UCL Social Research Institute
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Mitigating impacts of the COVID-19 pandemic on parents and carers during school closures

A RAPID EVIDENCE REVIEW

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ABSTRACT

Background: As a result of the Coronavirus pandemic (COVID-19), countries worldwide have faced multiple mandatory lockdowns, movement restrictions, and enforced physical distancing measures; as well as individuals dealing with stress, fear and uncertainty of virus spread and severity. As the pandemic continues to unfold, the full ramifications are yet to be fully seen. However, the resultant UK school closures to in-person teaching meant that for many households, home and school environments became intertwined. Parents and carers found themselves taking on the role as de-facto educators, as well as balancing working from home and caring for additional members of the household. Understanding the full extent of the effects incurred by parents and carers during school closures is vital to identifying and supporting vulnerable families, as well as mitigating harmful consequences to themselves their children, and to their children's education and long-term prospects.

Aims: To appraise and report on the current available evidence of the potential effects of the COVID-19 pandemic on UK parents and carers as well as potential interventions to mitigate some of these effects.

Methods: Searches for academic literature were conducted using Proquest Central, Scopus, and Google Scholar between 21st and 28th April 2021 using search terms describing "parents and carers", "COVID-19" and the "U.K.". Additional literature was identified on relevant parents and carers' organisations websites including charity reports. Once harms relating to effect of pandemic were identified, we used our own expertise and the expertise of fellow academic colleagues in relevant disciplines to identify several accessible interventions and/or solutions for mitigating parental harms, with a particular emphasis on evidence that also show benefits to children and the wider family context.

Findings: Thirty-two articles were found relating to harms affecting parents and carers in the UK. High levels of psychological distress, including anxiety and depression, were consistently identified in the general parent population, and especially in parents caring for a child with special educational needs and/or neurodevelopmental disorders (SEN/ND). Being female or a single parent, having a lower income, and/or being from an ethnic minority background may have also further exacerbated psychological distress caused by lockdown restrictions and/or homeschooling. Increased levels of isolation and loneliness were also reported due to the pandemic which may translate to an increased risk of depression. Charity reports indicated that many parents, especially those from an ethnic minority background and kinship carers, were worse off financially and with food insecurities, whereas empirical evidence showed that mothers were more likely to initiate furlough for themselves compared with fathers or childless women. The impact of employability and job performance has only been assessed in a few specific sectors, namely the performing arts and science, with notable female disadvantage. Domestic abuse support services also reported a sharp rise in demand during lockdown restrictions, and practitioners reported an increase in child and adolescent violence towards parents.

As there is strong evidence linking parental mental health and well-being as a critical factor in children's well-being, there is an urgent need for families to receive support to protect children's long-term development. This was especially highlighted in how young people of parents who were designated as key workers during lock-down experienced greater levels of anxiety and trauma compared to children those whose parents were not key workers. Brief psychological interventions for parents can be effective in treating

depression, anxiety, and loneliness, and available evidence suggests that psychological treatment for maternal depression can have a small to moderate effect on children's mental health and or/mother-child interactions. Other emerging evidence suggests that subsequent child anxiety problems can be prevented through parenting support for parents with anxiety disorders. Mitigations to support those in financial need were less systematically evaluated; however, suggestions included increasing Universal Credit and the pupil premium, whereas longer-term solutions may involve reinvesting in schemes for disadvantaged families such as the Sure Start Local Programmes. Mitigations for supporting parents at risk of domestic abuse may require an increase in public awareness for support and signposting with involvement across the community, educational, third sector, and Government levels.

Conclusions: Parents and carers have been disproportionately affected by school-closures with research evidence showing increase in mental health problems, financial struggles - including impacts on employability in specific sectors - and an increased risk of domestic violence within the home. Existing gender inequalities and stereotypical gender roles in divisions of unpaid care work may have put women at a greater risk of poor mental health and loss of earnings. Mothers, single parents, ethnic minorities, parents with lower SES and/or parents with SEN/ND children should be especially targeted for interventions.

MAIN REPORT

The issue of concern

The COVID-19 pandemic and co-occurring national lockdown restrictions have presented several personal and practical challenges for children and their parents and carers. Little is known about difficulties experienced by parents and carers directly arising from the pandemic and how this may subsequently affect their children. Limited access to previous support structures, such as family and friends, and opportunities to engage in recreational activities and exercise; dealing with family sickness and/or loss; the stresses of home schooling and balancing home life and work, and increased exposure to domestic violence are all likely to have presented a real and imminent threat to parents and carers and the wider family environment. In turn, there is potential for these challenges to have deleterious effects on parenting and developmental, mental health/wellbeing, and academic outcomes in children. In this review we consider the short and longer-term impacts of these unique challenges and highlight potential sources of support to minimize negative long-term consequences.

The aim of this rapid review is to appraise and report on the current available evidence of the potential effects of the COVID-19 pandemic on UK parents and carers; as well as what can be done to mitigate some of the more harmful effects. The specific research questions that this review seeks to address are as follows:

RQ1: What specific harms have UK parents and carers experienced during the COVID-19 pandemic?

RQ2: What are potential mitigating factors that may reduce the impact of identified harms?

Findings

In this section, we summarize the nature and extent of the literature included in the review as a whole and some of the strengths and weaknesses of this literature. We then broadly present findings under each thematic area.

Overview of the included studies on harms

Thirty-two studies met our inclusion criteria for harms. Most studies included addressed harms to parental mental health and wellbeing. There were fewer studies on earning capacity changes and physical harms – violence within the home (See Table 1).

Table 1. Numbers of studies by harm type*

Category	Mental Health and wellbeing	Earning capacity changes	Physical harms – violence within the home
Total *n*	27	7	4

*some articles cover more than one harm type

References for these included studies can be found in Appendix 1, with study characteristics detailed in Appendix 2.

Most of the studies reviewed used cross-sectional survey data, with only four studies - all on mental health and well-being, drawing on larger longitudinal studies that allowed for a direct comparison of the mental health of parents from before to during the pandemic. In Table 2 we categorized the three main themes into sub-themes and detail the study design for each category of harm.

Table 2. Numbers of studies reviewed by harm type and study design* to show the relative weighting of studies of different types and their contribution to each theme.

Category	Cross-sectional survey	Longitudinal survey	Secondary analysis	Review	Total, *n*
Mental Health and wellbeing					
Psychological distress	3	1	2	0	6
General parental wellbeing	1	1	0	0	2
Impacts of home-schooling	7	0	0	0	7
Parents of children with pre-existing medical conditions	1	0	0	0	1

Parents of children with special educational needs and/or neurodevelopmental disorders	4	1	0	0	5
Kinship carers and family caregivers	3	0	0	0	3
Women during the perinatal period	2	1	0	0	3
Earning capacity changes					
Economic harms	3	0	0	0	3
Kinship carers and family caregivers	2	0	0	0	2
Employment/ career opportunities	2	0	0	0	2
Physical harms – violence in the home					
Domestic violence	0	0	0	1	1
Child and adolescent violence towards parents	1	0	0	2	3

*some articles cover more than one harm type.

The methodological quality of studies using survey designs was often substantially limited by the small size of the survey. Not all the available evidence was peer-reviewed, and a large proportion of the articles were based on cross-sectional surveys that did not always have an appropriate comparison group and/or were unable to measure the specific impact of the pandemic due to capturing only one moment in time. In many cases, the sample was not representative of the UK population.

More detailed information about the harms identified, as well as discussions of their specific consequences to children can be found in the **Technical Report.**

Mitigations and adaptions to the harms

Mitigations and/or interventions to minimize harms identified in the first part of the report will be discussed in full detail in the **Technical Report,** as well as being outlined in **Appendix 5.** The mitigations that relate to the harms identified discussed are as follows:

1. Mental health and wellbeing

a. Interventions as recommended in existing NICE guidelines for treating anxiety and depression among parents

b. Psychological therapies to improve children's mental health via their parents

c. Interventions for reducing feelings of loneliness and isolation among parents

d. Strategies to support mother's mental health during the perinatal period

2. Earning capacity changes

a. Improving financial resilience

i) Expanding the Universal Credit/pupil premium system

ii) Implementation of effective training and support for those returning to work

b. Investment in preventative services (e.g., Sure Start Local Programme and Family Hubs)

3. Physical harms

a. Supporting victims of domestic violence

i) Adoption of a 'twin-track' approach – supporting interagency communication

ii) Implementation of community awareness schemes (e.g., Ask for ANI)

iii) Increased training for teachers and those in the education sector on identifying potential trauma symptoms in pupils

iv) Psychosocial therapy for parents and their children following domestic violence

b. Programmes focused on intervening with perpetrators of domestic violence

c. Addressing child/adolescent to parent violence

i) Preventative parenting programmes to address child behaviour and family functioning

How did we find the research?

Harms were identified using standard methods and principles commonly used in systematic reviews. Search terms were purposefully left broad (Appendix 3) to understand the full extent of the current literature and to ensure key literature will not be missed.

For RQ1, we searched key databases indexing published papers and grey literature (reports and articles not published in journals) and conducted bibliographic searches. For the purposes of this review, we limited evidence obtained on research participants in the United Kingdom only.

For RQ2, we started by searching for systematic reviews of strategies to mitigate the harms we identified in the first part of the review. These searches were wider than the focus on the UK and Covid-related literature and the reviews found were considered too general to be useful, with mitigation evidence not directly relating to identified harms from RQ1. Therefore, a second approach was adopted in which we asked academic experts within the relevant disciplines to suggest potential mitigations based on their knowledge of the existing literature.

Fuller methodological details can be found in the **Technical Report**.

Conclusions

This review has found evidence of harms to UK parents and carers associated with national lockdown restrictions (and which coincide with school closures) from thirty-two research articles, reports, and charity surveys. Harms fall into three main categories: mental-health and well-being; earning capacity changes; exposure to physical harms in the domestic setting. Overall parents appear to have suffered disproportionately compared to non-parents in the context of national lock down restrictions and school closures. Notably, for many of these outcomes there is evidence that parental gender and social group imbalances may have widened, with mothers, those with lower SES, and black and ethnic minority groups being affected to a greater extent by school closures.

While we have provided some suggestions for useful mitigation strategies based on available evidence, it is important to consider potential interventions within the wider contexts in which families are living. For example, while psychological support may assist those with depression and/or anxiety, if financial worries or food insecurities are the main source of distress these will need to be addressed directly. While research evidence published prior to the pandemic suggests that parental harms are likely to have negative consequences for children, there is minimal evidence of children being at risk of increased harm due to the direct experiences of parents in the context of the COVID-19 pandemic. Given the unique challenges of living through the pandemic, it may be reasonable to assume that children could be at a greater risk because of the increased difficulties faced by their parents but will require further study. It is also unclear whether suggested mitigations to address the identified harms to parents will protect children, and any possible interventions implemented will need to be studied carefully to ensure they are successful in protecting children's long-term development, mental health, and wellbeing.

Technical Report

Title: Mitigating the impacts of school closures during the COVID19 pandemic on parents and carers: a rapid evidence review.

Authors: Hope Christie*, Lucy V Hiscox*, Bridget Candy, Carol Vigurs, Cathy Creswell, Sarah Halligan

*Equal contribution and standing as first author

Author roles

HC and **LH** carried out the following tasks: searching of articles; screening of all search results; data extraction and synthesis of findings; producing the main and technical reports. **CC** and **SH** provided support and guidance throughout the process, edited drafts and provided input into the final document. **BC** and **CV** undertook searches of the literature and provided guidance on reviewing processes.

BACKGROUND

The issue

The Coronavirus pandemic (COVID-19) is recognized as a globally disruptive health crisis that has thus far resulted in > 172 million confirmed cases, and nearly 4.5 million deaths worldwide (World Health Organization, 3rd September 2021). Globally, countries have faced multiple mandatory lockdowns, movement restrictions, and enforced physical distancing measures; as well as individuals dealing with stress, fear and uncertainty of virus spread and severity. As the pandemic continues to unfold, the full ramifications are yet to be fully seen. However, research predicts long-standing effects at an individual and wider societal level.

The lives of millions of parents and their children have been affected not only by the health and economic implications of COVID-19 pandemic but also by school closures. For most households, home and school environments became intertwined, with most schools unprepared to support home-schooling on such a mass scale (Bayrakdar and Guveli, 2020). In the U.K, schools closed to in person learning on 20 March 2020, except for schools for children of key workers and children with special needs. Phased reopening began on 1 June 2020; however, many parents were still uncertain about allowing their child to return to school over fears of their child contracting the COVID-19 virus (Greenway and Eaton-Thomas, 2020; Toseeb, 2020). One survey of members of the National Association of Head Teachers (NAHT) across England, Wales and Northern Ireland revealed that in 94% of schools no more than 20% of pupils had attended during the first national lockdown (NAHT, 2020). These figures indicate that for many families, the teaching and learning of their children became the responsibility of parents. The intertwined nature of parents working from home and children engaging in home-schooling has presented numerous challenges for families across the United Kingdom. Understanding the full extent of the effects for parents and carers during the pandemic and lockdown is vital to understand how to identify vulnerable families who may have experienced greater difficulties, as well

as understanding how best to support parents and carers as lockdown restrictions across the UK ease.

Rationale for the review

We aim to provide a comprehensive narrative overview on the effect of the COVID-19 pandemic on parents and carers, considering both consequences for the parents themselves and pertaining to issues that may influence or impact their child. Parents and carers of school-aged children have not only had to deal with their own worries, stresses, and emotions related to the pandemic (e.g., fears of virus spread, infection for themselves or others), but they have also had dependent children to continue to care for.

The pandemic has also presented unique stressors for parents and carers as they attempt to juggle working from home, as well as educating their children in the home following school closures or dealing with additional caring responsibilities for children that have additional needs. Early evidence suggests that parents and carers have experienced elevated levels of psychological distress during the pandemic, but what are the additional effects and potential harms of the pandemic for parents and carers, and how do these translate to harms for children their children?

Positionality

The review team comprised the following members:

Dr Hope Christie (Review lead team) is a Global Challenges Research Fellow and Associate Researcher at the Centre for Research on Children and Families, School of Health in Social Science at the University of Edinburgh**.** Her research specializes in the impact of trauma exposure and posttraumatic stress disorder in parents and how this may affect parenting and the family dynamic. She is also involved in the COVID Unmasked project, which is a global collaborative project investigating the impact of the COVID-19 pandemic on parents/caregivers with young children under the age of 5 years.

Dr Lucy V. Hiscox (Review lead team) is a Postdoctoral Research Associate within the Department of Psychology at the University of Bath. She is currently investigating the impact of trauma on brain development working with both national and international populations.

