

Health vulnerabilities of parents in care proceedings in Wales

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This report provides an overview of health-based vulnerabilities experienced by mothers and fathers of children aged 0–17 across a two-year period prior to their involvement in section 31 care proceedings in Wales.

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- Griffiths, L.J, et al. (2021) Born into Care: One thousand mothers in care proceedings in Wales. A focus on maternal mental health. London: Nuffield Family Justice Observatory.

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Foreword

One of the biggest data gaps in the family justice system is the lack of national data on the characteristics and circumstances of parents of children involved in care proceedings.

Of course, children's services and other agencies are aware of the circumstances in which families are living. But there is no population-level data about parents of children in care proceedings and this means we cannot explore patterns—such as what proportion of parents have substance misuse problems, are numbers and rates rising or falling, and are there higher rates in some parts of the country than others?

We need to know this (and other) information to understand whether there is sufficient and effective support to meet the needs of families. And by linking anonymised data held by different services, we can glean new insights that simply cannot be seen by those working in individual agencies.

Nuffield Family Justice Observatory is committed to addressing these gaps in its understanding. This study, undertaken by the Family Justice Data Partnership, has explored the health vulnerabilities of parents whose children were involved in care proceedings in Wales.

The research lays bare the extent of the health vulnerabilities of these parents, even when compared with a group of parents with similar demographic characteristics. It shows that the family court is often dealing with parents who have unresolved problems that have been known to health services for some time. It makes clear the types of adult needs that must be addressed if we are to see a reduction in the number of children who are subject to care proceedings.

I am very grateful to the authors for their groundbreaking data analysis. The findings provide valuable insights for future policy making.

Lisa Harker
Director

Executive summary

This is the first population-based study to link a cohort of parents—both mothers and fathers—of children involved in care proceedings to health records in Wales. It provides an overview of health service use and health needs of parents during a two-year period prior to court proceedings. The study uncovers the range of parents' health vulnerabilities and higher use of both routine and emergency healthcare when compared to a matched comparison group.

Findings for cohort mothers and fathers were notably similar—parents were more likely to experience poor mental health, substance use and injury-related conditions compared to a comparison group of parents not involved in care proceedings.

Key findings

Both mothers and fathers experienced greater levels of health vulnerabilities during the two-year period prior to court proceedings compared to a comparison group

- Nearly half of cohort parents lived in the most deprived areas of Wales, reiterating established links between deprivation and involvement in care proceedings.

What are 'care proceedings'?

Care proceedings are issued under section 31 (s.31) of the Children Act 1989 and can lead to removal of a child from parents' care on account of actual or likely significant harm.

About the data

This study used anonymised administrative data supplied by Cafcass Cymru, combined with health data within the SAIL Databank, a highly secure, trusted research environment.

Study cohort

The study included a cohort of parents entering care proceedings between 2011 and 2019. We analysed data available for 8,821 parents (57% mothers, 43% fathers) in the two-year period prior to proceedings. Findings were compared to a matched comparison group selected from parents in the general population of Wales with similar demographic characteristics, and who were not subject to care proceedings (32,006 parents).

- Cohort parents had higher levels of healthcare use across multiple healthcare settings.
- Differences in healthcare use were more pronounced for unplanned or emergency care.
 - Within the cohort, 34% of mothers, and 19% of fathers had emergency hospital admissions, compared to 15% and 8% for comparison group mothers and fathers.
 - 63% of mothers, and 55% of fathers in the cohort had emergency department attendances, compared to 37% for both comparison mothers and fathers.
- Health conditions with the widest variation between cohort and comparison groups were related to mental health, substance use, and injuries.
 - Common mental health conditions were around three times as likely in cohort parents, depression being the most likely condition (44% mothers, 24% fathers).
 - Cohort parents were nine times more likely to have a less common severe mental health illness recorded (including schizophrenia).
 - Around one in five cohort parents had substance use-related conditions (19%), much higher than parents in the comparison group (2%).
 - Cohort parents were more likely to experience assault, or self-harm related emergency attendances (12 and 7 times more likely than comparisons respectively).

Implications of the findings

These findings highlight the heightened socioeconomic and health vulnerabilities experienced by both mothers and fathers when compared with a comparison group matched on deprivation, sex, and age. The higher use of emergency healthcare is particularly noteworthy and indicates considerable crisis health need among parents. Elevated mental health, substance use, and injury-related conditions are coupled with higher use of emergency services. Better understanding of the needs and vulnerabilities of this population, including the reasons why parents are making greater use of emergency healthcare may provide opportunities to improve a range of support and preventative interventions that respond to crises in the community.

Introduction

The Family Justice Data Partnership (FJDP) provided analyses of infants and newborn babies subject to care proceedings in Wales under section 31 (s.31) of the Children Act 1989 (2019) (Alrouh et al. 2019).¹ The report revealed the scale and rising number of families involved in such proceedings and recommended the need for preventative action. Building on this work, the FJDP further examined characteristics of mothers of infants involved in care proceedings, including mental health needs (Griffiths et al. 2020a; Griffiths et al. 2020b; Griffiths et al. 2021). The current report extends this work by examining a broader range of parental vulnerabilities for both mothers and fathers of children of any age involved in care proceedings.

Appropriate and effective health and social support are required to help alleviate some of the need for care proceedings. However, a joined-up health and children's social care response to parents requires far greater knowledge about parents' healthcare needs and their interaction with health, and social care services. This study advances the evidence base regarding interaction with health services by focusing on parents in care proceedings and providing completely new evidence, which will enable services to be more effectively tailored.

Combinations of domestic violence, parental mental health issues and/or learning disability, and parental alcohol and/or drug misuse have received considerable attention in relation to risk of child abuse and neglect (Brandon 2009; Hood et al. 2020). Skinner and colleagues (Skinner et al. 2021) have recently called for a better understanding of wider factors impacting on families involved with child protection services. More comprehensive evidence of health needs and vulnerabilities, including more in-depth exploration of specific health conditions of parents entering care proceedings and their use of different types of healthcare provision (routine; emergency), will also enable enhanced response from the family courts and other services.

This current study seeks to address such evidence gaps with a view to aiding assessment of current policy and its future development. This is the first time that population-level data collected routinely by Cafcass Cymru (a Welsh government organisation that represents children's best interests in family justice proceedings in Wales) for mothers and fathers has been linked to health records for research. Preliminary findings are reported here, setting the scene for more in-depth analyses that will enable greater insight into family circumstances and impacts on parents and children involved in s.31 care proceedings.

¹ Care proceedings can result in interim or permanent removal of a baby from parents' care. At the close of care proceedings, infants may return to birth parents, or be placed with alternative carers or for adoption. If a local authority intends to remove a child from his or her parents' care or assume parental responsibility, the local authority must apply for a care order. Care orders are applied for and authorised by the family courts under s.31 of the Children Act 1989.

Methodology

Administrative data collected and maintained by Cafcass Cymru was acquired by the privacy-protecting Secure Anonymised Information Linkage (SAIL) Databank (Ford et al. 2009; Lyons et al. 2009; Jones et al. 2017, 2020). The SAIL Databank contains extensive de-identified health and administrative data about the population of Wales, accessible in anonymised form via a secure data sharing platform, all underpinned by an innovative and proportionate information governance model.

We used Cafcass Cymru data (described elsewhere (Johnson et al. 2020)) to create a cohort of parents of children involved in s.31 care proceedings in Wales between 2011 and 2019 inclusive, retaining data relating to the earliest application date for each parent within this period. The earliest reported court application date was set as the 'index' date, and was used as the date for calculation of demographic characteristics.

We aimed to create a comparison group as similar as possible to the cohort, accepting that parents involved in care proceedings are in general, likely to have had very different life experiences to any comparison group we could generate using administrative data. We used an existing method (Johnson et al. 2021) to create a list of all parents with children in Wales at a fixed 'index' date of 1 July 2015 (mid-point of cohort study period), and who were not involved in family court proceedings.² This general population of parents was matched to the cohort so it had similar characteristics relating to parent type (mother or father); area-level deprivation (deprivation quintiles or fifths: most deprived to least deprived); and parent age at index date (categorised into: <26, 26-35, 36+).

The analysis was designed to be descriptive, to provide a high-level overview of healthcare use across multiple settings, followed by a more detailed review based on types of diagnoses and events being recorded. For each individual we aimed to link to multiple health datasets for a two-year period preceding initial court dates (the index date) to understand overall healthcare use, and to further investigate the underlying reasons for these health events. For each measure, we calculated the total number of people in the group with at least one of the health event types, for example, a hospital admission (the numerator), and divided this by the total number of individuals in that group (the denominator) to create a percentage value. Measures were not treated as being mutually exclusive, for example, an individual could be included in more than one measure. This study used Cafcass Cymru records linked to the following data sources:

- Welsh Demographic Service Dataset
- Welsh Index of Multiple Deprivation

² A data linkage method was used to estimate household composition for all properties in Wales, we then selected parents from those households.

