RESEARCH ARTICLE

Experiences of lockdown during the Covid-19 pandemic: descriptive findings from a survey of families in the Born in Bradford study [version 1; peer review: 1 approved, 1 approved with reservations]

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on behalf of the Bradford Institute for Health Research Covid-19 Scientific Advisory Group

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Abstract

Background: Lockdown measures implemented to contain the Covid-19 virus may be increasing health inequalities, with families from deprived and ethnically diverse backgrounds most likely to be adversely affected. This paper presents findings of the experiences of the Covid-19 lockdown on families living in the multi-ethnic and deprived city of Bradford, England.

Methods: Questionnaire surveys were sent during the Covid-19 UK lockdown (10th April to 30th June 2020) to parents in two prospective birth cohort studies. Cross tabulations explored variation by ethnicity and employment status. Text from open questions were analysed using thematic analysis.

Results: Of 7,652 families invited, 2,144 (28%) participated. Ethnicity of respondents was: 957 (47%) Pakistani heritage, 715 (35%) White British and 356 (18%) other. 971 (46%) live in the most deprived decile of material deprivation in England. 2,043 (95%) were mothers and 101

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were partners. The results summarised below are based on the mothers' responses. Many families live in poor quality (N=574, 28%), and overcrowded (N=364, 19%) housing; this was more common in families of Pakistani heritage and other ethnicities. Financial (N=738 (37%), food (N=396, 20%), employment (N=728, 37%) and housing (N=204, 10%) insecurities were common, particularly in those who were furloughed, self-employed not working or unemployed. Clinically significant depression and anxiety symptoms were reported by 372 (19%) and 318 (16%) of the mothers and were more common in White British mothers and those with economic insecurity. Open text responses corroborated these findings and highlighted high levels of anxiety about becoming ill or dying from Covid-19.

Conclusions: The experiences of the Covid-19 lockdown in this ethnically diverse and deprived population highlight a large number of families living in poor housing conditions, suffering from economic insecurity and poor mental health. There is a need for policy makers and commissioners to better support these families.

Keywords

Covid-19, mental health, poverty, health inequalities, ethnicity, social determinants of health, cohorts, Born in Bradford

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Any reports and responses or comments on the
article can be found at the end of the article.

This article is included in the [Born in Bradford](#) gateway.

This article is included in the [Coronavirus \(COVID-19\)](#) collection.

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Introduction

In response to the Covid-19 pandemic, the UK government, like many others internationally, implemented a stringent lockdown to stop the spread of the virus¹. This included the closure of all schools, non-essential shops and businesses, reduced health and social care provision and restrictions on daily activities. These measures, implemented from March 23rd, aimed to limit the number of deaths, severe Covid-19 cases and consequent pressures on the National Health Service (NHS)². However, there is a growing recognition that the measures have had a negative impact on mental health^{3,4} and economic insecurity^{5,6}, with the greatest impact most likely to be on those in society who are already vulnerable⁷⁻⁹.

This paper presents descriptive findings of the immediate health, social and economic status during the Covid-19 lockdown of families living in the ethnically diverse and deprived city of Bradford, England.

The Born in Bradford (BiB) research programme has been following the health and wellbeing of over 36,000 Bradford residents since 2007. Bradford is the fifth largest metropolitan district in England, situated in the North of England and has a young, ethnically diverse population with high levels of deprivation and health inequalities¹⁰. BiB is host to three family cohort studies, which have in-depth information on the demographics of participants and consent to contact participants for new research studies¹¹⁻¹³. We were therefore in a unique position to be able to study the impact of the Covid-19 virus and lockdown response on families with pre-school, primary and/or secondary school aged children living in a highly deprived and ethnically diverse city. This research infrastructure is being harnessed as part of a mixed-methods, longitudinal adaptive research study to provide actionable intelligence to local decision makers about how best to minimise health inequalities and aid the City's recovery. Our approach can be read in more detail here¹⁰. This paper reports an overview of findings from the quantitative survey of BiB parents undertaken during the Covid-19 UK lockdown, with the following objectives:

- To describe the demographic, socio-economic and living circumstances; financial, food and employment insecurity; and physical and mental health of parents during lockdown, by ethnicity, in order to identify research questions for further in-depth quantitative analysis.
- To explore responses to open-ended questions about worries, challenges and any positive experiences during lockdown, in order to corroborate the survey findings and identify any other areas of concern for future research questions.
- To inform areas of interest, including health and socioeconomic issues, for repeated longitudinal waves of data collection throughout the pandemic.

Methods

Study design

Adult participants from two prospective family cohort studies were asked to complete a survey of their experiences during the

full lockdown response to the Covid-19 pandemic between 10th April and 30th June 2020.

Study population

Our sample consists of adult participants from our existing cohort studies who had engaged in recent pre-Covid19 data collection:

1. Born in Bradford Growing Up (BiBGU) (N= 5,154, 2017-2020). Sample: Parents with an index child aged 9-13^{11,12}.
2. Born in Bradford's Better Start (BiBBS) (N=2,665, 2016-2019). Sample: Parents with an index child aged 0-4¹³.