Prof Cathy Creswell (Review Advisor), Professor of Developmental Clinical Psychology at the University of Oxford. Her interests are in the development, prevention, and treatment of common mental health problems in children and young people, including through supporting parents and carers. She currently leads the interdisciplinary and cross-sector UKRI Research Network - Emerging Minds: Action for Child Mental Health. She is also currently co-leading the Co-Space study with colleagues at Oxford University, which focuses on how families are coping during the COVID-19 pandemic, and four intervention trials, which are aimed at supporting parents, so they can in turn support their children (including two that are specific to addressing needs in the COVID-19 context).

Prof Sarah L. Halligan (Review Advisor), Professor of Child and Family Mental Health at the University of Bath, specializes in the study of psychological disorders including posttraumatic stress disorder (PTSD) and depression on both a national and international scale. Her interests across both fields are in understanding how parents and others can

best support children and adolescents who are struggling with mental health difficulties. She has worked with colleagues to produce an online resource, which provides guidance to parents on how to best support their child following trauma.

OBJECTIVES

Review questions

The aim of this rapid review is to appraise and report on the current available evidence of the potential effects of the COVID-19 pandemic on UK parents and carers; as well as what can be done to mitigate some of the more harmful effects. The specific research questions that this review addresses are as follows:

RQ1: What specific harms have parents and carers experienced during the COVID-19 pandemic?

RQ2: What are potential mitigating factors that may reduce the impact of identified harms?

Note: Findings from RQ1 have been grouped together by harm. Most results have predominantly discussed impacts and harms to parents, but the authors have added relevant sections about harms to children underneath each sub-section.

METHODS

Overall approach taken

This 'rapid review' was undertaken in a very short period. Rapid reviews are delivered at pace, and in response to immediate demands for overviews of evidence from research. As a result, decisions are made on how to reduce the usual time taken on each of the stages and processes of a full systematic review. These may include narrowing the focus of the review, by population or to the most relevant contexts, or by focusing only on those sources of literature where the most on-topic studies are likely to be found. Each of these approaches involve trade-offs between specificity of topic against the generalizability of findings and what could also be learned from the wider insights around the topic. In this review, rapidity was achieved for RQ1 (harms) by searching for UK evidence only.

This report has been researched and written at a particular phase of the pandemic, when it is still too early to assess what the separate effects for education have been of the pandemic, the lockdown, and the attendant social, economic and political challenges. What has appeared consistently in the commentary on the pandemic has been a theme of the interconnectedness of the education sector with all other areas of public policy and social relationships. While conventions of administration, disciplinary focus, and social relations demarcate boundaries between different phases of education and different areas of experience, for example, health, work, and education, the pandemic has highlighted their interconnection. Appreciating how these connections have been documented in the research literature is an important step in building and learning from the tragedies, stresses, and loss of the past eighteen months. Therefore, it is challenging to separate out harms due specifically to closure of educational establishments and harms due to other factors connected with the pandemic.

The review had two main sub-questions resulting in two stages with different research strategies:

Stage 1: We conducted a systematic review to identify the nature and extent of harms or impacts of the pandemic on parents and carers in the UK. This was based on UK and Covid-19 specific primary or review research evidence published since November 2019.

Stage 2: (i) We had originally planned to identify systematic reviews published internationally to identify mitigation strategies for the harms identified in Stage 1. However, the review search found little evidence that was relevant and did not reflect the current state of the evidence. Most search results primarily focused on mental health and did not provide any insight into potential mitigations for other harms there were identified. As a result, we carried out a second search strategy, outlined below.

(ii) We contacted academic experts to seek their knowledge and expertise in suggesting potential mitigations based on the harms we identified. Experts were identified through a mixture of pre-existing knowledge (i.e., one of the authors had a working relationship with them or knew of their work), through the UKRI Mental Health Research Networks that covered relevant topics (child and adolescent mental health, violence and abuse, loneliness), or through a snowball method following identification in other publications or reports (i.e., their names were consistently cited or referenced in publications). Experts were contacted regarding loneliness and social isolation (Dr. Manuela Barreto, University of Exeter; Dr. Rebecca Nowland, UCLAN; Dr. Ellie Pearce, UCL; Dr. Alexandra Pitman, UCL), perinatal mental health (Prof. Susan Ayers, UCL), earning capacity changes (Prof. Sharon Collard, University of Bristol; Prof. David Taylor-Robinson, University of Liverpool; and Prof. Dame Margaret Whitehead, University of Liverpool), and domestic violence (Dr. Helen Fisher, UCL). A more detailed list of their expertise can be found in the *Acknowledgements* section. Given the tight timeframe, where experts were unable to offer their suggestions in the working time frame, a search of their most recent publications on the subject was conducted. The authors drew upon their own expertise and knowledge of the field for mitigations of parental psychological distress.

Full and detailed information on the methods can be found in **Appendix 3**.

FINDINGS

RQ1: What specific harms have parents experienced during the COVID-19 pandemic?

The COVID-19 pandemic brought fundamental challenges and changes to parents' working, personal, and social lives in the United Kingdom. Papers were identified that relate to three major themes relating to harms that parents have experienced during the pandemic. These include changes to mental-health and well-being; earning capacity changes; and exposure to physical harms in the domestic setting. The 32 studies characterized by harm with the main outcome of the QA are provided **Appendix 1.** Specific details relating to each study (sample size, data collection period, etc.) are provided in **Appendix 2.**

1) Mental health and well-being

Evidence from previous pandemics and current nationally representative studies in the UK suggests that COVID-19 is likely to have had a pronounced negative impact on public mental health (Kwong et al., 2020; Lopes and Jaspal, 2020). These mental health consequences may be linked to illness and bereavement from the disease itself, ongoing public health measures, and unprecedented levels of social distancing and isolation. In this section, we summarize evidence from twenty-five journal articles and charity reports that

have specifically examined the mental health and well-being of UK parents during the pandemic.

Psychological distress in general parent populations: Six articles document increases in psychological distress in UK parents in relation to lockdown restrictions. Two of these articles use data from the UK. Household Longitudinal Study (UKHLS) (Pierce et al., 2020; Xue and McMunn, 2021), one with data from the Born in Bradford study (Dickerson et al., 2021) and three from the Co-Space study (COVID-19: Supporting Parents, Adolescents and Children during Epidemics) (McElroy et al., 2020; Shum et al., 2020; Waite et al., 2020).

In the first article, increases in mental distress from 2018/19 levels to April 2020 were particularly prominent in people living with preschool children, even while accounting for uptrends in previous years (Pierce et al., 2020). More specifically, a 1.45-point increase on scores from the General Health Questionnaire (GHQ-12) was observed after adjustment for other factors (including sex, age, income, employment status, and living with a partner) compared to only a 0.33 increase among adults without children. In another report based on the same participants during the same period, Xue and McMunn (2021) reported that mothers were more likely than fathers to have reduced their working hours due to increased time spent on childcare, and mothers who spent long hours on both housework and childcare were more likely to report increased levels of psychological distress. Psychological distress was also particularly high for lone mothers who adapted their working patterns due to childcare / homeschooling relative to partnered mothers.

In a further study of family experiences of lockdown, 2144 parents (95% mothers) who were part of a prospective birth cohort study responded to a questionnaire survey administered during April-June 2020 (Dickerson et al., 2021). The majority of parents (74%) had children who were aged between 9-13 years, with the remainder being parents of 0–4-year-olds. 19% (n=843) of respondents reported clinically significant symptoms of depression. White British mothers were most likely to report being moderately/severely depressed compared to those of Pakistani and Other Heritages (small numbers of non-White British, non-Pakistani Heritage parents from multiple ethnic groups). 16% of respondents reported clinically significant symptoms of anxiety, although ethnicity was not associated with anxiety scores. Moderate and severe parental depression and anxiety were associated with financial insecurity, as well as unemployment, poor quality housing, having self-isolated at some point, poor health, and a lack of social support. Nearly half of the parent sample (47%) also reported a decrease in physical activity compared to pre-lockdown levels, with lower levels of exercise being associated with poor mental health outcomes.

A report from the longitudinal Co-SPACE study documented the mental health of 6246 parents who completed monthly measures between April and December 2020 (Shum et al., 2020). Both parental stress and depression were elevated during the first lockdown, at a time when most children were home schooled, and then reduced when lockdown restrictions eased in the summer. When new national restrictions were introduced between November and December, parental stress, depression, and anxiety rose again. Single adult households and low-income families had elevated mental health symptoms throughout the whole period assessed. Parents of young children (10 years or younger) reported particularly high levels of stress when restrictions were highest, whereas parents with older children (11 years or older) reported more depressive symptoms, especially during the summer. 43% of parents of older children were more stressed about their children's education and future compared to those with young children (32%). In an updated report by the same group in March 2021, parents' anxiety, stress and depression substantially increased between November 2020 and February 2021 (when

restrictions tightened) and surpassed the levels reported in the first lockdown (Shum et al., 2021). Finally, McElroy *et al.,* 2020 reported that, during the first 6 weeks of the first lockdown, pandemic-related anxieties among 4793 parents were multi-faceted, relating to both disease anxiety (e.g., catching, transmitting the virus) and consequence anxiety (e.g., impact on economic prospects). These anxieties were differentially associated with demographic, social, and health factors. For example, on average, mothers scored higher than fathers on disease anxiety, an association that could reflect the increased burden placed on mothers in their caring responsibilities, although it is important to note that there was only a small number of participating fathers.

General parental wellbeing*:* Two reports have documented general parental well-being during the pandemic (Royal Foundation of the Duke and Duchess of Cambridge, 2020; El-Osta et al., 2021).

As part of a wider report into understanding public attitudes to the importance of the early years commissioned by the Royal Foundation of the Duke and Duchess of Cambridge (2020), a convenience online survey of 1000 parents of 0–5-year-olds was carried out in October 2020. Compared to other strands of data collection collected between September 2019 and February 2020, the number of parents that reported feeling lonely dramatically increased; from 38% prior to the pandemic to 63% by October 2020. Parents also reported needing help and support for a wide range of issues including child health, nutrition, behaviour, and sleep, which constituted a large source of their stress. Almost two in five parents (37%) also expected that the pandemic would have a negative impact on their long-term mental health. On the positive side, 63% of parents reported that they had been able to spend more quality time with their children and a majority of parents reported that their local community had become more supportive and anticipated that this increased support would be maintained into the future. However, this positive experience was not universal; parents who had experienced financial difficulties or who were single parents were more likely to say they had spent less quality time with their children since the start of lockdown, and parents living in the most deprived areas were less likely to have experienced this increased community support.

In the second cross-sectional study, approximately half of the participating 1214 parents of school-age children in the UK felt they lacked companionship, had feelings of being left out, felt isolated, and lonely during the first 100 days of lockdown (El-Osta et al., 2021). Factors that were associated with higher levels of loneliness were being female, parenting a child with special needs, a lack of dedicated space for distance learning, unemployment, disruption of sleep patterns and low levels of physical activity.

Impacts of home-schooling: The government mandated lockdown, subsequent school closures, and home-schooling requirements also appear to have been associated with changes in parent's wellbeing, which is summarized from data obtained from seven different reports. 28% of parents surveyed from across the UK (total sample of 4234) agreed that home-schooling was negatively affecting their own wellbeing in April 2020, which rose to 50% by January 2021 (Office for National Statistics, 2021). Over half of homeschooling parents said that homeschooling was also putting a strain on relationships, which was an increase from 36% reported the previous April.

In Northern Ireland, approximately half of 1905 participating parents homeschooling post-primary school pupils reported difficulties in managing both their mental and physical

well-being, with the majority of parents identifying the importance of reaching out to other parents to share concerns about their children (Bones et al., 2020).

In further survey data of parents homeschooling in Northern Ireland, almost 80% of 2002 parents reported a negative impact on their own mental health and wellbeing, with the most acute impact reported by parents who were also working from home (Purdy and Harris, 2021). Many parents also expressed fear and anxiety due to their child's disrupted education. Findings from several separate surveys of parents with SEN/ND children, also show how parents felt extremely overwhelmed when trying to home-school their child, highlighting that they felt unprepared, inadequate, and worried that they were letting their child down (Asbury et al., 2020; Greenway and Eaton-Thomas, 2020; Toseeb, 2020). Across all reports parents and carers commented on the overwhelming sense of 'feeling forgotten' or 'left behind' in terms of additional support being provided by services or schools during lockdown and school closures. In children with mental health conditions, 57% of parents in the UK reported how homeschooling was having a negative on themselves, compared with 37% of parents who have children without a mental health condition (Thorell et al., 2021). On the positive side, the majority of parents found the time spent homeschooling their children to have some beneficial effects, with common benefits including finding new things out about their child, talking and listening, and enjoying new activities together (Bones et al., 2020).

***Parents of children with pre-existing medical conditions**:* 171 parents and caregivers of children with cancer were surveyed during the early stages of the pandemic, when children with cancer were designated as 'clinically extremely vulnerable'. While no comparative data were available, Darlington et al. (2020) reported that 85% of participating parents were worried about the virus and 90% were concerned about transmitting the virus to their child. For two-thirds of respondents, hospital was no longer considered a safe place, and parents were worried about suboptimal cancer care. Parents, and particularly single parents, also described difficulties in coping with the uncertainty of the situation, lack of control, and limited support in place. Subsequent research has found that children with cancer are not at an increased risk of severe COVID-19 infection compared to the general paediatric population (Millen et al., 2021), however, the pandemic has undoubtedly created additional barriers to quality childhood cancer care, and impact on survival and other outcomes for children undergoing treatment during the pandemic remain largely unknown (Moreira et al., 2021).

Parents of children with special educational needs and/or neurodevelopmental disorders (SEN/ND): Four surveys indicate that parents of children with SEN/ND may have experienced detriments to their wellbeing during lockdown (Waite et al., 2020; Gillespie-Smith et al., 2021; Shum et al., 2021; Thorell et al., 2021).

In survey data collected from the first 5000 parent/carers who participated in the Co-SPACE study, the majority (51.5%) of the 871 parents with children with SEN/ND felt stressed about their child's behaviour compared to only 4% of parents without a SEN/ND child (Waite et al., 2020). Parents of children with SEN/ND also reported that they would benefit from additional support with a larger proportion (relative to parents without SEN/ND) stating they needed support managing their child's emotions, behaviour, education, and family relationships. In an updated report published in January 2021, parents of SEN/ND children reported elevated anxiety, depression, and stress symptoms throughout the period from March 2020 that spiked when restrictions were strictest. Over time, on average more parents of children with SEN/ND were stressed about their child's

behaviour (48% vs. 24%), wellbeing (63% vs 39%) screen time (45% vs 37%) education (54% vs 34%) and future (52% vs 32%) compared to parents with a child without SEN/ND (Shum et al., 2021).