- Patient Episode Database for Wales (hospital admissions)
- Emergency Department Dataset for Wales (accident and emergency attendances)
- Welsh Longitudinal General Practice (general practice interactions)
- Outpatient Dataset for Wales (hospital outpatient appointments).

Full methodology details are available in Appendices A to E.

Study strengths and limitations

To our knowledge, this is the first study to publish information on the parental vulnerabilities of both mothers and fathers involved in care proceedings in Wales, and as such allows comparisons between parent type within the cohort, but also against a comparison group of parents matched on age and deprivation. Better understanding of the needs and vulnerabilities of this group may provide opportunities to improve a range of support and preventative intervention for these families. This report covers a wide array of health data and health conditions, some of which for the first time within this population. This is also the first study in the UK to use linked health and family justice data at population level for fathers, and builds on the evidence base (Bedston et al. 2019; Philip et al. 2020) for a group often excluded from such research and policy work (Brown et al. 2009; Critchley 2021).

We acknowledge the following limitations.

- Studies based on administrative data are necessarily limited by the scope and quality of available data, and are collected primarily for non-research purposes. Specific strengths and limitations of Cafcass Cymru data are reported elsewhere (Bedston et al. 2020; Johnson et al. 2020).
- Cohort parents had more children aged under 1 year at the index date compared to comparisons. This may influence levels of healthcare use for mothers—for example, for pre- and post-natal appointments. Further work should consider whether to adjust methods to account for this.
- The SAIL Databank contains data from around 80% of general practitioner (GP) practices in Wales; as such, data for GP-based measures was available for the majority, but not all individuals. The reported values (percentages) for GP measures were not adjusted for the reduced coverage; the method is the same for both study groups and therefore the comparisons remain valid. We recommend any further, more detailed analyses should investigate this further.

By design, analyses are descriptive and include a wide range of measures, providing a broad picture of health service use and underlying conditions. Reported measures are not necessarily mutually exclusive. Further analyses (by FJDP or others) should consider more detailed analyses on more specific measures to provide more detailed results.

We used the earliest application date within the study period for each parent as a proxy measure to represent the first occurrence within care proceedings. We

recommend future work aims to account for any bias resulting from recurrent care proceedings (Alrouh, Broadhurst and Cusworth 2020).

We compare cohort findings against a matched comparison group (using age, deprivation, gender, and parent-type); this study design choice was made to allow more meaningful comparisons to be drawn between study groups. Factors such as deprivation are known to adversely affect health outcomes (Marmot et al. 2020; Davies et al. 2019) and as such, readers should be aware that health use disparities discussed in this report would likely be greater if we had chosen to compare findings against a general population comparison group. Either method is achievable using data within SAIL, future work should consider this aspect within study design.

Findings

The study findings are presented in sections as follows:

- study group numbers
- demographic characteristics
 - area-level deprivation
 - parental age and youngest child age at index date
- health measures
 - overall healthcare use
 - health conditions
 - emergency hospital admissions
 - GP records
 - summary of health conditions
 - mental health and substance use
 - injury-related conditions.

Study group numbers

The study ‘cohort’ group consists of 8,821 parents, distributed between 57% mothers (n=5,062), and 43% fathers (n=3,759). The matched comparison group consisted of 32,006 individuals with 18,369 mothers (57%), and 13,637 fathers (43%). Cohort creation methods, including data linkage match rates are available in Appendix B.

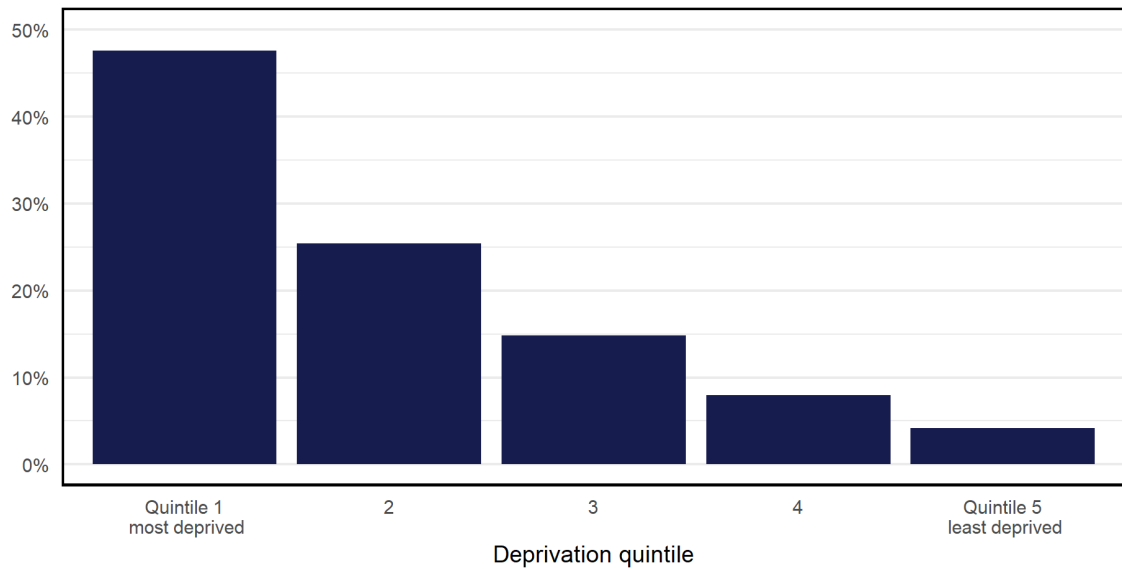
Demographic characteristics

As intended through the matched comparison group process, the comparison group has the same distribution in terms of deprivation, parent type, and age categories. However, there are some differences (discussed below) in parental age as the matching was completed on age categories, not on specific ages.

Area-level deprivation

Figure 1 shows the area-level deprivation for the cohort that repeats the established pattern of individuals involved in care proceedings being more likely to reside in areas of higher deprivation (Griffiths et al. 2020a). Nearly three quarters (73%) of cohort parents lived within the two most deprived quintiles, with nearly half (48%) living in the most deprived quintile. The comparison group had the same distribution for area-level deprivation.

Figure 1: Percentage of parents in study cohort group by area level deprivation quintiles



Parental age and youngest child age at index date

Average age of mothers (29.2 years) in the study cohort was around three years younger than fathers (32.3 years). Cohort parents were 1.4 years younger on average (mean) than the comparisons.³ Figure 2 shows the age distribution between study groups, the notable difference is that there were more young parents (under 20 years old) in the cohort.

Figure 2: Percentage of parents by age category

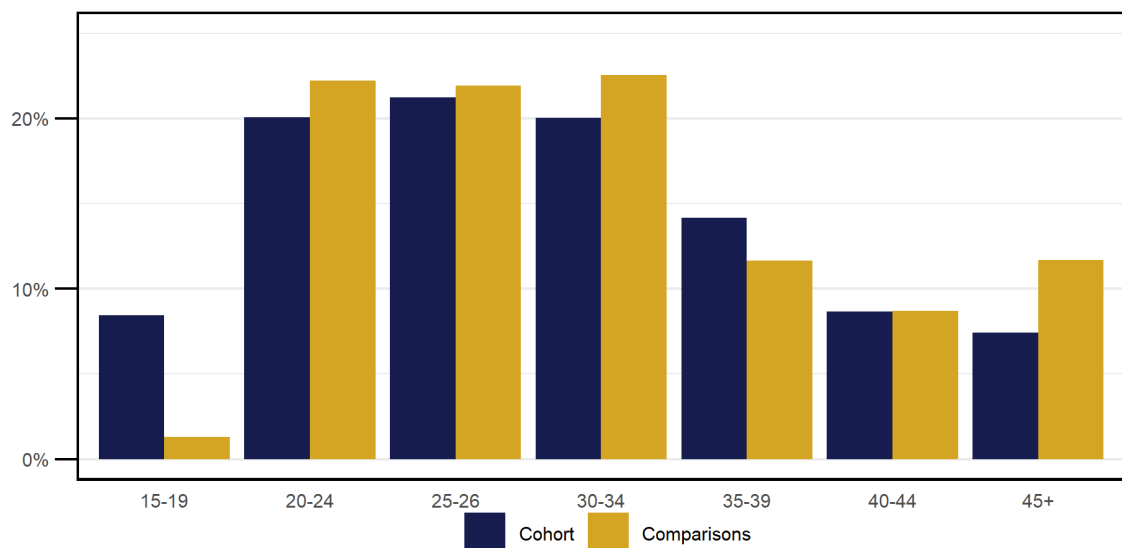
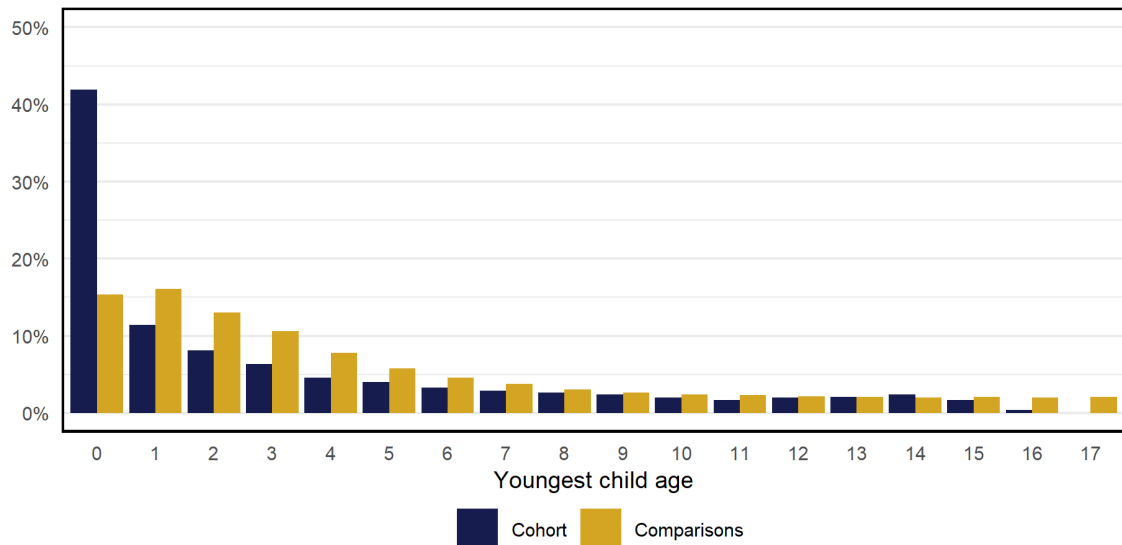


