4,140	12.2
East Midlands	232,620	7.4	229,920	7.4	2,700	7.9
West Midlands	314,340	10.0	310,670	10.0	3,665	10.8
East of England	335,000	10.6	331,960	10.7	3,040	8.9
London	619,345	19.7	615,535	19.8	3,810	11.2
South East	491,130	15.6	486,645	15.6	4,485	13.2
South West	295,415	9.4	292,095	9.4	3,320	9.8
No Fixed Abode	555	0.0	525	0.0	30	0.1

Appendix 6 Table 2: Characteristics of mothers in the First Live Birth Cohort						
	Women*		**Not experienced care proceedings**		**Experienced care proceedings**	
	n	**%**	**n**	**% of total**	**n**	**% of total**
Not reported	13,310	0.4	13,185	0.4	120	0.4
Year of first delivery						
20074-2009	744,594	23.6	735,771	23.6	8,823	25.9
2010-2012	784,780	24.9	775,005	24.9	9,775	28.7
2013-2015	708,219	22.5	700,442	22.5	7,777	22.9
2016-2019	912,342	29.0	904,692	29.0	7,650	22.5
Health problem						
No	2,705,529	85.9	2,684,805	86.2	20,724	60.9
Any	444,406	14.1	431,105	13.8	13,301	39.1
Chronic conditions and disability[5]						
None	2,840,012	90.2	2,813,527	90.3	26,485	77.8
Chronic condition	252,128	8.0	247,541	7.9	4,587	13.5
Physical or sensory disability	50,640	1.6	49,562	1.6	1,078	3.2
Intellectual disability	7,155	0.2	5,280	0.2	1,875	5.5
Mental health condition						
No	2,995,714	95.1	2,967,948	95.3	27,766	81.6
Yes	154,224	4.9	147,962	4.7	6,259	18.4
Adversity related admission						
No	3,101,989	98.5	3,073,266	98.6	28,723	84.4
Any	47,946	1.5	42,644	1.4	5,302	15.6
Drug or Alcohol[6]	41,603	1.3	37,037	1.2	4,566	13.4
Self-harm[6]	33,154	1.1	29,356	0.9	3,798	11.2
Violence[6]	4,010	0.1	3,441	0.1	569	1.7
Legal Outcome of first care proceedings[7]						
With parents					5,703	16.8
With family or friends					10,206	30.0
In care					6,841	20.1
Adopted					8,301	24.4
Not reported					2,974	8.7

1 - based on first delivery between April 2007 and December 2019
2 - rounded to the nearest 5
3 - Yorkshire and the Humber
4 - April 2007
5 - hierarchy to create discrete groups with intellectual disability, followed by physical or sensory disability and chronic health condition
6 - not exclusive groups
7 - hierarchy to create discrete group based on most serious outcome for at least one child party to care proceeding. Hierarchy

Appendix 6 Table 3: Cumulative incidence of care proceedings 10-years from a first birth by neighbourhood deprivation and maternal age.

	10-year cumulative incidence			PAF per Quintile	Proportion of total population
	15-24 years	25+ years	total population		
1 - most deprived	4.22	0.89	2.47	64.0	24.6
2	3.21	0.48	1.43	66.4	22.9
3	2.68	0.29	0.95	69.5	19.7
4	2.22	0.20	0.65	69.2	17.0
5 - least deprived	1.89	0.14	0.45	68.9	15.8
Adjusted PAF					67.3

Appendix 6 Table 4: Characteristics of mothers in the First Live Birth Cohort who experienced care proceeding.

	Mothers		One care proceedings		Two or more care proceedings	
	n	%	n	%	n	%
Total	29,824	100	21,549	100	8,275	100
Age at first care proceedings						
<20	7,270	24.4	4,775	22.2	2,495	30.2
20-24	10,902	36.6	7,492	34.8	3,410	41.2
25-29	6,645	22.3	5,087	23.6	1,558	18.8
30-39	4,224	14.2	3,489	16.2	735	8.9
40-50	782	2.6	705	3.3	77	0.9
Ethnicity						
White	26,105	87.5	18,617	86.4	7,488	90.5
Black	1,151	3.9	858	4.0	293	3.5
Asian	907	3.0	788	3.7	119	1.4
Mixed	699	2.3	496	2.3	203	2.5
Other	484	1.6	383	1.8	101	1.2
Not reported	478	1.6	407	1.9	71	0.9
IMD Quintile[1]						
1 - most deprived	13,981	46.9	9,872	45.8	4,109	49.7
2	7,500	25.1	5,459	25.3	2,041	24.7
3	4,154	13.9	3,080	14.3	1,074	13.0
4	2,512	8.4	1,876	8.7	636	7.7
5 - least deprived	1,561	5.2	1,184	5.5	377	4.6
Not reported	116	0.4	78	0.4	38	0.5
Region[2]						
North East	2,595	8.7	1,890	8.8	705	8.5
North West	5,055	16.9	3,670	17.0	1,380	16.7
York. & Humber[3]	3,630	12.2	2,605	12.1	1,025	12.4
East Midlands	2,375	8.0	1,710	7.9	665	8.0
West Midlands	3,215	10.8	2,255	10.5	960	11.6
East of England	2,785	9.3	1,975	9.2	810	9.8
London	3,305	11.1	2,465	11.4	840	10.2
South East	3,955	13.3	2,860	13.3	1,095	13.2
South West	2,815	9.4	2,040	9.5	775	9.4
Not reported	90	0.3	70	0.3	20	0.2
Year of first delivery						
2007[4]-2009	2,093	7.0	1,344	6.2	749	9.1
2010-2012	5,827	19.5	3,875	18.0	1,952	23.6
2013-2015	7,822	26.2	5,363	24.9	2,459	29.7
2016-2019	14,082	47.2	10,967	50.9	3,115	37.6
Outcome of first care proceeding[5]						
With parents	5,074	17.0	3,862	17.9	1,212	14.6
With family/friends	8,608	28.9	6,379	29.6	2,229	26.9
In care	5,874	19.7	4,450	20.7	1,424	17.2
Placed for adoption	7,709	25.8	5,044	23.4	2,665	32.2
Not recorded	2,559	8.6	1,814	8.4	745	9.0

1-based on first delivery
2- region of first care proceedings and rounded to the nearest 5
3- Yorkshire and the Humber
4- April 2007
5- hierarchy to create discrete group based on most serious outcome for at least one child party to care proceeding. Hierarchy based on placed for adoption, in care, with family/ friends or with parents.