In a separate survey of 508 UK families (of which 37.4%, *n*=189 had SEND children), parents of children with SEN reported feeling stressed (69.5%), socially isolated (69.2%), and experiencing conflict with their child (40.4%) during lockdown, and each of these problems was more common than in families with typically developing (TD) children (Thorell et al., 2021). In line with prior evidence that suggests that there is a strong link between challenging child behaviour and parental psychological distress, a study of parents recruited during April-May 2020 (*n*=43 with ND; *n*=67 with TD), showed that challenging behaviours continued to be associated with psychological distress in parents of children with ND during the COVID-19 pandemic (Gillespie-Smith; under review).

Kinship carers and family caregivers: Two charity reports described the experiences of kinship carers surveyed either in England (Grandparents Plus Charity, 2020) or Scotland (Family Rights Group: Deacon, 2020) and one study investigated rates of depressive symptomology in caregivers and non-caregivers during the first national lockdown (Gallagher and Wetherell, 2020). Kinship care (also known as family and friends care) is any circumstance where a child is being raised by a friend or family member other than their parent. Kinship carers can be argued to be a vulnerable group, especially as some may be considerably older and financially constrained (e.g., retired grandparents) or have other children to also care for. Both charity reports in England and Scotland describe similar findings: kinship carers reported negative consequences for their wellbeing from the COVID-19 pandemic lockdown and school closures. In England, 87% of 94 carers reported they had been emotionally affected by the lockdown restrictions, and they had felt stressed, isolated, tired, and trapped. Carers in Scotland (*n*=79) also expressed that their main concern was their health of themselves and their children and the consequences to their children if they themselves became ill or died as the result of COVID-19, although without a comparison group it is not clear whether their role as a kinship carer led to higher levels of stress and concern compared to other groups. In a more direct investigation into the impact of the pandemic on 1349 caregivers versus 6178 non-caregivers from the UKHLS study, caregivers had a higher risk of having depressive symptoms compared with non-caregivers (OR = 1.22 (95% 1.05-1.40), although higher levels of depression in this group were noted before and during the pandemic (Gallagher and Wetherell, 2020). Evidence that caregivers also report higher levels of loneliness relative to non-caregivers suggest that restrictions related to social distancing may exacerbate loneliness, and caregivers who felt lonelier during the pandemic had an almost four-fold risk of depression.

Studies of women during the perinatal period: Two studies have examined maternal perinatal mental health during the pandemic (Davenport et al., 2020; Fallon et al., 2021) and one study compared the delivery and post-natal experiences of women who delivered before versus during the UK lockdown (Vazquez-Vazquez et al., 2021)

In a cross-sectional study with a convenience sample of 614 mothers (with infants aged between birth and 12 weeks) conducted between April and May 2020, Fallon *et al.,* 2021 reported that 43% of participating mothers scored above the clinical cut off for depression, and 61% exceeded the clinical cut-off for anxiety, although data were not available prior to the pandemic. In a similar study by Davenport *et al.* (2020), 900 women (58% currently pregnant and 42% in the first year after delivery; note that only 8% of the respondents

were from the U.K.) completed an online survey of depression and anxiety. Forty-one percent of participants reported clinically significant depressive symptoms and 72% reported clinically significant anxiety symptoms. While this study also reported pre-pandemic prevalence rates of depression (15%) and anxiety (29%), it should be noted that pre-pandemic rates were obtained through recall, rendering the interpretation of changes in symptom severity due to the pandemic subject to recall bias.

In the so-called COVID-19 New Mum Study, 1365 women who delivered before (May 2020) or during (June 2020) lockdown completed an online survey regarding their delivery and postnatal experiences (Vazquez-Vazquez et al., 2021). Results suggest that hospital facilities were continuing to implement measures during lockdown such as promoting early mother-baby contact and initiation of breastfeeding, thereby minimizing psychological stress and detrimental effects on feeding and bonding. Between groups, there was also no significant difference in the support mothers received by a mental health professional, and in fact women who delivered during lockdown reported greater contact with a health professional and Mother & Baby or breastfeeding groups. Of concern, 57% of women who delivered before lockdown experienced a decrease in infant feeding support during the subsequent lockdown, which should be noted given that there is evidence that the quality or lack of breastfeeding support is related to an increased risk of later postnatal depression (Chaput et al., 2016).

***Summary for mental health and wellbeing*:** Overall, evidence from nationally representative survey data suggests that parents have been particularly vulnerable to the effects of the national lockdown. High levels of psychological distress, including anxiety and depression were identified in the general parent population, in parents with children with pre-existing medical conditions or SEN/ND, and pregnant and postpartum women. Increased levels of isolation and loneliness were also reported due to the pandemic which may translate to an increased risk of depression (Gallagher and Wetherell, 2020). Despite difficulties imposed by the pandemic, women giving birth either before or during lockdown largely received similar support from mental health professionals; however, the majority of women who delivered before lockdown reported a decrease in feeding support over time which should be considered in light of findings that such support is associated with reducing the risk of later maternal mental health problems (Chaput et al., 2016). We also found evidence that existing gender inequalities and stereotypical gender roles in divisions of unpaid care work may have put women at a greater risk of poor mental health during the pandemic. While some surveys identified some positive experiences for parents (quality time with their children, community support), these were less likely among families who experienced higher levels of deprivation. In appraising these findings, it is important to note that studies typically relied on cross-sectional surveys with convenience samples which were not nationally representative so care should be taken when generalizing these findings to the wider population. Some studies also lacked stringent measures, for example of mental health, and appropriate comparison groups. Most studies also lacked a pre-pandemic comparison which means that, despite evidence of some particular challenges, it cannot be concluded whether these groups were particularly and specifically adversely affected by the pandemic.

Consequences for children: There is strong evidence linking parental mental health and well-being as a critical factor in children's well-being and long-term development. In relation to maternal depression, negative impacts for children have been measured in language development and intelligence; behaviour; including both conduct and depressive symptoms; social and emotional competence; physical ill health; sleeping problems and the parent/child relationship (Bernard-Bonnin, 2004, Smith, 2004). Most parents of 0 to 5-year-olds surveyed by the Royal Foundation (n=500) also endorsed a link between a parent's mental health and their child's wellbeing (Royal Report, 2020). Nine in ten either strongly agreed (63%) or tended to agree (27%) with the sentiment that "a happy parent equals a happy child". One U.K.-based report by the COVID-19 Psychological Research Consortium (2020) (n ~ 2000) found that young people (aged 13-24 years) whose parents were key workers experienced greater levels of COVID-19 anxiety and trauma and also reported more somatic symptoms that those whose parents were not key-workers. In another study, nearly half of the parents (832/2144) reported a decrease in physical activity during lockdown compared to before, and parent activity level was associated with the level of physical activity of their children (Dickerson et al., 2021). A small portion of respondents reported their child did no physical activity at all (6%), and some exercised 1-2 times a week (15%). Those families who were more financially insecure were more likely than other families to do no exercise. Overall, future work is needed to more thoroughly examine how the pandemic has directly influenced children as a direct result of changes to the mental health and well-being of their parents.

2) Earning Capacity Changes

Economic and educational disruption associated with the pandemic have left many people out of work, with approximately 11.5 million jobs being furloughed in the UK as of April 2021. Such actions can have a substantial impact on immediate earnings and household income which can potentially lead to changes in socioeconomic status (Dickerson et al., 2021). In this section, we review the evidence from seven journal articles and charity reports that have documented the extent to which UK parents were affected by the economic repercussions of COVID-19.

Economic harms: According to a poll and report by *Save the Children* charity conducted in the second week of lockdown, 10% of 1002 parents of 6-18 year olds had to leave their jobs completely, while 29% were forced to reduce working hours or take unpaid leave due to increased childcare needs (Save the Children, 2020). In survey data collected from 8940 respondents in May 2020, Adams-Prassl et al. *(*2020) examined subsets of the population who were most likely to be furloughed. In analyses that focused on parents with at least one child living in the house (*n* not specified), they report that a larger proportion of mothers were likely to initiate furlough when compared to childless women, and a greater proportion of mothers initiated furlough compared to fathers. In contrast, there were no gender differences in who initiated furloughing among respondents without children. In another survey of 2144 parents (95% mothers; 5% partners) that compared pre-to-post lockdown levels of financial insecurity, 33% of the sample stated their financial status was worse than it was 3 months previously (from Feb to May 2020). This varied by participants' ethnicity; 37% of those with a Pakistani heritage disclosed they were worse off financially compared to 26% of White British participants (Dickerson et al., 2021).

Kinship carers*:* Two charity reports described the financial repercussions of the pandemic for kinship carers surveyed in England (Grandparents Plus Charity, 2020) and Scotland (Family Rights Group: Deacon, 2020) during the first national lockdown. They both report evidence that financial and food insecurities were a cause of worry and distress. In England, 60% of 94 carers stated their financial situation had got worse, which resulted in carers using their savings for day-to-day living (Grandparents Plus, 2020). Among 79 Scottish respondents, 25% reported that their financial situation had also got much worse, whereas a significant proportion (43%) stated they were not experiencing financial hardship. A reduction in working hours (due to caring responsibilities) or the impact of having children at home due to school closures were identified as key contributors to financial hardship (Family Rights Group: Deacon, 2020).

***Employment/career opportunities*:** Two further studies surveyed specific groups of parents who may have been especially impacted in their employment and career opportunities: (a) parents employed in the performing arts sector; and (b) parents who were faculty or principal investigators within academia. While the whole population has been affected by job uncertainty due to COVID-19, 51% of performing arts workers have been furloughed compared to 13% across the whole country. Figures released by BECTU in August 2020 also estimate that over 7000 of performing arts workers were made redundant. Parents and Carers in Performing Arts (PIPA; 2020) conducted an online survey of parents working in the performing arts in June 2020 (*n*=500). One in four mothers reported doing 90% or more of the childcare and were struggling to work or seek work, with women more likely than men to be uncertain about their future in the arts sector. Among surveyed parents and carers, 72% were considering abandoning their career in the arts altogether. In the second study, 4535 academic faculty or principal investigators were

surveyed in April 2020 to investigate the nature and magnitude of disruptions scientists are experiencing. In this worldwide survey, which included the UK, Myers et al. (2020) found that relative to male scientists and those without young children, female scientists and scientists with young children reported that their ability to devote time to their research had been substantially affected, and the impact was most pronounced for female scientists with young children, who remained primarily responsible for childcare. More specifically, scientists with at least one child 5 years old or younger experienced a 17% larger decline in research time than those without children. Scientists with children aged 6–11 years were also affected, but to a lesser extent than those with pre-school aged children. Having multiple dependents was associated with a further 3% reduction in time spent on research. Understanding the degree to which changes in time allocations may translate to scientific output and productivity were not documented.

Summary for earning capacity changes: In 2019, one in four working-age parents in the UK were living in poverty, compared to one in five at of the population at large. While it is important to note that not all studies in this review included non-parent comparison groups, this report provides evidence that the short-term economic consequences of the COVID-19 crisis may have disproportionally impacted parents and exacerbated pre-existing socio-economic inequalities, potentially pushing more vulnerable families into poverty. Indeed, the Institute for Public Policy Research had estimated that an additionally 200,000 children will be under the poverty line by the end of 2020 as a direct result of the pandemic (Parkes and McNeil, 2020). The impact of employability and job performance has only been assessed in a few specific sectors, with notable gender inequalities, but it is currently unknown whether these observations are consistent with society at large.

Consequences for children: While there is substantial previous evidence that families' socio-economic circumstances or financial stressors are strongly associated with children's development, educational attainments, wellbeing, and mental health (e.g., Social Mobility Commission, 2019; Sameroff et al., 1993), no studies have directly examined the consequences to children of changes in parental earning capacity due to the pandemic. However it has been noted that children from lower SES families are more likely to live in poorer conditions, often involving overcrowding and poor/no access to computing devices or IT facilities, which may have hindered their ability to complete home-schooling during pandemic related restrictions (Crew, 2020); with educational attainment critical to later life prospects (Bayrakdar and Guveli, 2020; Greenway and Eaton-Thomas, 2020).

3) Physical harms – violence in the home

Lockdown conditions exacerbated domestic abuse: calls and advice from Refuge's National Domestic Abuse Helpline have dramatically rose (as of May 2020, visits to their website had increased 950% above pre-pandemic levels). The World Health Organization reported that the pandemic has "altered the intensity and frequency of risk factors for interpersonal violence", including social, economic, and gendered determinants. In this section, we review evidence that has documented rates of parental domestic violence, and the frequency of child and adolescent violence towards parents (C/APV) during lockdown.

Domestic violence: Across four police forces in Wales, the incidence of the reporting of domestic abuse to the police was reduced by 15% during the first UK national lockdown

compared to the same period last year (Uned Atal Trais Violence Prevention Unit, 2020) (*n,* not disclosed). The South Wales Health Boards also reported an 18% reduction in attendances to A&E for 'own home domestic assault' over a 3-month rolling average. While evidence points to fewer domestic violence related incidences being reported during lockdown, there was a sharp rise in demand on support services. In particular, there was an increased demand for domestic abuse services, with one helpline reporting a 54% increase in calls from parents experiencing abuse (*n,* not disclosed) (Uned Atal Trais Violence Prevention Unit, 2020). While a large meta-analysis (37 studies) found that incidents of domestic violence increased dramatically in response to stay-at-home/lockdown restrictions (obtained through administrative/official pre-post records), many of these studies were conducted in the USA and in other European countries (Piquero et al., 2021). As a result, there remains a need to examine whether policies implemented in the UK were associated with the same trend as different locations around the world.

Child and adolescent violence towards parents (C/APV): Survey data and anecdotal claims to support services appear to suggest that child and adolescent violence towards parents (C/APV) have increased during the pandemic (Newbury et al., 2020). Findings from a U.K.-wide survey of 104 parents who have experiences of C/APV from their child aged 10-19 years (and 47 practitioners who work with families) found that 70% of these parents reported an increase in violent episodes during lockdown (Condry et al., 2020). The majority of practitioners also said they had seen an increase in referral for families experiencing C/APV and 64% reported that the severity of the violence had increased. A quarter of 79 kinship carers also reported experiencing increased aggression from children (Grandparents Plus Charity, 2020). To ascertain whether reports of C/APV to police have increased during lockdown, a Freedom of Information (FOI) request was sent to all 43 Police Forces in England and Wales covering the period from June 2019 to May 2020 for all recorded incidents of C/APV perpetuated by children age 13-19 years towards their parents (Condry et al., 2020). From 19 police reports received, there was dramatic variation in frequency and trends in the numbers of C/APV incidents reported, and overall, the results were inconclusive. Notably, a clearer picture emerged in that all data consistently portrayed C/APV as predominately a son-mother occurrence, and mothers were more likely than fathers to be named the victim across all 19 forces.