Figure 3 shows the distribution of the age of the youngest child. Over 40% of cohort parents had infants (under one year old), reducing to 11% for children aged one,

³ Variation in age between the cohort and comparison groups is due to use of age bands, rather than specific age in the matching process.

followed by a general decreasing trend to children aged five (4%), before remaining at around 2%–3% for all other ages. The figure highlights the obvious discrepancy between cohort and comparison groups, with the cohort having a higher percentage of infants (42% compared to 15%). It should be noted that since a greater proportion of cohort mothers had infants at the index date compared to the comparisons, they may have had more pregnancy and childbirth-related healthcare use, influencing healthcare use measures discussed in the following sections.

Figure 3: Distribution of age of youngest child



Health measures

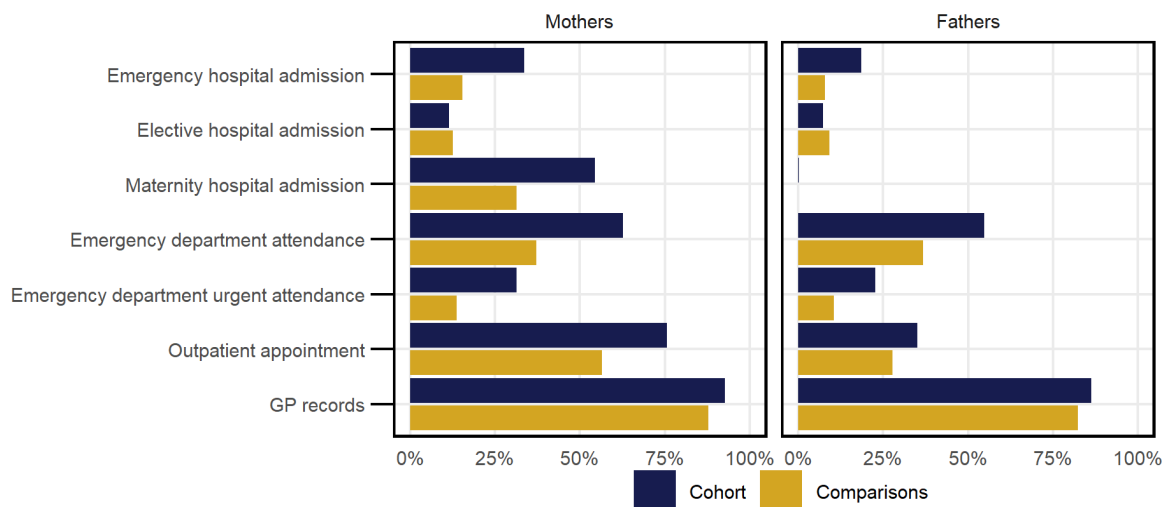
Overall healthcare use

To analyse and visualise healthcare use patterns we explored the number of individuals who had at least one interaction in various healthcare settings. The overall pattern, which holds true for mothers and fathers, is one of higher healthcare use for cohort parents compared to the comparison group in all healthcare settings; the only exception being where the comparisons had slightly higher elective (planned) hospital admissions.

For unplanned, or emergency attendances or admissions, there are larger differences between groups. For example, 63% of cohort mothers had emergency attendances, and 31% had urgent emergency attendances, which is 25% and 18% higher, respectively, than for the comparison group mothers.⁴ Similar differences for fathers are observed, with differences of 18% and 12% between groups. Emergency hospital admissions show a similar variation, with an 18% difference for mothers, and 11% for fathers.

⁴ 'Urgent' emergency attendance measure is based on emergency attendance triage classification (priority one to three ('1-immediate', '2-very urgent', or '3-urgent')). Further details available in Appendix C.

Figure 4: Percentage of individuals within study groups by type of healthcare use two years prior to care proceedings



Health conditions

This section describes grouped health conditions of individuals using the established International Classification of Diseases⁵ (ICD-10) hierarchical classification system in which clinical diagnoses are classified at various levels of granularity. We predominantly report at chapter level—the highest classification level.⁶ Further detail is provided in Table C.3 (Appendix C), and we use an exemplar (dementia) to further explain the ICD-10 structure and our use of ‘chapter-level’ terminology.

‘Early onset dementia’ could be reported at the following levels in ICD:

Chapter-level (5)	Mental and behavioural disorders
Chapter block F00-F09	Organic, including symptomatic, mental disorders
F00	Dementia in Alzheimer disease
F00.0	Dementia in Alzheimer disease with early onset

Emergency hospital admissions

Multiple diagnostic codes can be recorded for each emergency inpatient admission.^{7, 8} For this analysis we included codes in any diagnostic position,

⁵ ICD classification provides multiple granularity levels, including: chapter; blocks; and further details.
<https://www.who.int/standards/classifications/classification-of-diseases>;
https://icd.who.int/browse10/Content/statichtml/ICD10Volume2_en_2010.pdf

⁶ The following chapters were excluded from analyses: 15: Pregnancy, childbirth and the puerperium; 18: Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified; 21: Factors influencing health status and contact with health services; 22: Codes for special purposes.

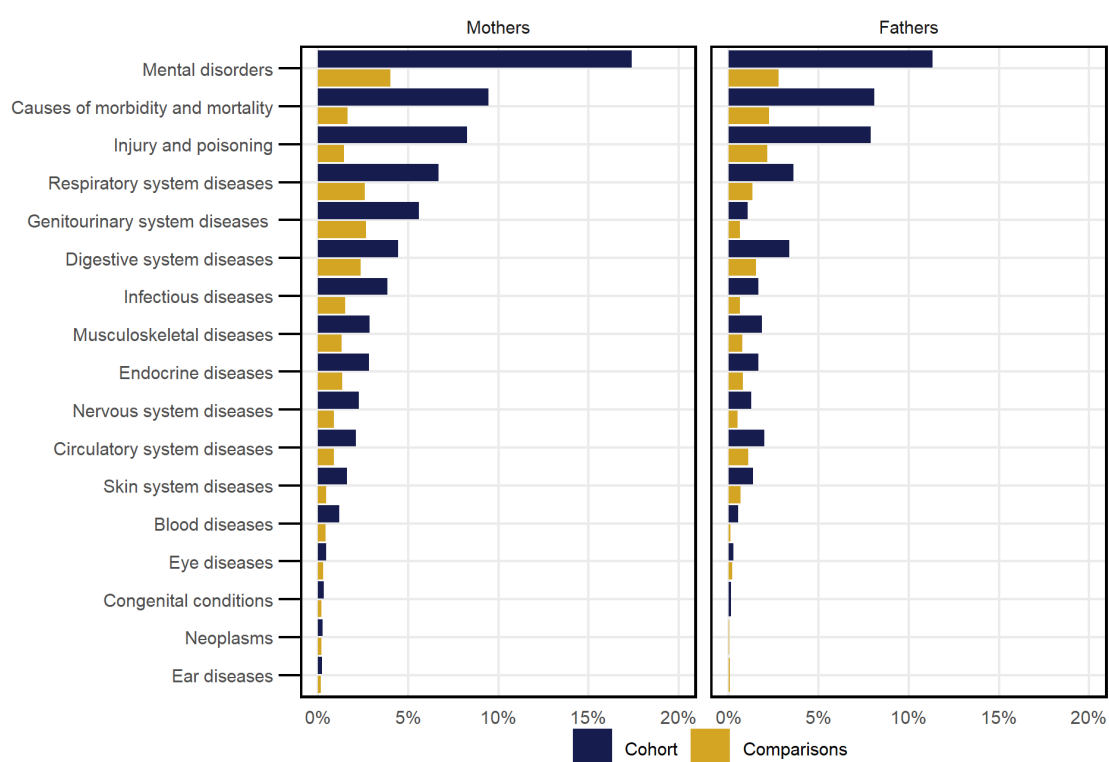
⁷ Primary diagnosis codes capture the main reason for admission, while secondary diagnosis codes capture other conditions that may co-exist. For example, a patient may have a primary diagnosis of a fractured femur, and secondary diagnosis codes would capture the injury cause (for example, a fall), and other conditions, such as mental health disorders.