Mode of delivery and data collection

We used multiple methods - a combination of emails, text and phone with a follow-up postal survey in order to facilitate a rapid response. Participants were recruited in their main language wherever possible.

Consent

Participants had previously consented to be a part of Born in Bradford and for their research and routine health and education data to be used for research. For this survey, and as approved by the HRA and Bradford/Leeds research ethics committee, verbal consent was taken for questionnaires completed over the phone and logged in the questionnaire database, implied consent was assumed for all questionnaires completed via post or online. Informed consent for publication of the participants' details was obtained from the participants.

Measures

Key questionnaire domains for the survey were co-produced with the Bradford Institute for Health Research Covid-19 Scientific Advisory Group¹⁴ and key policy and decision makers within Bradford, based upon hypothesised areas of impact for vulnerable families and their likely mediators. Questions were selected from validated questionnaires, from previous Born in Bradford questionnaires or were devised specifically for this survey. The full questionnaire is available on our website¹⁴ and as *Extended data*¹⁵, key domains were:

- Household Circumstances: number of children, adults and bedrooms in the house; housing tenure¹⁶, quality of housing; clinical vulnerability to, and self-isolation due to Covid-19¹⁷.
- Family relationships and social support: partner relationship¹⁸, parenting competency¹⁹, social support, and loneliness²⁰.
- Financial security; employment security²¹; housing security; food insecurity²².
- Physical Health²³ and health anxiety²⁴; smoking, alcohol and physical activity.
- Mental Health: depression (PHQ-8²⁵) and anxiety (GAD-7²⁶).
- Main worries, challenges and any positive aspects of lockdown: open ended questions.

Ethnicity was captured in self-reported questionnaires administered at baseline recruitment to the cohorts (March 2007 to

December 2010 for BiB; January 2016 to February 2020 for BiBBS); and categorised as 'White British', 'Pakistani Heritage' and Other (there were small numbers of non-White British, non-Pakistani Heritage parents from multiple ethnic groups). We linked residential address (as at 31st March 2019) to the 2019 Index of Multiple Deprivation²⁷.

Statistical analysis

Descriptive statistics are presented for each of the survey domains. We used cross tabulations (proportions and 95% confidence intervals) to explore differences in outcomes (e.g. forms of economic insecurity and mental health outcomes) by ethnicity and current employment status. For depression we used total scores on the PHQ8 and also standard categorisations (0 to 4 no depression, 5 to 9 mild depression, 10 to 14 moderate depression, 15 to 19 moderately severe depression and 20 to 24 severe depression)²⁵. Similarly, for anxiety we employed total scores on the GAD7 and standard categorisations (0 to 4 no anxiety, 5 to 9 mild anxiety, 10 to 14 moderate anxiety and 15 to 21 severe anxiety²⁶).

The majority of respondents (95%) were mothers, with the remaining 5% being partners. As most partners lived in the same households as the mothers, we completed analyses using the mothers' response to avoid duplicate responses on household questions. Cross tabulations of partners responses were completed to look for differences in outcomes of partners compared to mothers. All statistical analyses were carried out using Stata 15²⁸.

Text responses to the open questions were explored by thematic analysis²⁹. The first 100 responses were analysed by one researcher (BL), employing an inductive approach where coding and theme development were driven by the content of the responses. Two codebooks were developed, one for the questions on the three biggest worries and recent challenges during lockdown and another smaller codebook for the question on what had been made more enjoyable and easier during lockdown. The remaining responses were then coded by three different researchers in order to test the strength and validity of the codebooks. Through frequent discussion between the researchers about this process, adjustments were made to the original codebooks so that they were reflective of the total responses.

Ethics

This research was approved by the HRA and Bradford/Leeds research ethics committee (BiB Growing Up study 16/YH/0320; BiBBS study 15/YH/0455).

Results

Out of a total of 7,652 eligible participants, 2,144 (28%) participated in the study between 10th April and 30th June 2020. 2,043 were mothers and 101 partners, of whom 64 were from the same household as a mother in the sample. 1,581 (74%) were from the BiBGU cohort and 563 (26%) from the BiBBS cohort (see [Figure 1](#)).

The participants were broadly representative of the BiB and BiBBS cohorts (see [Table 1](#)): they had a mean age of 38 years

Figure 1. CONSORT table of recruitment.

Table 1. Characteristics of the sample and comparison to the birth cohorts.