Summary of physical harms: While formal reporting of domestic violence and hospital admissions reduced during the first national lockdown, charities have reported substantial increases in calls relating to domestic violence. In their recent editorial, Feder and colleagues state that it is difficult to understand the full extent of harm caused by exposure to domestic violence given the lack of empirical evidence on prevalence rates throughout the pandemic (Feder, d'Oliveria, Rishal & Johnson, 2021). Further, it is uncertain how domestic violence interacts with other adversities caused or amplified due to lockdown restrictions. Anecdotal reports also suggest an increase in the rates of C/APV due to lockdown restrictions, although no clear picture emerged of changes in reported incidents from police forces across England and Wales. While parents are often reluctant to report their child, fearing the consequences of criminalization, parents may have felt even more reluctant than usual to contact the police for fear of spreading or contracting coronavirus or putting additional pressure on police resources.

Consequences for children: Although there is clear evidence that witnessing domestic violence in the home can negatively affect children's psychological, emotional and social development (Carrell and Hoekstra, 2010) increasing children's externalizing behaviours (inc. disruptive behaviour), and causing difficulties for their own learning environment at school, which may have subsequent impacts in later life (Carrell, Hoekstra and Kuka, 2018), there has been no direct examination of the impact of domestic violence within the pandemic context on children. However notably, a report from Great Ormond Street hospital reported a marked increase in abusive head trauma cases in infants in March-April 2020 (n=10) compared to the mean presentation at this time in the preceding three years (n=0.67) (Sidpra et al., 2021).

Gender & Social Group Imbalance

From this review, we see an exacerbation of pre-existing gender inequalities such that mothers appear to have been hardest hit during the lockdown compared to fathers. The Office for National Statistics (ONS) report that in the first month of lockdown mothers spent an average of two-thirds more time on childcare responsibilities than fathers, and this difference was driven by the time mothers were investing in non-developmental tasks, such as dressing, feeding, supervising and washing the children. More women also reported that homeschooling was having a negative impact on their well-being, with 53% struggling compared with 45% of men. Mothers were also more likely than fathers to report that they think the pandemic would have a negative impact on their long-term mental health (Royal Foundation of the Duke and Duchess of Cambridge, 2020). Women were more likely to reduce working hours or initiate furlough due to increased childcare responsibilities (Adams-Prassl et al., 2020) which is consistent with other emerging evidence that mothers have spent more time on childcare activities than men at the expense of paid work time (Andrew et al., 2020; Biroli et al., 2020). In their charity report for Oxfam, Ferrer and Butt (2020) highlight that Black and minority ethnic women were disproportionately affected by recent cuts to public services, meaning they overall earned less and had an increased responsibility to undertake unpaid care and domestic work. In research into parents working in both the performing arts (Parents and Carers in Performing Arts (PIPA), 2020) and science sectors (Myers et al., 2020) the majority of women in the performing arts were more likely to consider an alternative career and more female scientists were struggling to devote time to their work compared to their male counterparts. Finally, mothers were also more likely to be victims of cases of child and adolescent violence towards parents (C/APV) through evidence obtained across 19 police forces across England and Wales, although whether the rates of C/APV increased during the first lockdown remain inconclusive.

Consequences for children: We did not identify any studies that examined the impact of changes to gender roles and social groups on children in the pandemic context

RQ2: Based on relevant literature, what are potential mitigating factors that may reduce the impact of identified harms?

(Full table of study references and other key information can be found in Appendix 5).

(1) Mental health and well-being

Psychological distress: In this review, we identified several studies that suggest parents' have experienced disproportionate levels of stress, anxiety, and depression relative to non-parents due to the impact of the pandemic and home-schooling (see RQ1). Our review also identified that being female, having a lower income, being a single parent, having a child with SEN/ND, and/or being from an ethnic minority background may further exacerbate psychological distress, highlighting groups that may particularly need additional support. Interventions are needed to support parents with mental health problems and to decrease the risk of mental disorders developing in their children (Goodman et al., 2011).

A large evidence base relating to the psychological therapies or pharmaceutical treatments to reduce anxiety and depression in different adult and child populations has informed the development of relevant NICE guidelines. It is currently uncertain how applicable such interventions are to parents of school children in the context of the pandemic, but there is no existing evidence to indicate that this population will have needs that cannot be addressed through existing NICE recommended interventions.

The evidence relating to whether treating parental mental health can prevent the development of child mental health problems is limited. A meta-analysis of nine randomized control studies of interventions for maternal depression provided some evidence that psychological treatment can have a small to moderate effect on children's mental health (Cuijpers et al., 2015) but notably included only three studies that examined pre-school or school aged children. Interventions for this sub-group of studies show the benefits of *cognitive behavioral therapy (CBT)* (Verduyn et al., 2003), *internet CBT* (Sheeber et al., 2012) and *interpersonal therapy* (Swartz et al., 2008) for improving children's mental health and/or mother-child interactions. However, overall, the quality of these studies was not optimal and outcome instruments differed significantly from one another (Cuijpers et al., 2015). Evidence from a non-controlled trial suggests that treating maternal depression through antidepressant medication was associated with reductions in diagnoses and symptoms of affective disorders in children (Weissman et al., 2006) although as the design was not experimental causality cannot be demonstrated. Further research on this topic is needed and possible preventative impacts of treating paternal depression or parental anxiety on child outcomes are currently unknown. However, there is emerging evidence to suggest that subsequent child anxiety problems can be prevented through *parenting support* for parents with anxiety disorders (Cartwright-Hatton et al., 2018; Ginsburg, Tein and Riddle, 2020) and a current large-scale trial of an online intervention to support parents to prevent child anxiety problems (delivered through school settings) is currently underway https://osiresearch.org.uk/my-cats/. Together the available evidence suggests that treating parental mental health problems and/or providing support to parents to help them to help their children could mitigate the consequences for child mental health.

Given the existing gap between demand and access for mental health support for both parents and children (and particularly preventative interventions) (Children's Commissioner, 2020, 2021) and the expectation that the treatment gap will increase further due to the consequences of the pandemic**,** interventions that are promising, affordable, and easily accessible are likely to be particularly useful in the context of COVID-19 in this context. In the wider mental health context, the following conclusions apply relating to more cost-effective interventions:

a) *group-based delivery* of CBT for the treatment of depression can be as effective as individual cognitive therapy (Cuijpers et al., 2019). In a network meta-analysis of 155 RCTs with 15,191 participants, the effectiveness of individual and group CBT did not differ significantly from one another in the treatment of adult depression, and both were more effective than being on a waiting list, treatment as usual, active control conditions, or unguided self help. However, some disorders (e.g., social anxiety) may be less appropriate for group therapy, which in turn could limit cost-effectiveness of this approach (Mavranezouli et al., 2015).

b) *self-guided interventions* can be effective. In the same network meta-analysis by Cuijpers et al. (2019) guided self-help CBT had the same effectiveness as individual or group CBT. One potential drawback is that guided self-help incurred greater dropout rates than other treatment modalities, indicative of reduced patient acceptability (Cuijpers et al., 2019). Other evidence suggests that self-guided interventions which don't include any therapist support (i.e., unguided self-help) are significantly less effective than guided self-help for both depression and anxiety disorders (Taylor et al., 2020; Hirai and Clum, 2006; Spek et al., 2007). Other self-guided options may include the use of digital smartphone-supported psychological interventions that have been shown to reduce symptoms of depression and anxiety (Linardon et al., 2019; Weisel et al., 2019; Wu et al., 2021). In a meta-analysis of 66 randomized control trials, CBT based smartphone interventions significantly outperformed control conditions with small to medium effects in improving depression and generalized anxiety symptoms, stress levels, quality of life and general psychological distress (Linardon et al., 2019). Studies that delivered a CBT based app and offered professional guidance and reminders to engage produced larger effects on multiple outcomes (Linardon et al., 2019); and the inclusion of a greater number of in app engagement features was also beneficial (Wu et al. (2021).

Wellbeing (Loneliness and isolation): Chronic loneliness is experienced by around a third of parents, and evidence from this review has shown how parents have reported substantially increased levels of loneliness and isolation due to COVID-19 related restrictions. Here we suggest interventions which have been effective both in the general population (Masi et al., 2011) and in parents more specifically (Nowland et al., 2021; in press). In a meta-analysis of 50 primary studies, 20 studies utilized an RCT; these will be discussed here given their design superiority. From these twenty studies, a small but statistically significant effect of loneliness reduction interventions was observed. In terms of parents being the target population for our review, nine studies focused on young and middle-aged adults, and three out of these nine studies reported successful outcomes for improving loneliness. Two of these efficacious studies found that therapist delivered *social cognitive training* was effective in treating loneliness (McWhirter and Horan, 1996; Williams et al., 2004) whereas one study found *social support* to be effective (Samarel, Tulman and Fawcett, 2002). In this third study, the experimental group received weekly 2-hour, group social support and education as well as weekly individual telephone social support and education over 13 months. In their scoping review focused on parents, Nowland et al., 2021 (in press) found similar results suggesting the importance of

developing communications skills and forming social connections via engaging women in peer support. Six out of the 14 identified intervention studies that measured parental loneliness as an outcome (although this was not always the main target of the intervention) showed reductions or promise in reducing loneliness. Interventions such as *self-management empowerment* (Zare et al., 2017), a *child development parenting programme* (Skar et al., 2015), *home visiting peer support* (Chan, Lam and Kwok, 2005), *short term cognitive group therapy* (Sorenson, 2003), *telehealth* involving e-meeting forum with a healthcare professional (Nyström and Öhrling, 2006) and *interpersonal skills training* (Richey, Lovell and Reid, 1991) were all effective; however, all of these studies utilized a pre and post intervention study design which suggest there is a need for more robust randomized control trials, and some of the sample sizes were notably small. Nevertheless, these findings align with wider literature that indicates that peer support can provide validation, normalization, and reassurance. It is important to note that the studies described above addressed parental loneliness *per se*, rather than loneliness that was driven or exacerbated by enforced isolation and restricted social connections.

Studies of women during the perinatal period: This report suggests that women in the perinatal period (either in pregnancy or shortly after giving birth) have reported increased levels of anxiety and depression due to lockdown restrictions supporting estimates reported by a large worldwide meta-analysis (Tomfohr-Madsen et al., 2021). Prompt interventions should be implemented to support these women and their families to prevent long term and serious consequences to both mothers and their children. At the current time, there have been no systematic reviews of evidence on interventions that have been shown to improve perinatal women's mental health in the context of the COVID-19 pandemic. Prior to the pandemic, there was evidence from a meta-analysis of 73 studies that both *cognitive behavioral therapy (CBT)* and *interpersonal psychotherapy (IPT)* are effective in the treatment of perinatal depression (Nillni et al., 2018). Treatment studies for perinatal anxiety, however, were limited (n=3) but indicated that *CBT* may also be effective. This is supported by a separate systematic review of perinatal women diagnosed with clinical anxiety (5 studies: 127 participants) (Loughnan et al., 2018). While there was some overlap of studies to those reported by the larger meta-analysis performed by Nillni et al. (2018), the two additional studies identified show conflicting results. While the use of CBT provided through an internet therapist was shown to be effective (Nieminen et al., 2016) the addition of CBT demonstrated no benefits over the SSRI paroxetine alone for postpartum women with moderate-to-severe anxiety (Misri et al., 2004).

(2) Earning Capacity Changes

Evidence in this report demonstrates that those who were already financially vulnerable pre-pandemic became more vulnerable during the pandemic. The implementation of financial support schemes such as the Universal Credit Uplift (£20 extra per week) is recognized to have provided recipient families with a short-term lifeline. However, it must be noted that this Uplift was a flat payment, meaning that larger households would benefit less from this increase compared to smaller households (e.g., a single person vs. a family with three children). Further, a report commissioned by Standard Life Foundation (Collard et al., 2021) estimates that when this Uplift is removed, coinciding with the removal of Governmental job support schemes, this will cause more than 760,000 people to be pulled into poverty; 540,000 of which are families with children. Further analysis of these figures has led to estimations that of the 540,00; 200,000 will be single-parent families; 360,000 will live in households with at least one disabled adult; and 100,000 with at least one carer (Collard et al., 2021; McNeil et al., 2021; Richardson and Butler, 2021).

While there are few direct evaluations of specific schemes, the Standard Life Foundation and Gingerbread Charity reports highlight key suggestions on how to mitigate the effects of earning capacity changes caused by the COVID-19 pandemic. They particularly highlight the importance of the Universal Credit system, as well as focusing on child maintenance and childcare provision (Bambra et al., 2021; Collard et al., 2021; Richardson and Butler, 2021). Indeed, Hill, Hirsch and Davis (2021) highlight that Universal Credit is often not enough to cover household financial requirements such as rent, bills and food, which therefore leaves families likely to borrow from other family members or friends, or in some cases to take out a loan, which is then subsequently deducted from their benefits. Additional schemes that have been highlighted include the implementation of effective training and support in order to assist those returning to work after a prolonged period of furlough or unemployment (Whitehead, Taylor-Robinson and Barr, 2021) and interventions that promote employee mental and physical health (Bambra et al., 2020).

While reducing the level of poverty for parents and carers will in turn increase their wider financial resilience. In an evaluation of household financial resilience across 22 countries, Mcknight and Rucci (2020) note three main approaches to improving financial resilience: assisting and incentivizing families to accumulate emergency savings; providing effective and adequate social safety nets; improving families' financial capabilities. While there is early success noted in some countries (e.g., Canada's Learn$save project; Leckie et al. (2010)) the effectiveness of these initiatives has not been sufficiently evaluated for firm conclusions to be made.

In addition to measures such as Universal Credit, raising the pupil premium and intensive measures to support learning loss, especially for disadvantaged students are advocated (Bambra et al., 2020; Richardson et al., 2021). Longer term actions may include reinvestment in preventative services (such as Sure Start Local Programme, SSLPs). SLLP has been found to be effective for disadvantaged families (Melhuish et al., 2008), including improving the uptake of more services that support child and family development (Cattan et al., 2019). More recently, the Government's £1.3 billon funded 'Troubled Families programme' (TFP) aimed to identify 'troubled families' (characterized by low household income, anti-social behaviour, truancy, school-exclusion, or a parent with a mental health condition) in 152 local authorities in England (Ipsos MORI, 2017; Silver & Crossley, 2019). Identified families were invited to take part in a 'family intervention' aiming to change family behaviours, but not their current circumstances or living conditions (Crossley, 2020; Silver & Crossley, 2019). Operated by using a Payment by Results (PbR) model, the programme has come under criticism, with critics challenging the original positive reports of the programme's 99% success rate at 'turning families around'. In a more thorough examination, local authorities were found to have self-certified their successfully 'turned around' families, regardless of whether the families had done this without assistance from the TFP (Bawden, 2015; Crossley, 2020; Silver & Crossley, 2019). Official evaluation reports found that across all outcomes (e.g., employment, benefit receipt, school attendance, safeguarding and child welfare) there was little evidence that the TFP had any significant systemic impact (Bewley, George, Rienzo & Portes, 2016). Further evaluation from Ipsos MORI (2017) found that even in successful cases where families had recognized the value of the TFP across the whole family unit, families still faced persistent ongoing challenges such as financial and domestic management, poor quality of housing, and adult and child mental health problems (Ipsos MORI, 2017).