⁸ Further information on clinical coding in Wales:
https://www.wao.gov.uk/sites/default/files/clinical_coding_eng_10.pdf

therefore including both the main admission reason as well other conditions and comorbidities.^{9,10}

As noted, there were higher levels of emergency admissions in the cohort and therefore, the overall trend shown in Figure 5—higher levels for most conditions within the cohort compared to comparisons—is expected. This chart indicates the types of conditions with the highest levels, and the relative difference between the study groups. The most common condition in the cohort, and with the largest variation compared to comparisons is for ‘mental and behavioural disorders’ (13% mothers, 11% fathers). The next most frequent conditions are those relating to injuries and poisoning, which should be considered alongside the ‘Causes of morbidity and mortality’; the former records the type of injury, the latter records the cause.¹¹ For both, there are around 8% of individuals within the cohort with such conditions compared to around 2% in the comparison group; this is similar for both mothers and fathers.

Figure 5: Emergency hospital admissions—percentage of individuals by health condition



IOD classification allows a great deal more detail than is reported above, allowing further insight into the types of conditions present. As an example to provide more detail into the type of reasons behind the emergency admissions, the three chapters with highest recorded levels were analysed at the chapter block level and are reported in Table 1 (results are shown for the cohort only, and not disaggregated by parent type).

⁹ <http://www.datadictionary.wales.nhs.uk/#!/WordDocuments/primaryicddiagnosticcode.htm>

¹⁰ <http://www.datadictionary.wales.nhs.uk/#!/WordDocuments/secondaryicddiagnosticcode.htm>

¹¹ ICD-10 chapter: Injury, poisoning and certain other consequences of external causes.

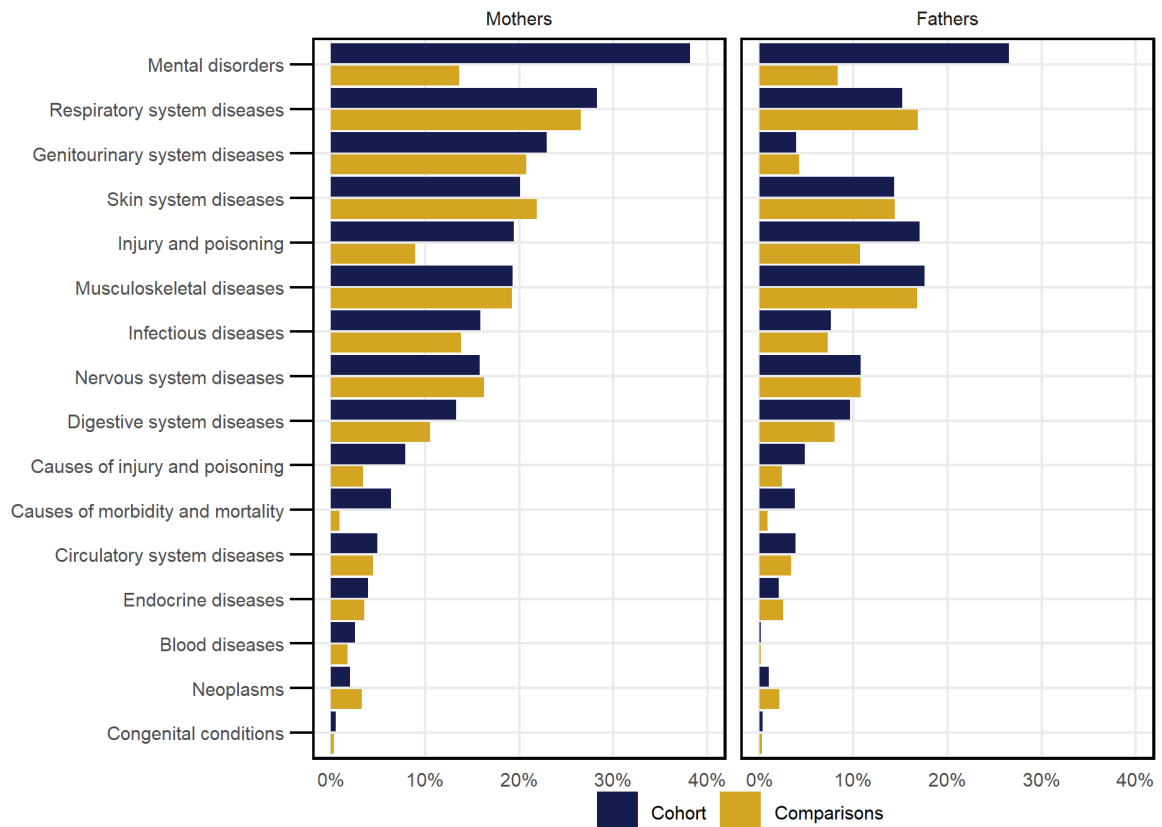
Table 1: Level one ICD-10 descriptions for top three conditions (cohort only, combined mothers and fathers)

ICD-10 chapter code, ICD-10 chapter block code, text description	Total	Percent
Chapter 5: Mental and behavioural disorders		
F10–F19: Mental and behavioural disorders due to psychoactive substance use	945	11%
F30–F39: Mood [affective] disorders	558	6%
F40–F48: Neurotic, stress-related and somatoform disorders	299	3%
Chapter 19: Injury, poisoning and certain other consequences of external causes		
T36–T50: Poisoning by drugs, medicaments and biological substances	417	5%
T51–T65: Toxic effects of substances chiefly nonmedicinal as to source	140	2%
S00–S09: Injuries to the head	111	1%
Chapter 20: External causes of morbidity and mortality		
X60–X84: Intentional self-harm	386	4%
V01–X59: Accidents	322	4%
X85–Y09: Assault	92	1%

GP records

GP data contains Read codes, which are used by GPs to record patient conditions and procedures.¹² We used these codes to classify records into similar ICD-10 chapters as described above. Figure 6 displays GP-recorded diagnoses and shows that for most conditions there is little difference between the study groups. The specific conditions with larger relative differences between groups, and in common with emergency hospital admission conditions, are: mental disorders, injury and poisoning, and causes of injury and poisoning (including for example, accidents, assault, and self-harm). Over a third (38%) of mothers, and over a quarter (27%) of fathers were diagnosed with mental health disorders (25% and 18% higher than comparisons respectively). Nearly a fifth (19%) of the cohort mothers were diagnosed with injury and poisoning-related conditions, 10% higher than in the comparisons; for fathers the level was slightly lower at 17% compared to 11% in the comparison group. Chapters relating to the causes of injury and poisoning, and causes of morbidity and mortality, were generally lower in total levels, but with larger relative differences between cohort and comparisons when compared to other conditions.

¹² Read codes' which are used by GPs to record patient conditions and procedures.
https://www.datadictionary.nhs.uk/web_site_content/supporting_information/clinical_coding/read_coded_clinical_terms.asp?shownav=1

Figure 6: Percentage of individuals by health condition (GP diagnosis records)

Summary of health conditions

These initial analyses provide a general picture of the higher levels of overall healthcare use and health needs for the cohort compared with the comparison group, with both mothers and fathers within the cohort having higher levels for nearly all of the conditions analysed. The analyses also reveal health issues that stand out as having wider variation between cohort and comparison groups. These are: mental health (including mental and behavioural disorders, and substance use), injury and poisoning type conditions (including poisoning by drugs, and injuries to the head), and the causes of morbidity (including accidents, self-harm, and assault). The detail provided in Table 1 aims to provide further context of such conditions more commonly experienced by parents involved in public law family court proceedings compared to their counterparts in the comparison group. The remainder of the analyses presented in this report aims to bring the focus onto these conditions.

Mental health and substance use

We examined the proportion of parents who had a mental health or substance use contact or admission during the two-year baseline period as recorded within GP or hospital inpatient data. Mental health conditions were broken down into specific conditions, with substance use categorised into drugs or alcohol-related conditions.

Figure 7 illustrates the stark difference and increased levels of both common mental health conditions and substance use for parents in the cohort compared to those in the comparison group—a general pattern repeated for both mothers and fathers.

Over half (53%) of cohort mothers, and over 30% fathers, had at least one mental health condition recorded within the two years prior to court involvement; this represents two and a half and three times the level for mothers and fathers respectively, when compared to comparisons. The most common type of mental health condition for cohort parents was depression (mothers 44%, fathers 24%), followed by anxiety (mothers 24%, fathers 15%).