	BiB Cohort	BiBGU Cohort	BiBBS	BiBGU Covid Sample (N=1581)	BiBBS Covid Sample (N=563)	Total Covid Sample (N=2144)
Ethnicity						
White British	38%	28%	13%	638 (44%)	68 (13%)	706 (36%)
Pakistani Heritage	45%	56%	64%	600 (41%)	322 (63%)	922 (47%)
Other	17%	15%	23%	222 (15%)	123 (24%)	345 (17%)
Missing				121	50	171
Age*						
Mean (S.D.) in years	39 (6)	39 (6)	31 (6)	40 (6)	32 (6)	38 (7)

*Age as at 1st April 2020 for baseline cohort and date of survey for Covid sample (April to June 2020).
BiB, Born in Bradford; BiBGU, Born in Bradford Growing Up; BiBBS, Born in Bradford's Better Start.

(SD 7); the mean age in the BiBGU cohort was 40 (SD 6) and in the BiBBS cohort it was 32 (SD 6). 957 (47%) are of Pakistani heritage, 715 (35%) of White British ethnicity and 356 (18%) of other ethnicities. A total of 971 (46%) respondents live in the most deprived decile of material deprivation in England (IMD 2019). The results here describe the findings from the mothers to avoid duplicate responses from a single household. The final section summarises the findings from partners and looks for similarities and differences in their responses.

Household circumstances

Table 2 shows the household circumstances of families. A large proportion of families live in poor quality and overcrowded housing with damp/mould (N=574, 28%), vermin problems (N=347, 17%), major repairs needed (N= 262, 13%) and 364 (19%) reporting two or more people per bedroom. Poor quality housing was most common in families of Pakistani heritage. Overcrowding was most common in families of Pakistani heritage and other ethnic groups compared to White British families. 464 (23%) lived in a household with someone clinically vulnerable to Covid-19 (advised to shield, >70 or pregnant), this was more common in Pakistani heritage families than White British and other ethnic groups. 558 (28%) reported that their household had self-isolated at some point, there were no ethnic differences in self isolation.

Family relationships

The vast majority of mothers (N=1,770, 87%) were married or in a relationship. Most mothers reported an excellent or good relationship with their partner (N=1,537 90%); 180 (10%) reported their relationship as average/poor. An average/poor relationship was more likely in those struggling financially, in poor health and those with moderate/severe depression or moderate/severe anxiety (Table 3a). A lack of confidence in supporting home learning was reported by 414 (24%) mothers, this was more common in those with severe financial insecurity, very poor health, moderate-severe depression and anxiety (Table 3b).

Social support and isolation

607 (31%) mothers reported feeling lonely some of the time, and 199 (10%) reported feeling lonely most or all of the time. White British mothers were more likely to feel lonely some of the time, but there were no ethnic differences in those feeling lonely most/all of the time (Table 4a). Loneliness (most/all of the time) was more common in those who were struggling financially, unemployed, in poor health, or had moderate/severe depression or anxiety. A minority of participants (N=264, 13%) said it was difficult to get practical help from friends, family or neighbours, if they needed it. This was most common in mothers from other ethnic groups, and in those who were financially insecure, unemployed, in poor health, and those with moderate-severe depression and anxiety (Table 4b).

Financial, food, employment and housing insecurity

A high number of participants reported insecurities in finances, employment, housing and food (see Table 5a). When asked about financial security, 501 (25%) mothers said their family were just about getting by and 237 (12%) were finding it difficult or very difficult to manage. 627 (33%) said they were worse off during lockdown compared to three months previously and 88 (9%) were better off. Those families that reported just about getting by, or finding it difficult to manage, were more likely to report being worse off now than before lockdown. In contrast, those that were living comfortably were more likely to report being better off during lockdown (see Table 5b).

Food insecurity was also frequently reported with 396 (20%) mothers saying that their food often didn't last and they couldn't afford to buy more, and 180 (9%) having to regularly cut the size of, or skip meals because there wasn't enough money for food.

728 (37%) families were worried about the job security of the main earner. 228 (11%) of main earners within the household were self-employed and not working and 292 (15%) had been

Table 2. Household circumstances by ethnicity.