(3) Physical harms in a domestic setting

The evidence presented regarding solutions to mitigate the harms of physical violence during the COVID-19 pandemic was identified via reputable sources. However, there has been very little systematic evaluation of the effectiveness of these potential solutions. While domestic violence and abuse (DVA) can affect people of any age, ethnicity, gender, and sexuality (Keynejad, Baker, Lindenberg, Pitt, Boyle & Hawcroft, 2021). The evidence discussed below is primarily focused on women and children, except for the perpetrator programme, which is aimed at male offenders.

To address physical harms such as domestic violence, child abuse and maltreatment, and child/adolescent to parent violence (C/APV), the Social Care Institute for Excellence (2021) highlight previous success in the 'twin-track' approach following past epidemics such as Ebola, Cholera and Zika. The 'twin-track' approach involves actively supporting organisations that are working to support those affected by domestic violence, child maltreatment, and C/APV, as well as integrating the 'Violence Against Women and Girls' strategy (Crown Prosecution Service, 2017) into sectoral responses. Further, the SCIE (2021) highlight the importance of multiple agencies presenting a unified front in effective communication and working together. Agencies must be supported in their communication and plans relating to manage violence that is being experienced in the home, which may be improved by the development and implementation of safety protocols that are followed by all agencies when dealing with abuse cases (SCIE, 2021). Ongoing training for Governmental and Health workers, such as Social Care and Health Visitors, will ensure knowledge and skills are up to date and will assist in providing the most effective support to those experiencing abuse (National Institute for Health and Care Excellence, 2020).

A recent report produced by the Violence Abuse and Mental Health Network (VAMHN) highlighted key opportunities for action across community, education, third sector, and Government sectors (Chevous, Fisher, Perôt & Sweeney, 2021). These included educating communities on how to identify and support families at risk of physical harm, which included public awareness campaigns as well as the implementation of community-level initiatives such as 'Cut it Out', which aims to train hairdressers to spot signs and signpost to relevant support services after disclosure. In addition, there are codeword initiatives including Safe Spaces and 'Ask for ANI' that can be used in various locations including pharmacies and supermarkets. The VAMHN suggest more covert strategies are also needed to provide more opportunities for those in need of help to be able to reach out discretely and safely. As for potential mitigations that could be implemented by the education sector, the VAMHN report suggests increased training for teachers and school staff to be able to spot signs of abuse, strategies for building rapport and trust with children, and implementing one-on-one check-ins with students, and is supported by findings from a separate charity report (Newbury et al., 2020). Identifying potential trauma symptoms in children (e.g., presenting as disruptive behaviour in class), managing disclosures from children regarding violence in the home, and knowing which services to signpost families towards should be key components of educational training. Some local authorities (Liverpool, Hammersmith and Fullham, and Middlesbrough) have also opted to include links and contact details for relevant charities on their live information pages to ensure greater accessibility.

With regards to clinical interventions, a review of 17 interventions for mothers and their children experiencing domestic violence (women were directly affected and the children were witnesses) evaluated the effectiveness of separate, joint (mother and child were treated together), and combined (mother and child were treated individually and also received joint sessions) interventions (Anderson and van Ee, 2018). Findings from the review highlight that each intervention approach was successful in different ways. Separate interventions were found to improve child internalising behaviours, as well as improving mother's levels of parenting stress. However, no significant reductions in mother's depression, anxiety or trauma were observed. Joint interventions, working with both the mother and child together, were found to improve child conduct problems and aggression. Play-orientated therapy was also found to improve parent-child communication. Lastly, combined treatments implementing separate and joint sessions were found to produce the most positive outcomes including traumatic stress, child adjustment, self-esteem, social problems, and positive attitudes. as well as increasing social support, self-efficacy, depression, and confidence for mothers. For children, combined sessions were found to increased self-esteem and emotional well-being, as well as reducing both internalising and externalising behaviours. These findings echo previous evidence, which has also supported the use of child-parent psychotherapy (CPP) to reduce children's behavioural problems and traumatic stress symptoms, and to improve maternal mental wellbeing (Lieberman, Van Horn and Ippen, 2005).

While support should be prioritized for victims of abuse, there is evidence for the effectiveness of a tailor-made programme designed specifically for perpetrators to reduce the occurrence of domestic violence. The Drive Program adopts a multi-agency approach to prevent and reduce abuse by targeting high-risk, serial perpetrators (Drive Project, 2021; Hester et al., 2017). Early evidence shows a reduction in risk after engaging with the programme, as well as greater opportunities for child safeguarding. Echoing earlier points made in this report, findings evaluating the Drive Programme also highlighted the importance of effective multi-agency communication (Hester et al., 2017).

As well as directly addressing physical violence by adults within the home, it is essential to ensure that children are protected from the adverse longer-term consequences of family violence. There is an abundance of empirical evidence that highlights several implications for children exposed to domestic violence and abuse, such as increased risk of developing emotional, psychological and behavioral issues, as well as an increased risk of exposure to other adversities in their lives (Holt, Buckley & Whelan, 2008). Evidence from a recent review also highlighted several protective factors for children to mitigate these impacts, including a strong relationship and secure attachment with a caring adult, which was usually found to be the mother (Holt et al., 2008). Future interventions may seek to build and develop a strong and secure relationship between children and their parents. Overall, short term mitigations highlighted in the Survivors Voices and VAMHN report (Chevous et al., 2021) raised the importance of developing free and readily available information and support via apps, helplines, and web-based resources (e.g., websites and social media pages) for children and young people affected by domestic violence. In this regard, charities including Family Lives and Young Minds also offer support and advice to both children and parents/carers. The current evidence offers little insight into potential mitigations that could be effective against longer term impacts of exposure to domestic violence and abuse in the home, which is a considerable gap in our knowledge and understanding.

There is substantial evidence related to reducing violent behaviour by children, including parenting programmes that aim to improve child behaviour though developing parent-child relationships, empowering parents, and reducing negative or harsh parenting in families where the child is at risk of, or currently displaying, conduct problems (Gardner and Leijten, 2017). One widely evaluated parenting programme is *The Incredible Years programme* which includes distinctive features such as providing food, childcare, and transport, to those families taking part (Gardener & Leijten, 2017; Leijten et al., 2018). A meta-analysis reviewed 50 studies of Incredible Years found overall improvements in child conduct problems based on both parent reports and independent observations immediately after the intervention (Menting, Orobio de Castro and Matthys, 2013). A further systematic review of the Incredible Years programme found improvements in some aspects of family well-being related to children's (aged 1 – 12 years) conduct problems (Leijten et al., 2018). However, wider benefits to the family were not found, including improvements to the child's emotional problems or parental mental health. It is also notable that these interventions are designed to tackle child violent behaviours or wider conduct problems as outcomes, versus specifically reporting on child/adolescent to parent violence.

DISCUSSION

This review asked:

What is the current research evidence on: (i) the harms created by school closures during the COVID-19 pandemic on parents and carers; (ii) mitigations or interventions to specifically address the identified harms incurred by parents and carers.

The three main areas where harm to parents and carers were identified were in mental health and wellbeing; earning capacity changes; and physical harms in the home due to both domestic violence and child and adolescent violence towards parents. While the remit of this report was to focus on harms experienced by parents and carers, it is likely that negative impacts to parental mental health will translate to worsening mental health of their children (Goodman et al., 2011) although direct evidence on this point in the context of the pandemic is lacking. Nonetheless, based on the available evidence, parental interventions are needed to not only support parents with mental health problems, but to decrease the risk of mental health problems and to protect children's wellbeing, educational attainment, and long-term prospects.

Overall, we found that UK parents and carers self-reported elevated levels of psychological distress, including anxiety, and depression during lockdown restrictions, coinciding with the timing of home-schooling. Evidence also suggests that being female, possessing a lower income, being a single parent, having a child with SEN/ND, and/or being from an ethnic minority background may further exacerbate parental psychological distress, highlighting groups that may particularly need additional support. However, studies were typically cross-sectional surveys with non-representative samples and without pre-pandemic comparison groups, making it difficult to fully ascertain the extent to which the pandemic has had a negative impact on parent's mental health. In one key longitudinal study with a nationally representative sample and data obtained both before and during lockdown, significantly higher rates of mental distress were reported by parents with young children relative to those without children, providing the clearest indication yet that parents are likely to have been disproportionally affected by school lockdown measures (Pierce et al., 2020). These findings highlight considerable cause for concern for the consequences to

children, as there is strong evidence that links parental mental health and well-being as a critical factor in disruptions to effective parenting (Smith, 2004) and children's cognitive and social development (Mensah et al., 2010). As a result, parents, and particularly those identified as most at-risk, should be prioritized for support to be in the best position to support their children.

While there is a substantial evidence base for treatments of adult mental health problems, including both psychological therapies and pharmaceutical interventions (Harvey & Gumport, 2015), the applicability of such interventions to parents of school children in the context of the pandemic is currently uncertain. Nevertheless, there is no existing evidence that would suggest that the needs of this population cannot be addressed through existing NICE recommended interventions. From this review, we identified successful interventions including cognitive behavioural therapy (CBT), internet CBT, and interpersonal therapy, which not only improved parent's mental health but also children's mental health and/or mother-child interactions. We also discussed promising, affordable, and easily accessible treatments for depression and anxiety, with group-based delivery and self-guided interventions (including digitally supported smartphone psychological interventions) being as effective as the traditional (one-to-one) mode of treatment delivery.

Evidence from the Early Years Royal Report also directly compared loneliness in parents before and during the pandemic highlighting how social distancing guidelines during school closures left many parents feeling isolated during this time. This is a cause for concern given that loneliness has been shown to have a longer-term impact on mental and physical health (Mushtaq et al., 2014). However, without a comparison group of non-parents, we cannot conclude that parents experienced higher levels of loneliness than the population at large. Nevertheless, effective interventions to address chronic loneliness and isolation include self-management empowerment, home visiting peer support, short term cognitive group therapy, among others. While these interventions generally show benefits to adults and or/ parents, we found no studies that have investigated how this mitigation translates to children. Future studies will need to address whether mitigating loneliness in parents positively influences children's wellbeing.

We found robust evidence to suggest that the pandemic has had a substantial negative effect on the earning capacity of parents within the UK. Due to school closures and increased childcare responsibilities, many parents and carers reported having to reduce their working hours or take unpaid leave due to increased childcare needs, and some even reported having to leave their jobs completely. Notably, a larger proportion of mothers took the decision to be furloughed compared to fathers, whereas childless men and women did not differ in their decision to be furloughed. This evidence suggests that mothers are likely to be especially negatively impacted by a loss of earnings and future earning potential compared to fathers, and childless men and women. The impact of employability and job performance has only been assessed in a few specific sectors, namely the performing arts and science, with notable female disadvantage, but it is currently unknown whether these observations are consistent with society at large or whether they persist long-term once schools have fully opened. Future work will need to assess whether loss of earnings to parents during school closures will have a long-term harmful effect by pushing more families into poverty and lowering socioeconomic status, which is linked to significant reductions in life expectancy (Stringhini et al., 2017). In relation to education, it has been estimated that children who are entitled to free school meals due to lower family SES have 18-20% lower educational attainment (Social Mobility Commission, 2019). A further study conducted in the Netherlands found that, despite generally favourable

conditions (i.e., short lockdown, equitable school funding, and world-leading rates of broadband access), learning loss was most pronounced among students from disadvantaged homes (Engzell et al., 2021). These studies highlight how families' financial situation or SES can cause short term educational losses, and further longitudinal studies are needed to examine how this initial loss of learning may translate to long-term attainments and future prospects.

Evidence relating to mitigations for assisting families financially primarily centered around three main government financial schemes: universal credit, child maintenance and childcare provisions. There is an abundance of evidence advocating for the continuation of the Universal Credit Uplift (Bambra et al., 2021; Collard et al., 2021; Richardson and Butler, 2021), but there has been no systematic evaluation of the impact on low-income families' socio-economic status. Based on current predictions, the financial implications of the COVID-19 pandemic will likely be substantial, and it is of the upmost importance to ensure those most vulnerable are supported financially. A poll commissioned by the Food Foundation found that 2.4 million children in the UK were living in food insecure households, and food banks have reported a substantial increase in visitors throughout the pandemic (Food Foundation, 2020) leading UNICEF to launch a domestic emergency in the UK for the first time to help feed children. It goes without saying that hungry children will not be able to focus on their education. The pre-pandemic, 'Lost Education' report, commissioned by Kelloggs, calculated that over their years at primary school, children lose over eight weeks of learning due to hunger (Kelloggs, 2013). Most teachers also report that the presence of hungry children in the classroom can have a negative impact on learning for the rest of the class, creating a "lost education" for many in school.

For some families, increased time in the family home may have also given rise to an increased risk of domestic violence. While formal reporting of domestic violence and hospital admissions decreased during the first national lockdown, charities have reported substantial increases in calls relating to domestic abuse. For children in the home, witnessing domestic violence can negatively affect their psychological, emotional and social development, increasing disruptive behaviours, which may in turn cause difficulties for them at school (Carrell & Hoekstra, 2010). According to self-reports and support services, there has also been an increase in the prevalence of child/adolescent to parent violence (although data from police reports were not conclusive). Several charity reports describe increased aggressive, violent, or challenging behaviours from children towards their parents. While this has been speculated to be related to experiences of confinement and coerced proximity, changes in structure and routine, fear and anxiety, and lack of access to support, future studies will need to determine the root causes of such violence by children towards their parents. Regardless, the presence of these externalizing behaviours in children indicates urgent need for support.

Much of the evidence related to mitigating physical harms has been drawn from reputable sources; however, systematic evaluation is limited rendering it difficult to draw firm conclusions on the effectiveness of potential interventions. Findings broadly advocate for better and more effective inter-agency communication and liaison when identifying and supporting families affected by domestic violence. Several agencies, including the Crown Prosecution Service, have produced reports and strategies on how to prevent violence against women and girls, which is helpful for advising sectoral responses. Psychosocial interventions addressing the consequences of domestic violence identified several treatment approaches including individual, joint, and combined treatments. Combined treatment involving both individual and joint sessions for mothers and children were

found to be the most effective in addressing a wide variety of outcomes. Currently, a feasibility study is being performed for a perpetrator-specific programme focused on severe and serial domestic abusers, which will attempt to reduce perpetuation of domestic abuse, rather than addressing negative consequences for their victim. Initial findings are promising, but the trial is still in its infancy. Evidence for the effectiveness of parenting programmes to address child/adolescent to parent violence is not specifically related to violence arising due to school closures during the pandemic, but findings from the Incredible Years programme shows promise for reducing child externalizing behaviours in general (including aggression) or acting as a preventative measure for emerging child conduct problems.