Substance use was recorded for around one in five parents, but with a larger relative difference compared to comparisons than noted for the common mental health conditions. As a combined measure, mothers and fathers were close to 12 times more likely to have substance use conditions recorded, 14 times more likely to have drug related substance use recorded, and 10 times more likely to have alcohol-related substance use recorded.¹³ The separate measures for drug and alcohol use showed similarly wide differences between the cohort and comparison group of parents.

Figure 7: Percentage of individuals with common mental health conditions and substance use disorders (combined hospital admissions and GP measure)

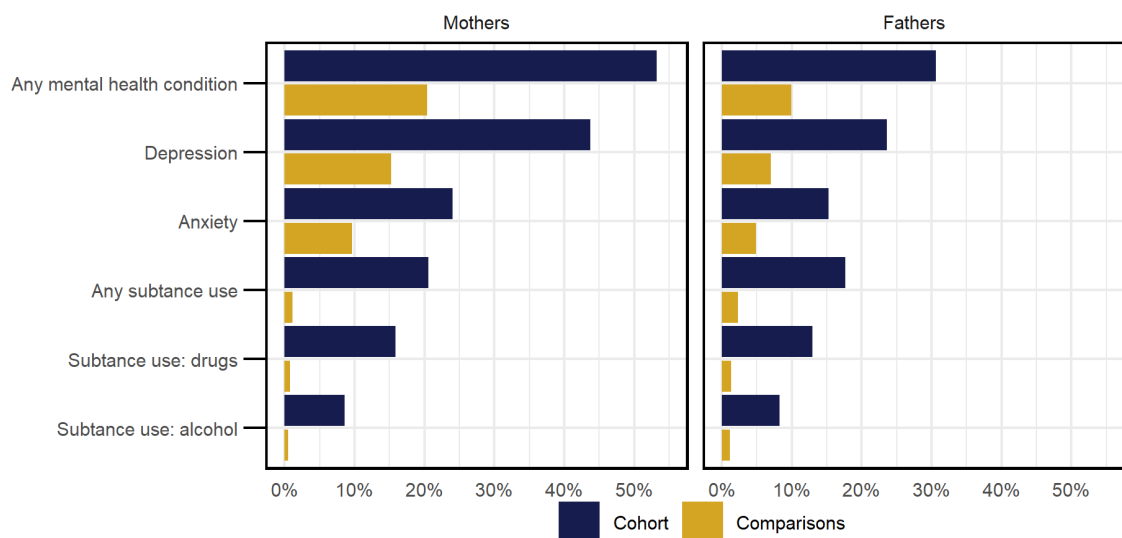
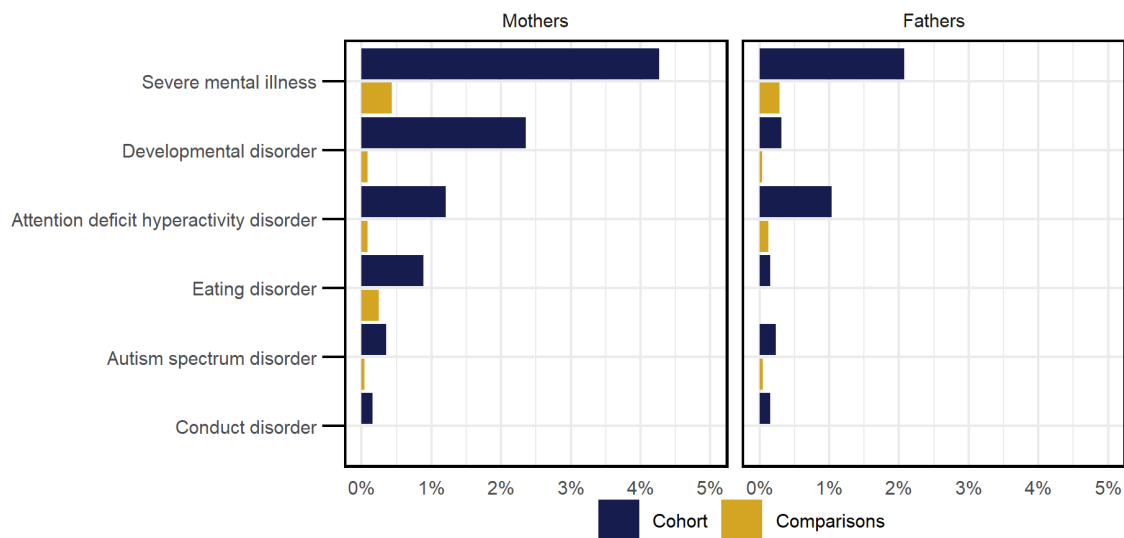


Figure 8 includes the less common mental health conditions separately to allow visualisation at the smaller scale (0% to 5%). Severe mental illness, which includes, for example, schizophrenia and bipolar disorders, was recorded in 4.3% of cohort mothers, and 2.1% of fathers. Developmental disorders were present for 2.4% of mothers, and 0.3% of fathers; attention deficit hyperactivity disorder (ADHD) was present for 1.2% of mothers and 1.0% of fathers; with 0.9% of mothers and 0.2% of fathers having eating disorders; autism and conduct disorders were present in less

¹³ A combined (mother and father) measure is reported here as small variation in the levels between mothers and fathers in the comparisons greatly influences the relative difference. For example, for overall substance use, levels for comparison mothers were 1.2%, and fathers 2.3%; while the overall level in cohort mothers and fathers was similar (20.6% and 17.7%), the relative difference for mothers would be close to 18 times higher than comparison mothers, and less than eight times for fathers.

than 0.5% for both mothers and fathers.¹⁴ All of these conditions are more prevalent in the cohort than in the comparison group. Further, the relative differences between cohort and comparison groups are higher than for the common mental health conditions. For example, occurrence of anxiety and depression is around 3 times higher in cohort parents, whereas severe mental illness is 11 times higher for mothers, and 7 times higher for fathers; developmental disorders are over 20 times higher for mothers compared to comparisons, and for ADHD there were 10 times more fathers, and 12 times more mothers relative to comparisons.

Figure 8: Percentage of individuals with less common mental health conditions (combined hospital admissions and GP measure)

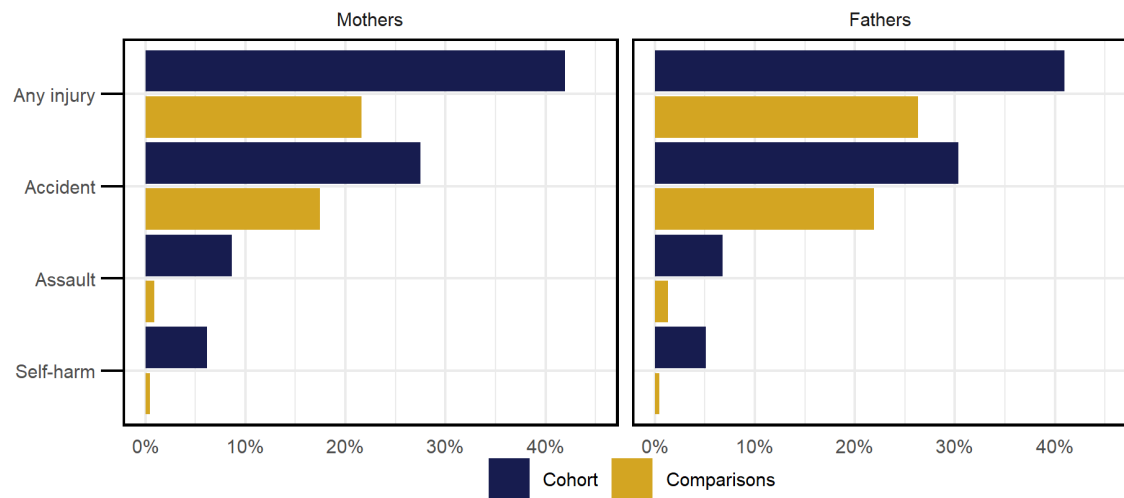


Injury-related conditions

Figure 9 displays levels of injury-related emergency department attendances, where ‘accidents’, ‘assault’, and ‘self-harm’ are sub-classifications of the ‘any injury’ measure. Again, the overall trend is one of increased levels within the cohort for both mothers and fathers compared with comparisons. Of the total cohort mothers, 42% had an ‘any injury’ attendance—nearly twice as many as the comparisons; fathers had similar levels at 41% (1.6 times more likely than comparisons). Injury attendances classed as ‘Accident’ had similar differences compared to the comparisons (1.5 times more likely). The two other measures of assault and self-harm are where the major relative differences occur. Cohort mothers were nearly 10 times more likely to have an assault classified attendance, and fathers were five times as likely. For the self-harm measure, cohort mothers were nearly 14 times as likely to have such an attendance, and fathers were over 10 times as likely when compared to their counterparts within the comparison group.

¹⁴ The developmental disorders definition used relates to specific developmental disorders of speech and language, scholastic skills, and motor function.