	White British (N=706)		Pakistani heritage (N=922)		Other ethnicity (N=345)		All (N=2,043)	
	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)
Tenure								
Owner-occupied	458	65% (62%-69%)	654	72% (69%-75%)	189	56% (50%-61%)	1341	66% (64%-68%)
Private rent	188	27% (24%-30%)	138	15% (13%-18%)	111	33% (28%-38%)	455	23% (21%-24%)
Social rent	35	5% (4%-7%)	37	4% (3%-6%)	19	6% (4%-9%)	94	5% (4%-6%)
Other	21	3% (2%-5%)	81	9% (7%-11%)	20	6% (4%-9%)	131	7% (6%-8%)
Missing	4		12		6		22	
Total	706	100	922	100	345	100	2043	100
Does your home need any major repairs								
No	635	90% (88%-92%)	781	85% (83%-88%)	291	85% (81%-89%)	1768	87% (86%-89%)
Yes	69	10% (8%-12%)	134	15% (13%-17%)	50	15% (11%-19%)	262	13% (12%-14%)
Missing	2		7		4		13	
Total	706	100	922	100	345	100	2043	100
Do you have any damp or mould in house								
No	568	81% (78%-83%)	596	65% (62%-68%)	242	71% (66%-76%)	1455	72% (70%-74%)
Yes	136	19% (17%-22%)	319	35% (32%-38%)	98	29% (24%-34%)	574	28% (26%-30%)
Missing	2		7		5		14	
Total	706	100	922	100	345	100	2043	100
Do you have any problems with vermin								
No	645	92% (89%-94%)	707	77% (74%-80%)	281	82% (78%-86%)	1689	83% (81%-85%)
Yes	59	8% (7%-11%)	212	23% (21%-26%)	62	18% (14%-23%)	347	17% (16%-19%)
Missing	2		3		2		7	
Total	706	100	922	100	345	100	2043	100
Whether household overcrowded (2 or more people per bedroom)								
No	628	91% (89%-93%)	623	75% (72%-78%)	239	74% (69%-79%)	1540	81% (79%-83%)
Yes	62	9% (7%-11%)	208	25% (22%-28%)	83	26% (21%-31%)	364	19% (17%-21%)
Missing	16		91		23		139	
Total	706	100	922	100	345	100	2043	100

	White British (N=706)		Pakistani heritage (N=922)		Other ethnicity (N=345)		All (N=2,043)	
	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)
Whether any household member is Covid vulnerable								
No	590	84% (81%-86%)	654	71% (68%-74%)	266	78% (73%-82%)	1567	77% (75%-79%)
Yes	114	16% (14%-19%)	262	29% (26%-32%)	76	22% (18%-27%)	464	23% (21%-25%)
Missing	2		6		3		12	
Total	706	100	922	100	345	100	2043	100
Whether any household member currently/ previously self-isolating								
No	525	75% (71%-78%)	648	71% (68%-74%)	244	72% (67%-77%)	1471	73% (71%-74%)
Yes	179	25% (22%-29%)	268	29% (26%-32%)	95	28% (24%-33%)	558	28% (26%-30%)
Missing	2		6		6		14	
Total	706	100	922	100	345	100	2043	100
Whether any household member is a keyworker								
No	260	37% (33%-41%)	529	58% (55%-61%)	169	49% (44%-55%)	1000	49% (47%-52%)
Yes	444	63% (59%-67%)	381	42% (39%-45%)	173	51% (45%-56%)	1025	51% (48%-53%)
Missing	2		12		3		18	
Total	706	100	922	100	345	100	2043	100

Table 3a. Quality of relationship by sample characteristics.

	Excellent/ Good relationship (N=1,537)		Average/ Poor relationship (N=180)		Total (N=1,717)	
	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage
Ethnicity						
White British	489	88% (85%-91%)	66	12% (9%-15%)	555	100
Pakistani heritage	737	90% (87%-91%)	86	10% (9%-13%)	823	100
Other	253	91% (87%-94%)	26	9% (6%-13%)	279	100
Missing	58		2		60	
Total	1537	90% (88%-91%)	180	10% (9%-12%)	1717	100

	Excellent/ Good relationship (N=1,537)		Average/ Poor relationship (N=180)		Total (N=1,717)	
	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage
Financial status (current)						
Living comfortably	479	93% (90%-95%)	36	7% (5%-10%)	515	100
Doing alright	549	89% (87%-91%)	66	11% (9%-13%)	615	100
Just about getting by	206	84% (79%-88%)	38	16% (12%-21%)	244	100
Finding it quite/ very difficult	75	82% (72%-88%)	17	18% (12%-28%)	92	100
Missing	228		23		251	
Total	1537	90% (88%-91%)	180	10% (9%-12%)	1717	100
General health (current)						
Excellent	165	96% (92%-98%)	7	4% (2%-8%)	172	100
Very good	382	94% (91%-96%)	25	6% (4%-9%)	407	100
Good	635	93% (90%-94%)	51	7% (6%-10%)	686	100
Fair	265	80% (75%-84%)	68	20% (16%-25%)	333	100
Poor	76	74% (64%-81%)	27	26% (19%-36%)	103	100
Missing	14		2		16	
Total	1537	90% (88%-91%)	180	10% (9%-12%)	1717	100
Depression PHQ8 (current)						
None	934	95% (93%-96%)	54	5% (4%-7%)	988	100
Mild	337	87% (83%-90%)	52	13% (10%-17%)	389	100
Moderate	133	80% (73%-86%)	33	20% (14%-27%)	166	100
Moderately severe/ Severe	75	68% (58%-76%)	36	32% (24%-42%)	111	100
Missing	58		5		63	
Total	1537	90% (88%-91%)	180	10% (9%-12%)	1717	100

	Excellent/ Good relationship (N=1,537)		Average/ Poor relationship (N=180)		Total (N=1,717)	
	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage
Anxiety GAD7 (current)						
None	982	94% (93%-96%)	58	6% (4%-7%)	1040	100
Mild	341	86% (82%-89%)	55	14% (11%-18%)	396	100
Moderate	100	78% (70%-84%)	29	22% (16%-30%)	129	100
Severe	62	65% (55%-73%)	34	35% (27%-45%)	96	100
Missing	52		4		56	
Total	1537	90% (88%-91%)	180	10% (9%-12%)	1717	100

Table 3b. Confidence in supporting child(ren) learning at home by sample characteristics.