Across all harms reported, we found evidence that pre-existing gender and social inequalities have been exacerbated because of lockdown restrictions. Mothers were more likely than fathers to report concerns that the pandemic would have a negative impact on their long-term mental health, and they spent more time on childcare responsibilities than fathers which led to both an increase in psychological distress and a loss of earnings. We also found that black and minority ethnic women were disproportionately affected by a loss of earnings due to cuts to public services. In the limited research into parents working in specific sectors - the performing arts and science - women were either more likely to consider an alternative career or were struggling to devote time to their work. There were also some anecdotal reports to suggest that mothers experienced an increase in violence from their children during lockdown.

STRENGTHS AND LIMITATIONS

As with all reviews, the evidence in the current report must be viewed in the context of both strengths and limitations. Strengths include that literature searches were extensive, included most relevant data sources, and were conducted by research specialists. Data was also handled in a systematic and critical way with evidence reviewed and synthesized by topic experts. Several of the studies identified drew upon large longitudinal data sets that were able to report changes directly from pre-to-post pandemic and which were directly relevant to harms experienced by the parent population. As for limitations, the short-time frame restricted sources of additional literature such as harms experienced to parents from outside of the UK. The identification of studies included was also not undertaken fully independently. Not all the available evidence was peer-reviewed, and a large body of the articles were based on cross-sectional surveys that did not always have an appropriate comparison group and/or were unable to accurately state the specific impact of the pandemic due to capturing only one moment in time. The wider search for mitigation or intervention strategies may also not be generalisable to parents, although we have stated when and where there is no evidence to suggest that these interventions would not be effective in this population. Finally, due to the timing of the commission of this review, it is highly likely that relevant research articles are currently being conducted or going through the peer review process. As a result, it may be too early to fully see the extent of harms to parents and we anticipate that more, potentially unanticipated harms may come to light as new data are collected. For example, many months of social isolation may cause higher rates of social anxiety and there may be a greater prevalence of obsessive-compulsive behaviours due to fears of contamination associated with the virus itself (Dawel et al., 2021). Obvious questions will be how these new, or more severe, debilitating symptoms translate to children and their learning? For children themselves, social

interaction anxiety has been linked to a decrease in student learning engagement (Nair et al., 2021) indicating support is needed throughout the transition period post lockdown.

CONCLUSIONS

This review has found evidence of harms to UK parents and carers due to national lockdown restrictions (which coincide with school closures) from thirty-two research articles, reports, and charity surveys. Harms fall into three main categories: mental-health and well-being; earning capacity changes; exposure to physical harms in the domestic setting. Overall parents appear to have suffered disproportionately compared to non-parents in the context of national lock down restrictions and school closures. Notably, for many of these outcomes there is evidence that parental gender and social group imbalances may have widened, with mothers, those with lower SES, and black and ethnic minority groups being affected to a greater extent by school closures. While we have provided some suggestions for useful mitigation strategies based on available evidence, it is important to consider potential interventions within the wider contexts in which families are living. For example, while psychological support may assist those with depression and/or anxiety, if financial worries or food insecurities are the main source of distress these will need to be addressed directly. Research evidence published prior to the pandemic suggests that parental harms are likely to have negative consequences for children and given the challenge of living in a pandemic the negative consequences for children may be even greater. However, more research is needed before firm conclusions can be drawn about the association between parental harms and children's development and academic attainment in this context. As a result, it is also unclear whether suggested mitigations or interventions to address the identified harms reported by parents throughout the pandemic will protect children, and any possible interventions implemented will need to be studied carefully to ensure they are successful in protecting children's long-term development.

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APPENDICES

Appendix 1: Overview of evidence of harms with QA (32 studies)

Presented in order of main text

Count*	Sub-category	Evidence source (reference)	Study type	Strength of the evidence
(1) Mental health and well-being				
27	Psychological distress	Pierce, M et al., 2020. Mental health before and during the COVID-19 pandemic: a longitudinal probability sample survey of the UK population.	Secondary analysis study (data from Understanding Society Covid-19 survey)	Medium – some limitations
		Xue, B. and McMunn, A., 2021. Gender differences in unpaid care work and psychological distress in the UK COVID-19 lockdown.	Secondary analysis study (data from Understanding Society Covid-19 survey)	Medium – some limitations
		Dickerson, J. et al., 2021. Experiences of lockdown during the Covid-19 pandemic: descriptive findings from a survey of families in the Born in Bradford study.	Cross-sectional (Online survey)	Medium – some limitations
		Waite, P. et al., 2020. Report 02: COVID-19 worries, parent/carer stress and support needs, by child special educational needs and parent/carer work status.	Cross-sectional (Online survey)	Medium – some limitations
		Shum, A. et al., 2020. Report 07: Changes in parents' mental health symptoms and stressors from April to December 2020.	Longitudinal (Online survey)	Strong
		McElroy, E. et al., 2020. Demographic and health factors associated with pandemic anxiety in the context of COVID-19.	Cross-sectional (Online survey)	Medium – some limitations

	Well-being	Royal Foundation of the Duke and Duchess of Cambridge, 2020. State of the nation: understanding public attitudes to the early years. IPSOS MORI.	Longitudinal (Online survey)	Strong
		El-Osta, A. et al., 2021. How is the COVID-19 lockdown impacting the mental health of parents of school-age children in the UK?	Cross-sectional (Online survey)	Strong
	Impacts of home-schooling	Office for National Statistics, 2021. Coronavirus and the social impacts on Great Britain: 19 February 2021 [Online].	Survey	Strong
		Bones, O.C. et al., 2020. Ulster University Northern Ireland Parent Surveys: Experiences of Supporting Children's Home Learning during COVID-19.	Cross-sectional (Online survey)	Medium – some limitations
		Purdy, N.et al., 2021. Northern Ireland Survey of Parents/Carers on Home-Schooling during the COVID-19 crisis 2021.	Cross-sectional (Online survey)	Medium – some limitations
		Asbury, K. et al., 2020. How is COVID-19 Affecting the Mental Health of Children with Special Educational Needs and Disabilities and Their Families?	Cross-sectional (Online survey)	Medium – some limitations
		Greenway, C.W. and Eaton-Thomas, K., 2020. Parent experiences of home-schooling children with special educational needs or disabilities during the coronavirus pandemic.	Cross-sectional (Online survey)	Medium – some limitations
		Toseeb, U.A., K; Code, A; Fox, L; Deniz, E, 2020. Supporting Families with Children with Special Educational Needs and Disabilities During COVID-19.	Cross-sectional (Online survey)	Medium – some limitations
		Thorell, L.B. et al., 2021. Parental experiences of homeschooling during the COVID-19 pandemic: differences between seven European countries and between children with and without mental health conditions.	Cross-sectional (Online survey)	Medium – some limitations
	Parents of children with pre-existing	Darlington, A.-S. et al., 2020. COVID-19 and children with cancer: Parents' experiences, anxieties, and support needs.	Cross-sectional (Online survey)	Medium – some limitations

	medical conditions			
	Parents of children with SEN/ND	Waite, P. et al., 2020. Report 02: COVID-19 worries, parent/carer stress and support needs, by child special educational needs and parent/carer work status.	Cross-sectional (Online survey)	Medium – some limitations
		Shum, A. et al., 2021. Report 09: Update on children's & parents/carers' mental health; Changes in parents/carers' ability to balance childcare and work: March 2020 to February 2020.	Longitudinal (Online survey)	Strong
		Thorell, L.B. et al., 2021. Parental experiences of homeschooling during the COVID-19 pandemic: differences between seven European countries and between children with and without mental health conditions. European Child & Adolescent Psychiatry.	Cross-sectional (Online survey)	Medium – some limitations
		Gillespie-Smith, K. et al., 2021. The impact of COVID-19 restrictions on psychological distress in family caregivers of children with neurodevelopmental disability in the UK.	Cross-sectional paper	Strong
		Toseeb, U.A., K; Code, A; Fox, L; Deniz, E, 2020. Supporting Families with Children with Special Educational Needs and Disabilities During COVID-19.	Cross-sectional (Online survey)	Medium – some limitations
	Kinship carers and family caregivers	Grandparents Plus Charity, 2020. Kinship Care COVID-19 Impact Report.	Cross-sectional (Online survey)	Medium – some limitations
		Family Rights Group: Deacon, 2020. Kinship Carers' Experiences during the Coronavirus Crisis.	Cross-sectional (Online survey)	Medium – some limitations
		Gallagher, S. and Wetherell, M.A., 2020. Risk of depression in family caregivers: unintended consequence of COVID-19.	Cross-sectional (Online survey)	Strong
	Perinatal period	Davenport, M.H. et al., 2020. Moms Are Not OK: COVID-19 and Maternal Mental Health.	Cross-sectional (Online survey)	Medium – some limitations

		Fallon, V. et al., 2021. Psychosocial experiences of postnatal women during the COVID-19 pandemic. A UK-wide study of prevalence rates and risk factors for clinically relevant depression and anxiety.	Cross-sectional (Online survey)	Medium – some limitations
		Vazquez-Vazquez, A. et al., 2021. The impact of the Covid-19 lockdown on the experiences and feeding practices of new mothers in the UK: Preliminary data from the COVID-19 New Mum Study.	Pre-post pandemic between subjects design	Strong
		Tomfohr-Madsen, L.M., Racine, N., Giesbrecht, G.F., Lebel, C. and Madigan, S. (2021). Depression and anxiety in pregnancy during COVID-19: A rapid review and meta-analysis.	Rapid review and meta-analysis	Strong
(2) Earning capacity changes				
7	Economic harms	Save the Children, 2020. Families in lockdown: Save The Children reports 56% of parents worried about their children's mental health.	Cross-sectional (Online survey)	Medium – some limitations
		Adams-Prassl, A. et al., 2020. Furloughing*.	Cross-sectional (Online survey)	Strong
		Dickerson, J. et al., 2021. Experiences of lockdown during the Covid-19 pandemic: descriptive findings from a survey of families in the Born in Bradford study	Cross-sectional (Online survey)	Strong
	Kinship carers and family caregivers	Grandparents Plus Charity, 2020. Kinship Care COVID-19 Impact Report.	Cross-sectional (Survey)	Medium – some limitations
		Family Rights Group: Deacon, 2020. Kinship Carers' Experiences during the Coronavirus Crisis.	Cross-sectional (Online survey)	Medium – some limitations
	Employment/ career opportunities	Parents and Carers in Performing Arts (PIPA), 2020. *COVID Report*.	Cross-sectional (Online survey)	Medium – some limitations
		Myers, K.R., et al., 2020. Unequal effects of the COVID-19 pandemic on scientists.	Cross-sectional (Online survey)	Strong

(3) Physical harms – violence in the home				
4	Domestic violence	Newbury, A. et al., 2020. Uned Atal Trais Violence Prevention Unit. Understanding the Impact of COVID-19 on Violence and ACEs Experienced by Children and Young People in Wales.	Literature review of multi-agency data	Medium – some limitations
	Child and adolescent violence towards parents	Newbury, A. et al., 2020. Uned Atal Trais Violence Prevention Unit. Understanding the Impact of COVID-19 on Violence and ACEs Experienced by Children and Young People in Wales.	Literature review of multi-agency data	Medium – some limitations
		Grandparents Plus Charity, 2020. Kinship Care COVID-19 Impact Report.	Cross-sectional (Survey)	Medium – some limitations
		Condry, R. et al., 2020. Experiences of Child and Adolescent to Parent Violence in the COVID-19 Pandemic.	Cross-sectional (Online survey) and Freedom of Request summary from police forces.	Strong

*More than 32 studies have been presented in the table due to some references being applicable to multiple harms.

Appendix 2: Details of studies characteristics relating to harms

Presented in order of appearance in main text.

Author, year	Location	Cohort	Sample size (N)	Age range of children	Data collection dates
(1) Mental health and well-being					
Psychological distress					
Pierce et al., 2020	UK	Data from All household members aged 16 or older in April 2020, except for those unable to make an informed decision as a result of incapacity, and those with unknown postal addresses or addresses abroad.	17,452 for COVID-19 web survey	N/A	April – May, 2020
Xue & McMunn, 2021	UK	Data from wave 9 (2017–19) of Understanding Society and the following April and May waves of Understanding Society Covid-19 study. All household members were aged 16 or older in April 2020.	29,576 (April wave: 15,426, May wave: 14,150)	N/A	April – May, 2020
Dickerson et al., 2021	Bradford, UK	Survey data collected from the Born in Bradford studies with parents participating in two longitudinal studies: Bradford Growing Up (BiBGU) and Bradford's Better Start (BiBBS) – although longitudinal data obtained before the pandemic have not yet been presented.	2,144	0-13 years	10th April - 30th June 2020
Waite et al., 2020	UK	Report 02 of the Co-SPACE longitudinal study (COVID-19: Supporting Parents, Adolescents and Children during Epidemics). Preliminary survey results from parents/carers of school-aged children.	5,000	4-16 years	May, 2020

Shum et al., 2020	UK	Report 07 from the Co-SPACE longitudinal study (COVID-19: Supporting Parents, Adolescents and Children during Epidemics). Parents assessed at monthly intervals. Of the overall sample, 4,380 completed at least one follow-up, while 3,218 completed two or more follow ups.	6,246	4-16 years	April - December, 2020
McElroy et al., 2020	UK	Convenience sample of parents and adolescents the Co-SPACE longitudinal study (COVID-19: Supporting Parents, Adolescents and Children during Epidemics).	4,793	4–16 years	March - April 2020
Well-being					
Royal Foundation of the Duke and Duchess of Cambridge, 2020	UK	Parents and families of young children in the UK as part of a wider report to understand public attitudes towards the early years. Survey data collected in October 2020 (during the pandemic) was compared to data obtained September – February 2020 (before wide-spread restrictions).	1,000	0-5 years	October, 2020
El-Osta et al., 2021	England, UK	Parents of school-age children in the UK (87% respondents were female).	1,214	4 – 16 years	May – July, 2020
Office for National Statistics, 2021	UK	Experiences of adults with children that are being homeschooled because of school closures. Parents had at least one-school aged child (parents where all their children were aged between 0 and 4 were excluded.	18,112	5 -18 years	February, 2021
Bones et al., 2020	Northern Ireland, UK	Parents of pupils attending primary (n=2,509), post-primary (n=1,905) and special schools (n=198).	4,612	3-19 years old	April - May 2020
Purdy et al., 2021	Northern Ireland, UK	Parents/carers of children being home-schooled due to COVID-19	3,668	<18 years	9th – 22nd February, 2021
Asbury et al., 2020	UK	Parents or carers of school-aged children with Special Educational Needs and Disabilities (SEN/NDs) (92% were mothers; 95% from England with remainder from Scotland and Wales).	241	5-18 years	March – April 2020