Figure 9: Percentage of individuals with injury-related emergency department attendances by attendance group category



Discussion

This study provides four sets of important new insights. First, it uncovers parents' patterns of interaction with health services, based on routine administrative data. The most pronounced difference between the cohort parents and the comparison group was found in the use of what we have termed 'reactive' type health services. When compared to comparison groups, the cohort parents have greater need of emergency health services, evidenced through emergency attendances and emergency hospital admissions. Cohort mothers (63%) and fathers (55%) had far higher emergency attendances than comparisons (37% for both mothers and fathers). Cohort parents were also more likely to have higher severity emergency attendances (28% compared to 12% for comparisons), based on attendances triaged as 'immediate', 'very urgent', or 'urgent'.

Secondly, differences between the study groups were particularly pronounced with regards the use of services for mental health need, substance use and injuries/injury and poisoning. Although overall healthcare use across healthcare settings was higher for mothers in the study cohort than fathers, the differences between the cohort parents and the comparison groups were remarkably similar. Common mental health conditions were around three times more likely in cohort parents—with depression the most common condition recorded for both mothers and fathers. Findings resonate strongly with our earlier analyses, which recommend a *closer* co-ordinated response between children's social care and health services, to prevent breakdown of parenting capacity, with a far greater priority placed on maternal mental health. Based on all parents in care proceedings across our nine-year observational window, this report adds further weight to this recommendation, and indicates that it applies to fathers, as well as mothers. Again, we have also noted the concentration of families, in the most socioeconomically deprived areas of Wales.

Third, and again building on previous FJDP analyses, the study cohort included a proportion of parents with more severe mental illness (including schizophrenia and bipolar disorders). Although overall only a small proportion of parents had such recorded diagnoses (under 5%), the levels were far greater for cohort parents, than comparison parents (9 times higher). By disentangling mental health need, it is clear that a recommendation for closer coordinated service provision still stands, but that the mental health response will need to be tailored to the level, and type of mental health disorders, that parents experience—for both mothers and fathers.

Finally, it is clear that, for many, health needs are complex and multiple. Based on this first set of descriptive analyses it is evident that for a proportion of parents, vulnerabilities include both mental health need and problems of substance use. The elevated level of assault or self-harm for the cohort parents is also notable, with a stark difference between parents involved in care proceedings and our comparison group.

Again, when we focus on the type of health service records, the similarities between the cohort mothers and fathers are striking—not just in their elevated use of emergency health services but in addition, the most likely reasons behind emergency presentations. Mental health is the most common condition present for parents with emergency hospital admissions, but with injury and poisoning, and causes of such injuries as the next most common reasons. These types of conditions also show the widest variation between study groups for GP-diagnosed conditions.

The findings we present are based on a first exploratory, descriptive analysis, which aim to begin to unpack parents' interaction with healthcare services prior to court proceedings. However, we can reasonably conclude that the information we have gleaned from parents' records is in keeping with a broader national and international literature, which reports higher use of accident and emergency health services among parents with problems of mental health and substance use (Byrne et al. 2003; Kim et al. 2018). A key finding from this international literature is that parents with problems of mental health and substance use are more likely to require emergency healthcare on account of accidents, injury, or self-harm, or because they have not sought help with health conditions at a timely point from primary care providers. Alternatively, given same-day GP appointments can be difficult to obtain (Welsh Government 2020) and that there are significant waiting lists for mental health and drug and alcohol services, it may be that these gaps in provision, results in parents' turning to emergency healthcare (Royal College of Psychiatrists 2020). The same can be said, where community-based crisis services are unavailable (Care Quality Commission 2020). Such issues of access to health care are expected to be exacerbated through and following the COVID-19 pandemic (Molodynski et al. 2020).

Conclusion

The findings presented in this report highlight the elevated health needs of both mothers and fathers prior to involvement in care proceedings in Wales. Higher levels of mental health needs, substance use and injury related conditions, compared to a comparison group are particularly noteworthy. Moreover, we can conclude that there are considerable costs for health care, adult social care and children's statutory services where parents' needs remain unresolved. High use of emergency healthcare services strongly suggests the potential failure in provision of—or access to—support services at an earlier point to prevent or manage crisis. Elevated rates of self-harm are very concerning, for example. Given pressures on emergency healthcare provision, the evidence is that emergency departments are unable to offer treatment over and above attending to immediate physical healthcare needs. However, this report indicates that proactively connecting parents with relevant support services, such as for mental health is an important factor for those providing emergency healthcare services; and may help reduce demand in the longer term. This point is not new, and there is substantial literature that calls for better management of patient journeys through healthcare services, and far greater integration of health and social care provision (both within child and adult social services). This conclusion, which calls for improved and more tailored mental health care provision (NHS England 2020) is particularly relevant for parents in care proceedings, where services need to be attuned to parents histories of adversity and trauma (Mason, Taggart and Broadhurst 2020).

In this first exploratory analysis, we have uncovered heightened use of emergency healthcare based on establishing whether a mother or father had at least one interaction with multiple healthcare services. International literature suggests such populations experience higher rates of repeat emergency hospital use; a hypothesis that warrants testing through further research, as a particular service response is required in relation to frequent users of emergency services (Soril et al. 2015; Laferté, Dépelteau and Hudon 2020). In line with our original aims, we provide a broad view of healthcare use, and an understanding of how the types of health conditions vary compared to a comparison group.

Further work would be required to provide more detailed findings to understand how healthcare use varies depending on a multitude of factors including: protected characteristics (for example, race, age, sex) and heritage; household-based factors (for example, age and number of children, family structure and parental relationship); and factors related to family court (for example, type of court order). In the context of established awareness of the relationship between inequality and health need (Marmot et al. 2020) it is critical that parents in care proceedings are not simply treated as a simple homogenous group. For example, future research should consider the intersectionality of characteristics such as gender or race with healthcare needs (Lens 2019; Rice, Harrison and Friedman 2019).

In this report we concentrate on the period leading up to care proceedings. Significant life events, such as having a child removed, can lead to immediate psychosocial crisis prompting a deterioration in health conditions, especially mental health-related issues including suicidal ideation, along with worsened socioeconomic conditions (Broadhurst and Mason 2020). It is therefore important to also consider further work to understand health conditions, and patterns of healthcare use over the lifetime of involvement in care proceedings and beyond. This may indicate periods of highest health service demand, and highlight when services are most required to support parents and families.

This report highlights several factors including substance use and mental illness identified as affecting the environment in which a child grows up, classified as adverse childhood experiences (ACE) (Public Health Wales 2015). Further household ACE factors not included in this report include parental separation, domestic abuse, and incarceration. In previous work we report higher levels of single parent households involved in public law proceedings compared with a general population (Johnson and Griffiths 2021; Roe 2021). Domestic violence could be investigated in future work, though is underreported in health data (Richardson et al. 2002). Linkage of datasets from across the justice system via the Data First programme (Ministry of Justice 2020) may provide future ability to investigate levels of incarceration for this population using SAIL. Given multiple and long-term effects of such experiences for children involved in the family justice system, further research is required to examine such impacts. This may further enforce the need for increased advocacy services within health and social care to support vulnerable children and families as laid out in the Well-being of Future Generations (Wales) Act (2015)[21], and the Welsh Government Programme for Government (Welsh Government 2021).

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Appendix A: Data sources

For each data source within the SAIL Databank, including records from Cafcass Cymru, personal identifiable data has been removed and replaced with an anonymised linkage field (ALF) for each person to enable linkage of records from different sources. For properties, a residential anonymised linkage field (RALF) (Rodgers *et al.*, 2009; Johnson *et al.*, 2021) is created. SAIL anonymisation and linkage methodology is described elsewhere (Ford *et al.*, 2009; Lyons *et al.*, 2009; Jones *et al.*, 2017, 2020). All data within the SAIL Databank is treated in accordance with the Data Protection Act 2018 and are compliant with the General Data Protection Regulation, 2016.

Cafcass Cymru

The primary source of family justice data was electronic case management data routinely produced by Cafcass Cymru, which was securely transferred to and anonymised within the SAIL Databank. Further details about Cafcass Cymru and Cafcass England data, and the Family Justice Data Partnership are available elsewhere (Bedston *et al.*, 2020; Johnson *et al.*, 2020). All instances of s.31 care proceedings initiated between 1 January 2011 and 31 December 2019 were included in this study. Electronic data of sufficient quality for public law research is not available before 2011. For the purpose of this study, the Cafcass Cymru data was linked to other data sources within the SAIL Databank using ALFs, including the following:

Welsh Demographic Service Dataset (WDSD)

The Welsh Demographic Service Dataset (WDSD) provides demographic characteristics of people registered with general practices in Wales—providing residents' demographic and address details (RALFs) including lower layer super output area (LSOA 2011 version), which can be linked to obtain measures of deprivation.

Welsh Index of Multiple Deprivation (WIMD)

The Welsh Index of Multiple Deprivation (WIMD) is the Welsh government's official deprivation measure for small areas in Wales. Each LSOA, which in 2011 in Wales and England contained an average population of 1,614 (ONS, 2012) is ranked from 1 (most

deprived) to 1,909 (least deprived), then divided into five equal parts to obtain deprivation quintiles.