	Whether agree that confident to support child(s) learning at home					
	Disagree (N=414)		Not disagree (N = 1,347)		Total (N=1,741)	
	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage
Ethnicity						
White British	174	26% (23%-30%)	489	74% (70%-77%)	663	100%
Pakistani heritage	168	23% (20%-26%)	568	77% (74%-80%)	736	100%
Other	66	23% (19%-29%)	217	77% (71%-81%)	283	100%
Missing	6		53		59	100%
Total	414	24% (22%-26%)	1327	76% (74%-78%)	1,741	100%
Financial status (current)						
Living comfortably	89	19% (16%-23%)	376	81% (77%-84%)	465	100%
Doing alright	154	24% (21%-28%)	476	76% (72%-79%)	630	100%
Just about getting by	79	28% (23%-33%)	204	72% (67%-77%)	283	100%
Finding it quite/ very difficult	34	33% (25%-43%)	68	67% (57%-75%)	102	100%
Missing	58		203		261	
Total	414	24% (22%-26%)	1327	76% (74%-78%)	1,741	100%

	Whether agree that confident to support child(s) learning at home					
	Disagree (N=414)		Not disagree (N = 1,347)		Total (N=1,741)	
	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage
General health (current)						
Excellent	25	16% (11%-22%)	133	84% (78%-89%)	158	100%
Very good	77	19% (16%-24%)	318	81% (76%-84%)	395	100%
Good	165	24% (21%-27%)	524	76% (73%-79%)	689	100%
Fair	100	28% (24%-33%)	257	72% (67%-76%)	357	100%
Poor	42	34% (26%-43%)	82	66% (57%-74%)	124	100%
Missing	5		13		18	
Total	414	24% (22%-26%)	1327	76% (74%-78%)	1,741	100%
Depression PHQ8 (current)						
None	163	17% (15%-20%)	786	83% (80%-85%)	949	100%
Mild	108	26% (22%-31%)	300	74% (69%-78%)	408	100%
Moderate	70	37% (30%-44%)	119	63% (56%-70%)	189	100%
Moderately severe/ Severe	60	44% (36%-53%)	76	56% (47%-64%)	136	100%
Missing	13		46		59	
Total	414	24% (22%-26%)	1327	76% (74%-78%)	1,741	100%
Anxiety GAD7 (current)						
None	169	17% (14%-19%)	850	83% (81%-86%)	1,019	100%
Mild	123	32% (27%-37%)	262	68% (63%-73%)	385	100%
Moderate	56	35% (28%-42%)	105	65% (58%-72%)	161	100%
Severe	55	46% (37%-55%)	65	54% (45%-63%)	120	100%
Missing	11		45		56	
Total	414	24% (22%-26%)	1327	76% (74%-78%)	1,741	100%

Table 4a. Loneliness by sample characteristics.

	How often have you felt lonely during the past week?							
	None of the time (N=1,126)		Some of the time (N=607)		Most or all of the time (N=199)		Total (N=1,932)	
	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage	N	Percentage
Ethnicity								
White British	380	55% (51%-59%)	242	35% (32%-39%)	66	10% (8%-12%)	688	100%
Pakistani heritage	520	61% (58%-64%)	242	28% (25%-31%)	92	11% (9%-13%)	854	100%
Other	187	58% (52%-63%)	101	31% (26%-36%)	37	11% (8%-15%)	325	100%
Missing	39		22		4		65	
Total	1,126	59% (56%-61%)	607	31% (29%-33%)	199	10% (9%-12%)	1932	100%
Financial status (current)								
Living comfortably	366	67% (63%-71%)	154	28% (25%-32%)	27	5% (3%-7%)	547	100%
Doing alright	398	58% (54%-61%)	217	32% (28%-35%)	73	11% (9%-13%)	688	100%
Just about getting by	152	49% (43%-54%)	110	35% (30%-41%)	49	16% (12%-20%)	311	100%
Finding it quite/ very difficult	44	40% (31%-49%)	44	40% (31%-49%)	22	20% (14%-29%)	110	100%
Missing	166		82		28		276	
Total	1,126	59% (56%-61%)	607	31% (29%-33%)	199	10% (9%-12%)	1932	100%
General health (current)								
Excellent	155	82% (75%-86%)	31	16% (12%-22%)	4	2% (1%-5%)	190	100%
Very good	304	70% (65%-74%)	105	24% (20%-28%)	26	6% (4%-9%)	435	100%
Good	446	58% (54%-61%)	264	34% (31%-38%)	60	8% (6%-10%)	770	100%
Fair	176	45% (41%-50%)	155	40% (35%-45%)	56	14% (11%-18%)	387	100%
Poor	38	30% (22%-38%)	44	34% (27%-43%)	46	36% (28%-45%)	128	100%
Missing	7		8		7		22	
Total	1,126	59% (56%-61%)	607	31% (29%-33%)	199	10% (9%-12%)	1932	100%