Greenway & Eaton-Thomas, 2020	UK	Parents home-schooling a child with special educational needs and disabilities (SEND) (95% were female with nearly half aged between 30-39 years).	238	0-18 years	June – July 2020
Toseeb et al., 2020	UK	Parents of children with SENDs (the majority with Autism Spectrum Conditions). 91% were mothers and 96% were from England.	239	5-18 years	March - May 2020
Thorell et al., 2021	UK, Sweden, Spain, Belgium, Netherlands, German, Italy	Parental experiences of home-schooling in families with or without a child with a mental health condition across seven European countries.	6,720 (UK: 508)	5–19 years	April - June 2020
Parents of children with pre-existing medical conditions					
Darlington et al., 2020	UK	Parents of a child with cancer (84% mothers). The majority of children were currently receiving treatment (67%).	171	1-24 years	April 2020
Parents of children with SEN/ND					
Waite et al., 2020	UK	Initial results of survey data from parents/carers of school-aged children who are part of the Co-SPACE longitudinal study (COVID-19: Supporting Parents, Adolescents and Children during Epidemics).	5000	4 – 16 years	May, 2020
Shum et al., 2021	UK	Report 09 from the Co-SPACE longitudinal study (COVID-19: Supporting Parents, Adolescents and Children during Epidemics). Parents assessed at monthly intervals. Of the overall sample, 4,557 have completed two or more follow ups (up to ten times so far).	8,386	4-16 years	March 2020 - February 2021
Gillespie-Smith et al., under review	UK	Caregivers of children with neurodevelopmental disabilities (n=43) and children who are typically developing (*n* = 67)	110	11.2 years	April – June 2020

Toseeb et al., 2020	UK	Parents of children with SENDs (the majority with Autism Spectrum Conditions). 91% were mothers and 96% were from England. DID NOT compare two groups.	239	5-18 years	March - May 2020
Thorell et al., 2021	UK, Sweden, Spain, Belgium, Netherlands, Germany, Italy	Parental experiences of home-schooling in families with or without a child with a mental health condition across seven European countries.	6,720 (UK: 508)	5–19 years	April - June 2020
Kinship carers and family caregivers					
Grandparents Plus Charity, 2020.	England, UK	Kinship carers.	169	N/A	May 2020
Family Rights Group, 2020	Scotland, UK	Respondents who are raising kinship children and birth children. The majority (53%) were grandmothers.	79	0 – 17 years	April 2020
Gallagher & Wetherel, 2020	UK	Data (1349 caregivers; 6178 non-caregivers) was extracted from Understanding Society, a UK population-level dataset.	7527	<18 years	May 2020
Women during the perinatal period					
Davenport et al., 2020	Worldwide: 8% of sample from UK	900 eligible women: 520 (58%) were pregnant and 380 (42%) were in the first year after delivery. Mean age 33 years (range 17-49 years).	900	0 – 5 years	April - May 2020
Fallon et al., 2021	UK	Sample of UK mothers. Mean age 31 years and 96% of white ethnicity.	614	0–12 weeks	April – May 2020
Vazquez-Vazquez et al., 2021	UK	Women living in the UK aged ≥18 years (mean age 32 years; 94% were of white ethnicity and 95% were married/with partner).	1,365	<12 months	May - June 2020

(2) Earning capacity changes					
Economic harms					
Save the Children Report	UK	UK parents with children aged 6-18 years.	1,002	6-18 years	March 2020
Adams-Prassl et al., 2020	UK	UK residents at least 18 years old and reported having engaged in any paid work (including self-employment) during the previous 12 months.	8940 (First wave: 4931, second wave: 4009)	N/A	Wave 1: April 2020 Wave 2: May 2020
Dickerson et al., 2021	Bradford, UK	Survey data collected from the Born in Bradford studies with parents participating in two longitudinal studies: Bradford Growing Up (BiBGU) and Bradford's Better Start (BiBBS) – although longitudinal data obtained before the pandemic have not yet been presented.	2,144	0 – 13 years	April - June 2020
Kinship carers and family caregivers					
Grandparents Plus Charity, 2020.	England, UK	Kinship carers	169	N/A	May 2020
Family Rights Group, 2020	Scotland	Respondents who are raising kinship children and birth children. The majority (53%) were grandmothers.	79	0 – 17 years	April 2020
Employment/career opportunities					
Parents and carers in Performing Arts (PiPA), 2020	UK	Performing arts workers who are parents or carers (91% parents and 14% cared for a disabled child or elderly, ill or disable adult). 80% of respondents were female.	500	N/A	September – October 2020.

Myers et al., 2021	Worldwide	US and Europe based scientists across a wide range of institutions, career stages and demographic backgrounds.	4,535	N/A	April 2020
(3) Physical harms – violence in the home					
Domestic violence					
Newbury, A. et al., 2020	Wales, UK	Review of impact of COVID-19 on children and young people in Wales with a focus on violence and adverse childhood experiences.	N/A	N/A	Published Nov 2020
Child and adolescent violence towards parents					
Newbury, A. et al., 2020	Wales, UK	Review of impact of COVID-19 on children and young people in Wales with a focus on violence and adverse childhood experiences.	N/A	N/A	Published Nov 2020
Grandparents Plus Charity, 2020.	England, UK	Kinship carers	169	N/A	May 2020
Condry et al., 2020	UK	Parents who have experiences of C/APV from their child. Also contains a summary of a Freedom of Information Request to all 43 police forces across England and Wales requesting numbers of reported C/APV incidents from April 2019 to May 2020.	104	10 -19 years	April – June 2020

*More than 32 studies have been presented in the table due to some references being applicable to multiple harms.

Appendix 3: Search strategy

	(("parent s"[All Fields] OR "parentally"[All Fields] OR "parentals"[All Fields] OR "parented"[All Fields] OR "parenting"[MeSH Terms] OR "parenting"[All Fields] OR "parents"[MeSH Terms] OR "parents"[All Fields] OR "parent"[All Fields] OR "parental"[All Fields] OR ("mother s"[All Fields] OR "mothered"[All Fields] OR "mothers"[MeSH Terms] OR "mothers"[All Fields] OR "mother"[All Fields] OR "mothering"[All Fields]) OR ("father s"[All Fields] OR "fathered"[All Fields] OR "fathers"[MeSH Terms] OR "fathers"[All Fields] OR "father"[All Fields] OR "fathering"[All Fields]) OR ("caregiver s"[All Fields] OR "caregivers"[MeSH Terms] OR "caregivers"[All Fields] OR "caregiver"[All Fields] OR "caregiving" OR “guardian” [All Fields]))
AND	
	("sars cov 2"[MeSH Terms] OR "sars cov 2"[All Fields] OR "covid"[All Fields] OR "covid 19"[MeSH Terms] OR "covid 19" OR “lockdown” [All Fields]))

Note. Search terms were left purposefully broad in order to capture a significant proportion of relevant literature

Appendix 4: Detailed account of methods

The lead authors of this review are specialists in their field. This has enabled quicker clarification of conceptual issues and informed searching, appraisal and interpretation of evidence. This strategy combines the rigour and transparency of systematic review principles with the insights of topic specialists. The limitations this strategy has placed on this review are considered below.

Defining harms

We defined a **harm** as psychological, social, emotional or contextual impacts of the pandemic, lockdown restrictions and school closures that may have affected parents/carers and their families. While the terminology of 'harms' is used, we also included any positive outcomes that were reported in the literature.

The DfE provided the following lists of harms to consider both in the short- and longer-term:

- Mental Health
- Well-Being & Development
- Physical Health
- Nutrition
- Misuse of Substances
- Domestic Violence
- Support Service Access
- Indirect Groups at Risk (e.g., those with extended caring responsibilities)
- Vulnerable children and SEND children
- Learning loss / Educational Knock-on Effect
- Immediate Earning Capacity Changes

In addition, these longer-term harms were also considered.

- Gender & Social Group Imbalance Widening
- Changes in socioeconomic status (SES)

While this list was provided by the DfE, it must be noted that evidence relating to certain harms listed were not found for this specific population.

We defined **mitigation** as the act of reducing how harmful, unpleasant or bad something is (Cambridge Dictionary, 2021). We were aware that as we are still in the midst of this global pandemic there would be little evidence of mitigations that related directly to COVID-specific harms. However, mitigations were included if they addressed similar issues or harms that had been identified in the literature search and included evidence (e.g., evidence found parents experienced depression symptoms – mitigations included potential treatments for parental depression).

Inclusion criteria

1) **Stage 1: identifying harms** – we searched for any article reporting relevant data undertaken on Covid-19 in the UK. Studies were included if they were:

- Published since November 2019
- Related to COVID-19
- Reported data UK or/and Northern Ireland populations
- Reported empirical evidence
- Reported emerging evidence taken from reports produced by third-sector organisations
- Studies involving parents or carers and their children as the key study population
- Reported on one (or multiple) harms found in the DfE list

2) **Stage 2: identifying mitigations -** we began to search for systematic reviews that aimed to mitigate the harms identified in the first part of the review, both short-term mitigation of harms identified and longer-term adaption to prevent the harms. We searched based on the following criteria:

- Published with any date
- Any geographical area
- Reported data collected from parents/carers and their children, child-specific mitigations, parent-specific mitigations
- Reported data on any harms identified in **Stage 1**.

If more than one systematic review was found for a specified harm, then we chose to include the review most fit for purpose. This was decided through a criterion that included an assessment of relevance, being up to date, and the quality of execution. In the case of where reviews present contradictory findings, we provide a critical appraisal on the available evidence. Reviews were also included if:

- The systematic review most relevant/ transferrable in terms of population, contexts and topics.
- The systematic review or reviews that were most likely to have trustworthy reliable findings based on a quality assessment of the execution of the review.

Search strategy

Stage 1: search for harms experienced in the UK:

Bibliographic databases

Searches for academic literature were conducted between the 21st and 28th April 2021. We conducted hand searches for grey literature on Google and on relevant parents and carers' organisations websites using the same search terms wherever possible or searching for "research" or "publications" on organisational websites. Searches for grey literature were conducted on the 28th April 2021.

For rapidity of the review, we limited our search sources to the largest social science bibliographic databases, Proquest Central, Scopus, and Google Scholar using free text and subject headings search terms describing parents and carers, COVID-19 and the UK (an example search string is in **Appendix 2**).

We also searched the IPPO Living Map which is updated monthly with newly published systematic reviews relating to the COVID-19 pandemic (Shemilt et al., 2021).

Stage 2: search for systematic reviews of potential mitigations:

Part 1. Searches for mitigations using a preliminary list of harms found were run on the 10th of May 2021, which involved hand-searching the following databases for relevant systematic reviews:

- The Cochrane Library
- The Campbell Collaboration
- The Database of Abstracts of Reviews of Effects (DARE)
- National Institute for Health and Care Excellence (NICE)
- World Health Organization (WHO)

Due to the size of some of the databases (Cochrane Library, DARE, and Campbell Collaboration), BC undertook a series of simple searches that were limited to either 'harm' or 'population'. The papers identified through this search strategy were not directly related to identified harms. Therefore, the authors carried out a second search strategy, outlined below.

Part 2. The authors sought to reach out to experts in the field of identified harms to seek their knowledge and expertise in suggesting potential mitigations based on the harms we identified. Experts were contacted regarding loneliness and social isolation, perinatal mental health, earning capacity changes and physical harms. This was believed to be a more direct approach, ensuring that evidence provided would be related to specific identified harms and target population. Given the tight timeframe, where experts were unable to offer their suggestions in the time allowed, a search of their most recent publications on the subject was conducted. The authors drew upon their own expertise and knowledge of the field for mitigations of parental psychological distress.

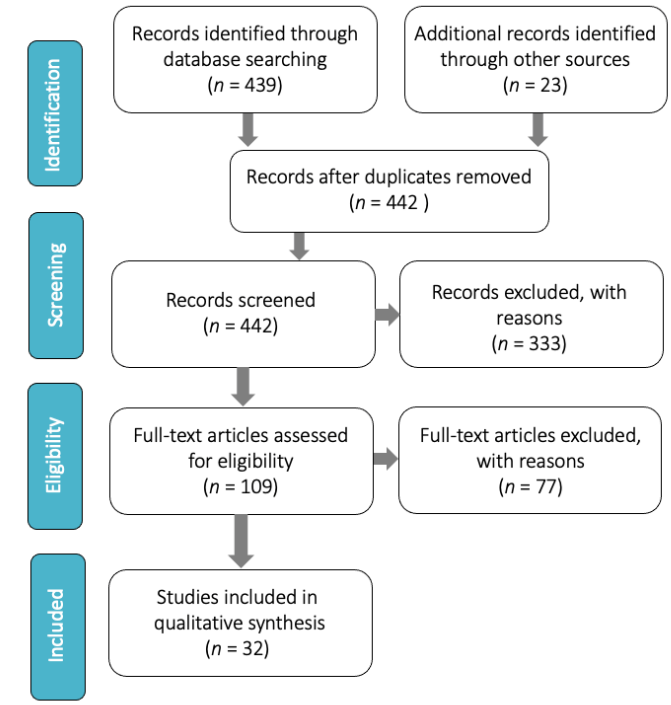
Screening methods

To expedite the screening process citations were uploaded into EPPI-Reviewer Web (Thomas et al, 2020), as was the screening tool. This method was used when screening all papers relating to harms.

Excel was used in order to screen the mitigation papers, as there were significantly less results to screen. Reasons for inclusion and exclusion were still noted. Reasons for exclusion for harms and mitigations searches can be found in the PRISMA diagram below.

PRISMA diagram

Stage 1: search for harms



Original records: Google scholar, *n* = 122; Proquest, *n* = 239; SCOPUS, *n* = 78; manually added, *n* = 23; total = 462.

Figure 1. PRSIMA flow diagram showing manuscript selection.

Reasons for exclusion at the (a) screening and (b) eligibility stage are displayed in Figure 2.

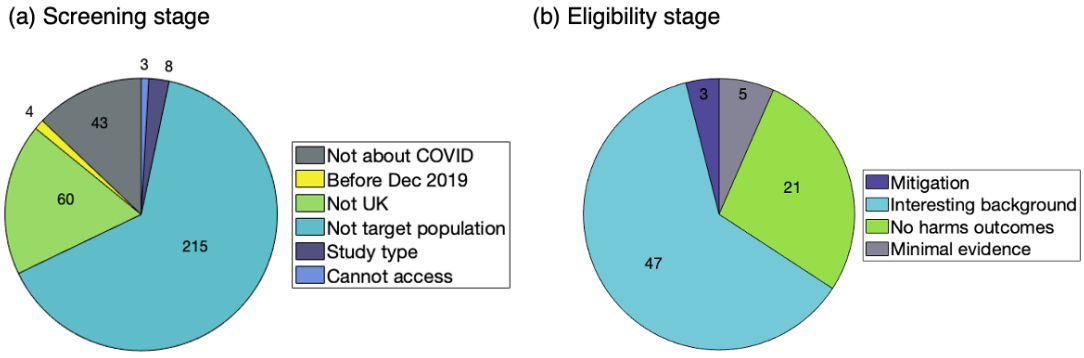


Figure 2. Most studies excluded from our initial search results were studies that were not our target population (n= 216) as well as other articles that contained useful information about the pandemic but on closer inspection were not relevant to our aims (n=47).