Health datasets

For health datasets used in this study data was available for the entire study duration, the restriction was set as per the described study design where the baseline period was set as two years proceeding an individual's index date. GP data is available for approximately of 80% of GP practices in Wales; 90% of cohort parents, and 85% of comparison parents had GP records within the baseline period; we did not adjust the denominator for GP measures—this may result in underreporting in both study groups and any further more detailed work should investigate this further. Further dataset information and data dictionaries are available elsewhere.^{15,16}

Patient Episode Database for Wales (PEDW)

The Patient Episode Database for Wales (PEDW) contains data for all episodes of hospital inpatient and day-case activity in NHS Wales hospitals, including elective and emergency admissions, minor and major operations, and hospital stays for childbirth. Key data variables used in this study include admission dates and ICD-10 diagnosis codes for each episode of care, relating to the reason for admission and co-morbidities for each patient¹⁷.

Emergency department dataset for Wales (EDDS)

The Emergency Department Data Set (EDDS) attempts to capture all activity at Emergency Departments (EDs) and Minor Injury Units in NHS Wales hospitals.

Outpatient dataset for Wales (OPDW)

The Outpatient Data Set Wales captures data for all consultant or nurse-led clinic activity and includes face-to-face appointments, virtual clinic appointments (patient contact) phone, and virtual clinical reviews (non-patient contact).

¹⁵ <https://saildatabank.com/saildata/sail-datasets/>

¹⁶ <http://www.datadictionary.wales.nhs.uk/#!/WordDocuments/patientleveldatasets5.htm>

¹⁷ [International Statistical Classification of Diseases and Related Health Problems 10th Revision](http://apps.who.int/classifications/icd10/browse/2016/en)
<http://apps.who.int/classifications/icd10/browse/2016/en>

Welsh Longitudinal General Practice data (WLGP)

The Welsh Longitudinal General Practice (WLGP) data contains GP records for patients registered with a Welsh GP, for the approximately 80% of practices that supply data to the SAIL Databank. Each record within the data source contains key information such as the event date and 'Read codes' which are used by GPs to record patient findings and procedures.¹⁸

¹⁸https://www.datadictionary.nhs.uk/web_site_content/supporting_information/clinical_coding/read_coded_clinical_terms.asp?shownav=1

Appendix B: Cohort and comparison group selection process

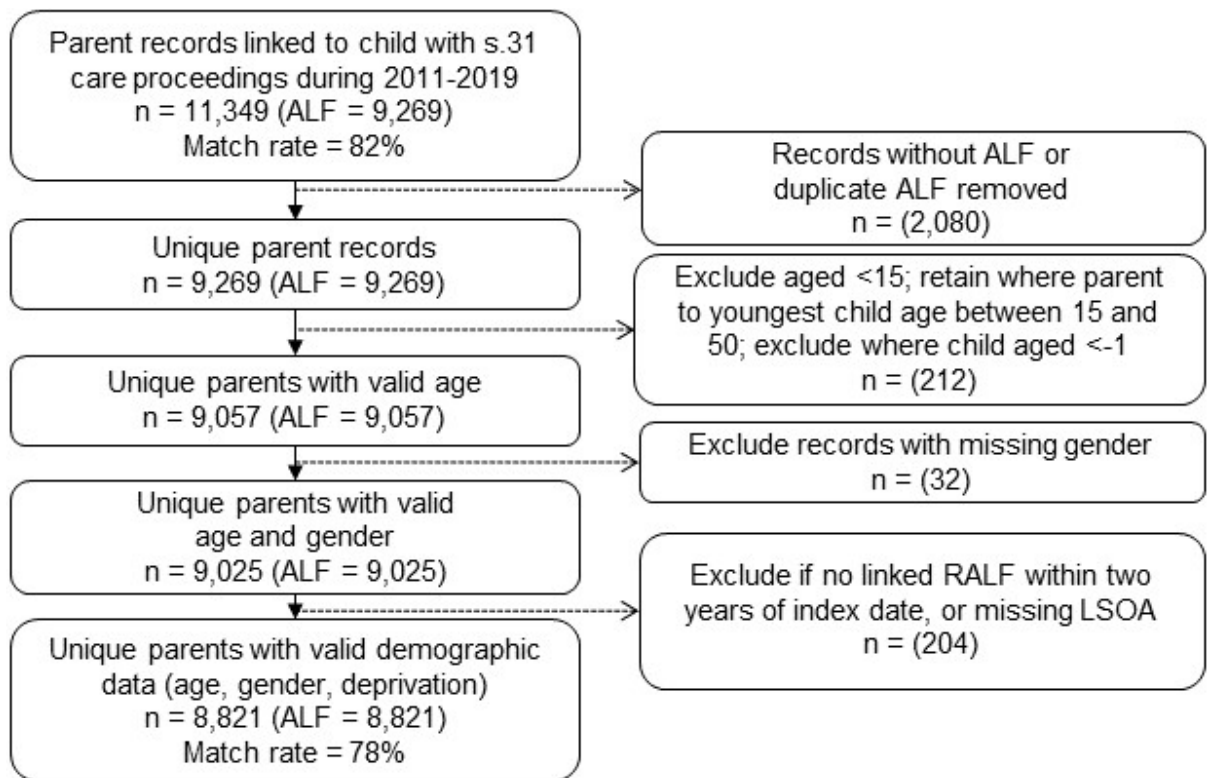
Cohort creation

The FJDP has created a series of research-ready data assets (RRDA) that aim to make the research process more efficient by reducing the amount of time required for initial data preparation. We used the 'Case-Parent' RRDA as the basis to select parents of children involved in s.31 care proceedings in Wales between 2011 and 2019 (inclusive). The initial Cafcass RRDA inclusion criteria was:

- case law type = 'public'
- s.31 case issue date = between 01/01/2011 and 31/12/2019
- primary application order = 'care' or 'supervision'
- adult role on s.31 application = 'respondent'
- subject-adult relationship = 'child'
- retain earliest record for each parent only.

We excluded parent records with no ALF, then applied a number of restrictions based on demographic data availability before arriving at the final cohort of n=8,821 parents. Initial match rate prior to restrictions was 82%, and 78% post-restrictions—this is in line with previously reported data (Johnson *et al.*, 2020).¹⁹ These steps are visualised below.

¹⁹ ALF match rate = total number individuals with an ALF / total number of records * 100

Figure B.1: Flow diagram of study participants

Matched comparison group

Initially we created a general population comparison group of parents selected from the WDS which consisted of individuals who had *not* been subject to care proceedings (i.e. within Cafcass Cymru data). As there is no specific data to select parents in the SAIL Databank we used a method to estimate household composition for all properties and individuals in Wales (Johnson *et al.*, 2021). We used an index date of 1st July 2015 (i.e. study mid-point) for all individuals. Following classification of all households with this method we retained households sized two to seven residents, estimated to be *family households* with child-aged residents (aged 0-17), with one, or two parents (aged between 18 and 50 years of the youngest child). From these households we retained 'parent' records only (excluding any records with missing gender data). Finally, we removed records without a valid LSOA with an associated WIMD 2014 deprivation index, thus following as similar as possible methods as employed for the cohort.

As we aimed to create a comparison group of individuals with similar demographics to the cohort we added a further stage to create a matched comparison group. This involved category matching parents from the cohort, to parents in the general comparison group. Matching was completed based on the distribution of three demographic variables: parent type (mother or father); area-level deprivation (deprivation quintiles: most deprived to least deprived); and parent age at index date (categorised into: <26, 26-35, 36+). The final matched comparison group consisted of n=32,006 parents.

Appendix C: Measures

The tables below provide details on each measure used within the analyses, including definitions and data sources. The index date refers to the earliest date an individual was involved in a s.31 family court case between 2011 and 2019. For demographic characteristics, the measures relate to the index date. For health-related measures we used health data for a set period (two years) prior to the index date.

Table C.1: Demographic characteristics

Data item	Data source	Data item detail
Age	Cafcass Cymru, WDSD	<p>Parental age: calculated at index date, and categorised for:</p> <p>1 – Matched comparison process: categorised into three categories: <26, 26–35, 36+.</p> <p>2 – Visualisation within report: categorised into six categories: 15–19, 20–24, 25–29, 30–39, 40–44, 45+</p> <p>Youngest child age: calculated at index date in one-year intervals, and used within cohort selection to select youngest child per case; used for demographic visualisation in this report.</p>
Area level deprivation	WDSD, WIMD	Measured by linking the parent (ALF) to an address (RALF) at, or within two years of index date; then link LSOA of the RALF to the deprivation index: WIMD (version 2014) grouped into quintiles (1 - most deprived, to 5 - least deprived).
Parent type	Cafcass Cymru, WDSD	Gender code of 1 was coded to represent fathers, and code 2 to represent mothers. The Cafcass Cymru gender code was used if not missing, otherwise the WDSD gender code was used.