	How often have you felt lonely during the past week?							
	None of the time (N=1,126)		Some of the time (N=607)		Most or all of the time (N=199)		Total (N=1,932)	
	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage	N	Percentage
Depression PHQ8 (current)								
None	829	77% (75%-80%)	224	21% (19%-23%)	22	2% (1%-3%)	1075	100%
Mild	188	42% (38%-47%)	209	47% (42%-52%)	48	11% (8%-14%)	445	100%
Moderate	59	30% (24%-37%)	95	49% (42%-56%)	40	21% (15%-27%)	194	100%
Moderately severe/ Severe	16	11% (7%-17%)	50	34% (26%-42%)	83	56% (48%-63%)	149	100%
Missing	34		29		6		69	
Total	1,126	59% (56%-61%)	607	31% (29%-33%)	199	10% (9%-12%)	1932	100%
Anxiety GAD7 (current)								
None	861	75% (72%-77%)	262	23% (20%-25%)	28	2% (2%-4%)	1151	100%
Mild	169	40% (35%-45%)	205	49% (44%-53%)	48	11% (9%-15%)	422	100%
Moderate	41	24% (18%-31%)	82	47% (40%-55%)	50	29% (23%-36%)	173	100%
Severe	21	17% (11%-24%)	34	27% (20%-35%)	71	56% (48%-65%)	126	100%
Missing	34		24		2		60	
Total	1,126	59% (56%-61%)	607	31% (29%-33%)	199	10% (9%-12%)	1932	100%
Current employment status								
Employed	619	60% (57%-63%)	321	31% (28%-34%)	91	9% (7%-11%)	1031	100%
Employed but not working (on furlough)	165	59% (53%-64%)	89	32% (26%-37%)	27	10% (7%-14%)	281	100%
Self-employed and working	103	66% (58%-73%)	45	29% (22%-36%)	8	5% (3%-10%)	156	100%
Self-employed and not working	134	62% (55%-68%)	66	31% (25%-37%)	16	7% (5%-12%)	216	100%
Unemployed	79	39% (32%-46%)	78	38% (32%-45%)	47	23% (18%-29%)	204	100%
Missing	26		8		10		44	
Total	1,126	59% (56%-61%)	607	31% (29%-33%)	199	10% (9%-12%)	1932	100%

Table 4b. Social support by sample characteristics.

	How easy is it to get practical help from friends/family/ neighbours					
	Possible/ Easy (N=264)		Very difficult/ Difficult (N=1,753)		Total (N=2,017)	
	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage
Ethnicity						
White British	634	90% (88%-92%)	69	10% (8%-12%)	703	100
Pakistani heritage	781	86% (84%-88%)	128	14% (12%-16%)	909	100
Other	278	83% (79%-87%)	57	17% (13%-21%)	335	100
Missing	60		10		70	
Total	1753	87% (85%-88%)	264	13% (12%-15%)	2017	100
Financial status (current)						
Living comfortably	520	92% (89%-94%)	45	8% (6%-11%)	565	100
Doing alright	623	87% (84%-89%)	96	13% (11%-16%)	719	100
Just about getting by	268	82% (78%-86%)	58	18% (14%-22%)	326	100
Finding it quite/ very difficult	89	75% (66%-82%)	30	25% (18%-34%)	119	100
Missing	253		35		2	
Total	1753	87% (85%-88%)	264	13% (12%-15%)	2017	100
General health (current)						
Excellent	171	89% (84%-93%)	21	11% (7%-16%)	192	100
Very good	421	94% (91%-96%)	27	6% (4%-9%)	448	100
Good	709	88% (85%-90%)	99	12% (10%-15%)	808	100
Fair	342	83% (79%-87%)	69	17% (13%-21%)	411	100
Poor	94	70% (62%-77%)	40	30% (23%-38%)	134	100
Missing	16		8		24	
Total	1753	87% (85%-88%)	264	13% (12%-15%)	2017	100