Coding strategies

A full text copy of each article was uploaded into EPPI-Reviewer Web from which each article was coded as follows:

- Tile of article
- Date of article
- Type of study
- Location/setting of data collected
- Population demographics
- Sample size of study
- Harm categorization
- Date of information collected

Quality appraisal methods

EPPI-Reviewer Web was also used to undertaken quality appraisal of each study based on research design and evidence claim. The following questions were used to assess each paper's quality:

What does the evidence claim? Please specify:

1. Is the nature and extent of the claim relevant to your review? (ID = 9020371)

    - Yes
    - No
    - Partly
    - Unclear

2. Is the evidence claim trustworthy in using a relevant method to achieve that evidence claim?

    - Yes
    - No
    - Partly
    - Unclear

3. Is the evidence claim relevant in terms of how its focus (how it applied the method such as for eg questions asked, outcome measures etc) to address the study question and make the claim? (ID = 9020348)

    - Yes
    - No
    - Partly
    - Unclear

4. Are there any aspect of the execution of the study methods that undermine your confidence in the trustworthiness of the claims being made? Indicate any concerns below for all the method specific questions below (for systematic reviews)

    - (i) Please specify under the relevant methods specific question and summarize here:

- (ii) Please state whether these undermine the evidence claim: (ID = 9020357)
  - Yes
  - No
  - Partly
  - Unclear

Synthesis methods

Narrative synthesis methodology was used when synthesising the evidence for this report. As highlighted by the Cochrane Library (2013) the authors began by narratively synthesising results from all the different studies through describing and summarising main study features, aims and outcomes. Following this initial stage, authors were more familiar with studies and their findings and began to group studies together based on relevant findings or topics studied, in the case of this report, studies were grouped together by harm categories. The number of studies included varied by harm, some harms had both empirical and emerging evidence (characterised by charity reports or briefing papers), while other harms were reported on using solely emerging evidence. A breakdown of papers can be found in **Table 1** in the results section.

In order to avoid introduction of bias, the first two authors (HC and LH) continually checked each other's work, as well as inviting two other authors (CC and SH, who were not involved in the beginning synthesis stages) to read over results summaries, ensuring information was presented in a clear, concise and unbiased format.

The same narrative methodology that was adopted for synthesising harms evidence was also adopted for mitigations evidence. Similar to the harms, some harms had more evidence than others around mitigations (e.g., mental health). In the discussion of findings, we have made clear that not all harms identified had mitigation evidence to be discussed. Where possible, we have tried to link mitigations evidence back to the COVID-19 harms facing parents and carers.

Quality control methods

HC and LH screened half of the articles found each against inclusion criteria double-checking 10% of the other's screening decisions to ensure consistency. Any disagreements between HC and LH were discussed and resolved by a third author (SH).

Appendix 5: Details of studies relating to mitigations

Presented in order of main text

Sub-category	Evidence source (reference)	Type of study	Studies (*n*)	Study design	Total participants (*n*)
(1) Mental Health and Well-being					
Treating psychological distress to reduce child harms	Cuijpers, P., Weitz, E., Karyotaki, E., Garber, J. and Andersson, G., 2015. The effects of psychological treatment of maternal depression on children and parental functioning: a meta-analysis.	Meta-analysis	9	RCT	553
	Weissman, M.M., Pilowsky, D.J., Wickramaratne, P.J., Talati, A., Wisniewski, S.R., Fava, M., Hughes, C.W., Garber, J., Malloy, E., King, C.A., Cerda, G., Sood, A.B., Alpert, J.E., Trivedi, M.H., Rush, A.J. and Star*D-Child Team, f.t., 2006. Remissions in Maternal Depression and Child PsychopathologyA STAR*D-Child Report.	Original report	N/A	NRCT	151
	Cartwright-Hatton, S. et al., 2018. Preventing family transmission of anxiety: Feasibility RCT of a brief intervention for parents.	Original report	N/A	RCT	100 (children aged 3-9 years)
	Ginsburg, G.S. et al., M.A., 2020. Preventing the Onset of Anxiety Disorders in Offspring of Anxious Parents: A Six-Year Follow-up.	Original report	N/A	RCT	136 (children aged 6-13 years)

(a) Group-based delivery of treatments	Cuijpers, P., Noma, H., Karyotaki, E., Cipriani, A. and Furawa, T.A., 2019. Effectiveness and Acceptability of Cognitive Behavior Therapy Delivery Formats in Adults With Depression: A Network Meta-analysis.	Network meta-analysis	155	RCT	15,191
(b) self-guided interventions	Cuijpers, P., Noma, H., Karyotaki, E., Cipriani, A. and Furukawa, T.A., 2019. Effectiveness and Acceptability of Cognitive Behavior Therapy Delivery Formats in Adults With Depression: A Network Meta-analysis.	Network meta-analysis	155	RCT	15,191
	Taylor, C., Graham, A.K., Flatt, R.E., Waldherr, K. and Fitzsimmons-Craft, E.E., 2020. Current state of scientific evidence on Internet-based interventions for the treatment of depression, anxiety, eating disorders and substance abuse: an overview of systematic reviews and meta-analyses.	Systematic review of meta-analyses	8 (anxiety) 11 (depression)	Mixed	N/A
	Linardon, J., Cuijpers, P., Carlbring, P., Messer, M. and Fuller-Tyszkiewicz, M., 2019. The efficacy of app-supported smartphone interventions for mental health problems: a meta-analysis of randomized controlled trials.	Meta-analysis	66	RCT	Not stated
	Weisel, K.K. et al., 2019. Standalone smartphone apps for mental health—a systematic review and meta-analysis.	Systematic review and meta-analysis	19	RCT	3,681
	Wu, A., et al., 2021. Smartphone apps for depression and anxiety: a systematic review and meta-analysis of techniques to increase engagement.	Systematic review and meta-analysis	25	Mixed	4,159
Wellbeing (Loneliness and isolation)	Masi, C.M., Chen, H.-Y., Hawkley, L.C. and Cacioppo, J.T., 2011. A meta-analysis of interventions to reduce loneliness.	Meta-analysis	50	20 RCT; 18 NRCT; 12 single group, pre-post	2189 RCT; 1067 NRCT; 889 single group, pre-post

	Nowland, R., Thomson, G., McNally, L., Smith, T. and Whiitaker, K., 2021; in press. Experiencing loneliness in parenthood: A scoping review.	Scoping review	80 (14 intervention studies)	All pre-post intervention	653
Women during the perinatal period	Nillni, Y.I., Mehralizade, A., Mayer, L. and Milanovic, S., 2018. Treatment of depression, anxiety, and trauma-related disorders during the perinatal period: A systematic review.	Systematic review	78 (73 = depression, 3 = anxiety 2 = trauma)	75% RCT; 25% OT (depression); 90% RCT; 10% OT (anxiety)	N/A
	Loughnan, S.A., Wallace, M., Joubert, A.E. *et al.* 2018. A systematic review of psychological treatments for clinical anxiety during the perinatal period.	Systematic review	5	4 OT; 1 RCT.	127
	Loughnan, S.A., Wallace, M., Joubert, A.E. *et al.* 2018. A systematic review of psychological treatments for clinical anxiety during the perinatal period.	Systematic review	5	4 OT; 1 RCT.	127

(2) Earning capacity changes					
Sub-category	Evidence source (reference)	Type of study	Studies (*n*)	Study design	Total *n*
	Collard, S., Collings, D., Kempson, E., & Evans, J. (2021). Bearing the brunt: the impact of the crisis on families with children. Findings from the 4th Coronavirus financial impact tracker survey.	Charity report	N/A	Charity report	N/A
	McNeil, C., Parkes, H., Garthwaite, K., & Patrick, R. (2021). No longer managing: the rise of working poverty and fixing Britain's broken social settlement.	Policy report	N/A	Policy report	N/A
	Richardson, J., Butler, A., with Gingerbread and StepChange. (2021). The single parent debt trap.	Charity report	N/A	Charity report	N/A

	Bambra, C., Munford, L., Alexandros, A., Barr, B., Brown, H., Davies, H., Konstantinos, D., Mason, K., Pickett, K., Taylor, C., Taylor-Robinson, D., & Wickham, S. (2021). COVID-19 and the Northern Powerhouse: Tackling inequalities for UK health and productivity.	Policy report	N/A	Policy report	N/A
	Hill, K., Hirsch, D., & Davis, A. (2021). The Role of Social Support Networks in Helping Low Income Families through Uncertain Times.	Academic article	N/A	Qualitative	30
	Whitehead, M., Taylor-Robinson, D., & Barr, B. (2021). Poverty, health, and covid-19.	Editorial	N/A	Editorial	N/A
	McKnight, A., & Rucci, M. (2019). The financial resilience of households: 22 country study with new estimates, breakdowns by household characteristics and a review of policy options.	Academic article	N/A	Quantitative	22 countries
	Leckie, N., Shek-Wai Hui, T., Tattrie, D., Robson, J., & Voyer, J. (2010). "learn$ave: Individual Development Accounts Project Final Report."	Research report	N/A	Research report	N/A
	Melhuish, E., Belsky, B., Leyland, A. H., Barnes, J., & the National Evaluation of Sure Start Research Team. (2008). Effects of fully-established Sure Start Local Programmes on 3-year-old children and their families living in England: a quasi-experimental observational study. *The Lancet, 372, 1641-1647*.	Review	N/A	Review	1879
	Melhuish, E., Belsky, J., & Barnes, J. (2010). Sure Start and its Evaluation in England. In B. Benson. (Eds.), Encyclopedia on Early Childhood Development 1. (pp.1-6). Centre of Excellence for Early Childhood Development.	Book chapter	N/A	Evaluation	N/A
	Cattan, S., Conti, G., Farquharson, C., & Ginja, R. (2019). The health effects of Sure Start.	Policy report	N/A	Policy report	N/A

	Ipsos Mori (2019) 'Troubled Families Programme National Evaluation Family Survey – Follow-up Survey'.	Evaluation report	N/A	Report	N/A
	Silver, D., & Crossley, S. (2015). 'We know it works. . .': The Troubled Families Programme and the pre-determined boundary judgements of decontextualized policy evaluation.	Academic article	N/A	Peer-reviewed article	N/A
	Crossley, S. (2020, January 20). Why the Troubled Families Programme should trouble us all.	Academic blog post	N/A	Blog post	N/A
	Bawden, A. (2015, November 11). Is the success of the government's troubled families scheme too good to be true?	Newspaper article	N/A	Newspaper article	N/A
	Bewley, H., George, A., Rienzo, C., & Portes, J. (2016) National Evaluation of the Troubled Families Programme: National Impact Study Report Findings from the Analysis of National Administrative Data and Local Data on Programme Participation.	Evaluation report	N/A	Report	N/A
(3) Physical harms – violence in the home					
Sub-category	Evidence source (reference)	Type of study	Studies (n)	Study design	Total n
Domestic violence	Keynejad, R., Baker, N., Lindenberg, U., Pitt, K., Boyle, A., & Hawcroft, C. (2021). Identifying and responding to domestic violence and abuse in healthcare.	Charity organisation	N/A	Charity organisation	N/A
	Social Care Institute for Excellence. (2021). Domestic violence and abuse: Safeguarding during the COVID-19 crisis.	Web resource	N/A	N/A	N/A
	Crown Prosecution Service. (2017). Violence Against Women and Girls Strategy 2017-2020.	Policy report	N/A	Policy report	N/A

	National Institute for Health and Care Excellence. (2020). Recognising and responding to domestic violence and abuse: A quick guide for social workers.	Policy report	N/A	Policy report	N/A
	Anderson, K. & van Ee, E. (2018). Mothers and Children Exposed to Intimate Partner Violence: A Review of Treatment Interventions.	Systematic review	19	All pre-post intervention	2413
	Chevous, J., Fischer, L., Perôt, C., & Sweeney, A. (2021). How to reach and help children and young people experiencing abuse in their households. Violence and Mental Health Network.	Survivor-led charity report	N/A	Charity report	N/A
	Newbury, A., Barton, E., Snowdon, L. and Hopkins, J. (2020). Understanding the Impact of COVID-19 on Violence and ACEs Experienced by Children and Young People in Wales.	Charity report	N/A	Charity report	N/A
	Anderson, K. and van Ee, E. (2018). Mothers and Children Exposed to Intimate Partner Violence: A Review of Treatment Interventions.	Literature review	N/A	Review	N/A
	Lieberman, A. F., van Horn, P., Ippen, C. G. (2005). Toward Evidence-Based Treatment: Child-Parent Psychotherapy with Preschoolers Exposed to Marital Violence.	Article	N/A	Randomised Control Trial	75
	Hester, M., Eisenstadt, N., Jones, C. and Morgan, K. (2017). Evaluation of the Drive Project – a pilot to address high- risk perpetrators of domestic abuse Year 1 Feasibility Study.	Feasibility study	N/A	Feasibility study	28 service users
	Holt, S., Buckley, H., & Whelan, S. (2008). The impact of exposure to domestic violence on children and young people: A review of the literature.	Literature review	N/A	Review	N/A

Perpetrator-focused intervention	Hester, M., Eisenstadt, N., Jones, C. & Morgan, K. (2017). Evaluation of the Drive Project – a pilot to address high- risk perpetrators of domestic abuse Year 1 Feasibility Study.	Feasibility study	N/A	Quantitative	48
Child/Adolescent to Parent Violence (C/APV)	Gardener, F. & Leijten, P. (2017). Incredible Years parenting interventions: current effectiveness research and future directions.	Narrative review	N/A	Review	N/A
	Leijten, P., Gardener, F., Landau, S., Harris, V., Mann, J., Hutchings, J., Beecham, J., Bonin, E., & Scott, S. (2018). Research Review: Harnessing the power of individual participant data in a meta-analysis of the benefits and harms of the Incredible Years parenting program.	Meta-analysis	14 RCTs	14 RCTs	1799
	Menting, A. T. A., Orobio de Castro, B., & Matthys, W. (2013). Effectiveness of the Incredible Years parent training to modify disruptive and prosocial child behaviour: A meta-analytic review.	Meta-analysis	50 studies	50 studies	4745 total participants: 2427 intervention; 2273 comparison

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