Table C.1: Health use

Hospital admissions	PEDW	Hospital admissions for any admission within baseline period, categorised into three separate measures of emergency, elective, or maternity based on admission method classification as detailed: http://www.datadictionary.wales.nhs.uk/#!/WordDocuments/admissionmethod.htm
Emergency department	EDDS	Any new attendance (excludes follow-up attendances) within baseline period. High priority triage: this variable was created by the author using the Triage category. Classification rules: urgent – attendance classed as ‘immediate’, ‘very urgent’, or ‘urgent’. non-urgent – attendance classed as ‘standard’, ‘non urgent’, or ‘see and treat within 15 minutes of arrival at emergency attendance’. Further details available at: http://www.datadictionary.wales.nhs.uk/#!/WordDocuments/triagecategory.htm
Outpatient appointments	OPDW	Any ‘new attendance’ appointment within the core outpatient dataset, within baseline period.
GP records	WLGP	Any record within the baseline period was selected for the overall measure for GP record health use, a person we checked for the presence of any record within the baseline period.

Table C.3: Health conditions

Types of health conditions in emergency hospital admissions	PEDW	<p>All diagnostic codes (up to 14 for each episode of care) were included for emergency admissions, both in the primary and secondary diagnostic code positions. This includes codes indicative of the main admission reason, or any listed co-morbidities of the patient deemed relevant at the time by the consultant. The codes were mapped to ICD-10 chapter-level groupings to classify the type of condition. The results displayed are not mutually exclusive—a person could have one episode of care with multiple diagnostic codes recorded.</p> <p>The following chapters were excluded:</p> <ul style="list-style-type: none"> 15: Pregnancy, childbirth and the puerperium 18: Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified 21: Factors influencing health status and contact with health services 22: Codes for special purposes. <p>Chapter descriptions were altered by the author for formatting purposes (i.e. to allow the chapter descriptions to fit on charts); full descriptions are available in Table C.5.</p> <p>Primary and secondary diagnostic code explanations are available:</p> <p>http://www.datadictionary.wales.nhs.uk/#!/WordDocuments/primaryicddiagnosticticcode.htm</p> <p>http://www.datadictionary.wales.nhs.uk/#!/WordDocuments/secondaryicddiagnosticticcode.htm</p>
Types of health conditions in GP data	WLGP	<p>We selected any records classed as diagnoses within the Read classification system (i.e. the first character of the Read code was uppercase). The codes were mapped to approximations of ICD-10 chapter level groupings as indicated by Read code browser software to classify the type of diagnosis. The results displayed are not mutually exclusive, a person could have one or multiple GP interactions with one to many Read codes recorded, which could contain zero to many diagnosis codes.</p> <p>We excluded the following chapters:</p> <ul style="list-style-type: none"> complication of pregnancy and childbirth perinatal originating conditions other symptoms not elsewhere classified unspecified conditions.

Figure C.4: Mental health and substance use – GP and hospital data

Mental health	WLGP, PEDW	<p>Health records were analysed for the presence of clinical codes indicating mental health-related contacts or admissions. If an individual had one or more mental health-related contact or admission code recorded during the baseline period in primary care (WLGP) or hospital (PEDW) data, they were categorised as having a 'any mental health' outcome.</p> <p>We created sub-measures of mental health using the same method where relevant codes were present; the measures are not mutually exclusive. The following measures were created:</p> <ul style="list-style-type: none"> anxiety depression autism spectrum disorder attention deficit hyperactivity disorder development disorder* conduct disorders eating disorders severe mental illness (including schizophrenia, schizotypal and delusional disorders, and bipolar disorder). <p>We used code lists developed and provided by the Adolescent Mental Health Data Platform (https://adolescentmentalhealth.uk) for mental health and substance use measures.</p> <p>* Developmental disorders definition relates to specific developmental disorders of speech and language, scholastic skills, and motor function.</p>
Substance use	WLGP, PEDW	<p>Health records were analysed for clinical codes indicating substance use indicative of problem, harmful or hazardous use of alcohol and/or illicit drugs. The measures are not mutually exclusive. The following measures were created:</p> <ul style="list-style-type: none"> any substance use (drugs or alcohol) drugs alcohol. <p>The alcohol and drugs separate lists were created by the author by reviewing codes manually to provide an indication of levels.</p>

Figure C.2: Full list of ICD-10 chapter descriptions

Chapter	Abbreviated chapter description	Full chapter description
1	Infectious diseases	Certain infectious and parasitic diseases
2	Neoplasms	Neoplasms
3	Blood diseases	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism
4	Endocrine diseases	Endocrine, nutritional and metabolic diseases
5	Mental disorders	Mental and behavioural disorders
6	Nervous system diseases	Diseases of the nervous system
7	Eye diseases	Diseases of the eye and adnexa
8	Ear diseases	Diseases of the ear and mastoid process
9	Circulatory system diseases	Diseases of the circulatory system
10	Respiratory system diseases	Diseases of the respiratory system
11	Digestive system diseases	Diseases of the digestive system
12	Skin system diseases	Diseases of the skin and subcutaneous tissue
13	Musculoskeletal diseases	Diseases of the musculoskeletal system and connective tissue
14	Genitourinary system diseases	Diseases of the genitourinary system
15*	Pregnancy and childbirth	Pregnancy, childbirth and the puerperium
17	Congenital conditions	Congenital malformations, deformations and chromosomal abnormalities
18*	Other symptoms not elsewhere classified	Symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified
19	Injury and poisoning	Injury, poisoning and certain other consequences of external causes
20	Causes of morbidity and mortality	External causes of morbidity and mortality
21*	Factors of health status/contact	Factors influencing health status and contact with health services
22*	Special purpose code	Codes for special purposes

*Chapters 15, 18, 21, 22 are not reported.

Appendix D: Analytical process

The analysis was designed to be descriptive. We calculated demographic characteristics at index date, and health measures over the two years preceding the index date. For each measure, if a person had at least one of the event types, (a hospital admission, for example), they were counted (maximum once per measure) and included in the numerator, then divided by the total number of individuals in that group to create the percentage value. For the analyses, each measure was not mutually exclusive. For example, in the mental health analysis, an individual appearing within the depression measure could also appear within the anxiety and other conditions. In some instances, risk ratios were calculated, for example, for the injury analysis 42% (cumulative incidence) of cohort mothers, and 21.6% of comparison mothers had 'any injury'; the cohort cumulative incidence was divided by comparison cumulative influence (42.0%/21.6%) to give a relative risk of 1.9; interpreted as cohort mothers had 1.9 times the risk of having an injury-related attendance compared to mothers in the comparison group. Data processing and analysis was carried out using SQL, Excel and R.

Appendix E: Information governance approval and statistical disclosure control

The project proposal was reviewed by an independent Information Governance Review Panel (IGRP) at Swansea University. This panel ensures that work complies with information governance principles and represents an appropriate use of data in the public interest. The IGRP includes representatives of professional and regulatory bodies, data providers and the general public. Approval for the project was granted by the IGRP under SAIL project 0990. Cafcass Cymru (the data owner of the family courts data) also approved use of the data for this project. The agency considered the public interest value of the study, benefits to the agency itself, as well as general standards for safe use of administrative data.

SAIL has strict statistical disclosure processes and policies to prevent potential disclosure of any individual. This includes suppressing of information in tables where the number in any individual cell is less than five, or where geographical identifiers might disclose the identity of the individual concerned either alone or in combination with other data. Where this has been employed, it is noted within the relevant sections. For example, age bands have been expanded in certain analyses to prevent disclosure problems related to small numbers.

Nuffield Family Justice Observatory

Nuffield Family Justice Observatory (Nuffield FJO) aims to support the best possible decisions for children by improving the use of data and research evidence in the family justice system in England and Wales. Covering both public and private law, Nuffield FJO provides accessible analysis and research for professionals working in the family courts.

Nuffield FJO was established by the Nuffield Foundation, an independent charitable trust with a mission to advance social well-being. The Foundation funds research that informs social policy, primarily in education, welfare, and justice. It also funds student programmes for young people to develop skills and confidence in quantitative and scientific methods. The Nuffield Foundation is the founder and co-funder of the Ada Lovelace Institute and the Nuffield Council on Bioethics.

Family Justice Data Partnership

The Family Justice Data Partnership is a collaboration between Lancaster University and Swansea University, with Cafcass and Cafcass Cymru as integral stakeholders. It is funded by Nuffield Family Justice Observatory.

SAIL Databank

Cafcass Cymru data used in this study is available from the Secure Anonymised Information Linkage (SAIL) Databank at Swansea University, Swansea, UK, which is part of the national e-health records research infrastructure for Wales. All proposals to use this data are subject to review and approval by the SAIL Information Governance Review Panel (IGRP). When access has been granted, it is gained through a privacy-protecting safe-haven and remote access system, referred to as the SAIL Gateway. Anyone wishing to access data should follow the application process guidelines available at: www.saildatabank.com/application-process