	How easy is it to get practical help from friends/family/ neighbours					
	Possible/ Easy (N=264)		Very difficult/ Difficult (N=1,753)		Total (N=2,017)	
	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage
Depression PHQ8 (current)						
None	1020	92% (90%-93%)	91	8% (7%-10%)	1111	100
Mild	396	85% (82%-88%)	69	15% (12%-18%)	465	100
Moderate	177	83% (77%-88%)	36	17% (12%-23%)	213	100
Moderately severe/ Severe	100	63% (55%-70%)	59	37% (30%-45%)	159	100
Missing	60		9		69	
Total	1753	87% (85%-88%)	264	13% (12%-15%)	2017	100
Anxiety GAD7 (current)						
None	1097	92% (90%-93%)	98	8% (7%-10%)	1195	100
Mild	373	84% (80%-87%)	70	16% (13%-20%)	443	100
Moderate	135	74% (67%-80%)	47	26% (20%-33%)	182	100
Severe	87	64% (56%-72%)	48	36% (28%-44%)	135	100
Missing	61		1		62	
Total	1753	87% (85%-88%)	264	13% (12%-15%)	2017	100
Current employment status						
Employed	951	88% (86%-90%)	124	12% (10%-14%)	1075	100
Employed but not working (on furlough)	251	87% (82%-90%)	39	13% (10%-18%)	290	100
Self-employed and working	148	93% (88%-96%)	11	7% (4%-12%)	159	100
Self-employed and not working	195	86% (80%-90%)	33	14% (10%-20%)	228	100
Unemployed	170	78% (72%-83%)	48	22% (17%-28%)	218	100
Missing	38		9		47	
Total	1753	87% (85%-88%)	264	13% (12%-15%)	2017	100

Table 5a. Financial, food, employment and housing insecurity by ethnicity.

	White British (N=706)		Pakistani heritage (N=922)		Other ethnicity (N=345)		All (N=2,043)	
	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage	N	Percentage
Current financial status								
Living comfortably	188	27% (24%-30%)	149	17% (14%-19%)	53	16% (13%-21%)	403	20% (18%-22%)
Doing alright	311	44% (41%-48%)	358	40% (37%-43%)	158	48% (43%-54%)	857	43% (41%-45%)
Just about getting by	156	22% (19%-25%)	246	27% (25%-30%)	85	26% (21%-31%)	501	25% (23%-27%)
Finding it quite/ very difficult	49	7% (5%-9%)	146	16% (14%-19%)	32	10% (7%-13%)	237	12% (11%-13%)
Missing	2		23		17		45	
Total	706	100%	922	100%	345	100%	2043	100%
Change in financial status compared to 3 months ago								
Better off	88	13% (10%-15%)	58	7% (5%-9%)	29	9% (7%-13%)	179	9% (8%-11%)
About the same	421	61% (57%-65%)	471	56% (53%-59%)	176	56% (51%-62%)	1100	58% (55%-60%)
Worse off	181	26% (23%-30%)	310	37% (34%-40%)	107	34% (29%-40%)	627	33% (31%-35%)
Missing	16		83		33		137	
Total	706	100%	922	100%	345	100%	2043	100%
Food bought did not last and no money to buy more								
Never true	593	85% (82%-88%)	653	76% (73%-79%)	249	78% (73%-82%)	1545	80% (78%-81%)
Sometimes true	75	11% (9%-13%)	158	18% (16%-21%)	50	16% (12%-20%)	298	15% (14%-17%)
Often true	27	4% (3%-6%)	48	6% (4%-7%)	20	6% (4%-10%)	98	5% (4%-6%)
Missing	11		63		26		102	
Total	706	100%	922	100%	345	100%	2043	100%
Whether had to cut size of meals or skip meals								
No	621	89% (87%-92%)	795	92% (90%-94%)	294	90% (86%-93%)	1771	91% (89%-92%)
Yes	73	11% (8%-13%)	70	8% (6%-10%)	33	10% (7%-14%)	180	9% (8%-11%)
Missing	12		57		18		92	
Total	706	100%	922	100%	345	100%	2043	100%

	White British (N=706)		Pakistani heritage (N=922)		Other ethnicity (N=345)		All (N=2,043)	
	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage	N	Percentage
Whether worried about the job security of the main earner								
Disagree - not worried	359	52% (48%-56%)	300	34% (31%-37%)	122	37% (32%-42%)	810	41% (39%-43%)
Neither	139	20% (17%-23%)	196	22% (20%-25%)	84	25% (21%-30%)	437	22% (20%-24%)
Agree - worried	195	28% (25%-32%)	388	44% (41%-47%)	125	38% (33%-43%)	728	37% (35%-39%)
Missing	13		38		14		68	
Total	706	100%	922	100%	345	100%	2043	100%
Whether worried about being evicted/ reposessed								
Disagree - not worried	588	85% (82%-87%)	563	64% (61%-67%)	207	63% (57%-68%)	1403	71% (69%-73%)
Neither	63	9% (7%-11%)	216	25% (22%-28%)	67	20% (16%-25%)	359	18% (17%-20%)
Agree - worried	42	6% (5%-8%)	96	11% (9%-13%)	56	17% (13%-21%)	204	10% (9%-12%)
Missing	13		47		15		77	
Total	706	100%	922	100%	345	100%	2043	100%
Current employment status								
Employed	436	62% (59%-66%)	426	48% (44%-51%)	191	58% (53%-63%)	1085	55% (52%-57%)
Employed but not working (on furlough)	106	15% (13%-18%)	132	15% (13%-17%)	41	13% (9%-17%)	292	15% (13%-16%)
Self-employed and working	44	6% (5%-8%)	84	9% (8%-11%)	25	8% (5%-11%)	163	8% (7%-9%)
Self-employed and not working	30	4% (3%-6%)	163	18% (16%-21%)	29	9% (6%-12%)	228	11% (10%-13%)
Unemployed	82	12% (10%-14%)	89	10% (8%-12%)	42	13% (10%-17%)	221	11% (10%-13%)
Missing	8		28		17		54	
Total	706	100%	922	100%	345	100%	2043	100%

furloughed. 204 (10%) of households were worried about losing their home (eviction/repossession).

Across financial, food and employment insecurity, White British families were more secure, and families of Pakistani heritage were the least secure (see [Table 5a](#)). White British families also had the least insecurity in housing, but the most insecurity

was in the other ethnic group. [Table 5c](#) shows financial, food, employment and housing insecurity by the current employment status of the main earner in the household. Households where the main earner is self-employed and not working, furloughed, or unemployed were most likely to report financial, food, employment, and housing insecurity (see [Figure 2](#)). The most secure households were those where the main earner is employed and

Table 5b. Self-reported change in financial status by current and baseline financial status.

Covid financial status	Change in financial status compared to 3 months ago							
	Better off		About the same		Worse off		Total	
	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage
Living comfortably	60	15% (12%-19%)	298	76% (72%-80%)	33	8% (6%-12%)	391	100%
Doing alright	78	10% (8%-12%)	558	69% (65%-72%)	176	22% (19%-25%)	812	100%
Just about getting by	32	7% (5%-9%)	196	42% (37%-46%)	243	52% (47%-56%)	471	100%
Finding it quite/ very difficult	7	3% (2%-7%)	45	20% (16%-26%)	168	76% (70%-82%)	220	100%
Missing	2		3		7		12	
Total	179	9% (8%-11%)	1100	58% (55%-60%)	627	33% (31%-35%)	1906	100%

Table 5c. Financial, food, employment and housing insecurity by employment status.

	Employed (N=1,085)		Employed on furlough (N=292)		Self-employed and working (N=163)		Self-employed, not working (N=228)		Unemployed (N=221)		All (N=2,043)	
	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)
Current financial status												
Living comfortably	293	27% (25%-30%)	42	15% (11%-19%)	36	23% (17%-30%)	11	5% (3%-9%)	14	7% (4%-11%)	403	20% (18%-22%)
Doing alright	513	48% (45%-51%)	106	37% (31%-43%)	76	48% (40%-56%)	68	31% (25%-37%)	81	38% (31%-44%)	857	43% (41%-45%)
Just about getting by	201	19% (17%-21%)	85	30% (25%-35%)	39	25% (18%-32%)	89	40% (34%-47%)	74	34% (28%-41%)	501	25% (23%-27%)
Finding it quite/ very difficult	65	6% (5%-8%)	55	19% (15%-24%)	8	5% (3%-10%)	54	24% (19%-30%)	46	21% (16%-27%)	237	12% (11%-13%)
Missing	13		4		4		6		6		45	
Total	1085	100%	292	100%	163	100%	228	100%	221	100%	2043	100
Change in financial status compared to 3 months ago												
Better off	117	11% (9%-13%)	22	8% (5%-12%)	13	8% (5%-14%)	8	4% (2%-8%)	15	8% (5%-12%)	179	9% (8%-11%)
About the same	704	68% (65%-71%)	108	39% (34%-45%)	87	56% (48%-64%)	59	29% (23%-36%)	123	62% (55%-69%)	1100	58% (55%-60%)
Worse off	218	21% (19%-24%)	144	53% (47%-58%)	55	35% (28%-43%)	136	67% (60%-73%)	60	30% (24%-37%)	627	33% (31%-35%)
Missing	46		18		8		25		23		137	
Total	1085	100%	292	100%	163	100%	228	100%	221	100%	2043	100

	Employed (N=1,085)		Employed on furlough (N=292)		Self-employed and working (N=163)		Self-employed, not working (N=228)		Unemployed (N=221)		All (N=2,043)	
	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)
Food bought did not last and no money to buy more												
Never true	916	88% (86%-90%)	201	70% (65%-75%)	132	86% (79%-90%)	158	76% (70%-81%)	110	53% (46%-60%)	1545	80% (78%-81%)
Sometimes true	95	9% (7%-11%)	66	23% (19%-28%)	14	9% (5%-15%)	42	20% (15%-26%)	70	34% (28%-41%)	298	15% (14%-17%)
Often true	34	3% (2%-5%)	19	7% (4%-10%)	8	5% (3%-10%)	8	4% (2%-8%)	27	13% (9%-18%)	98	5% (4%-6%)
Missing	40		6		9		20		14		102	
Total	1085	100%	292	100%	163	100%	228	100%	221	100%	2043	100
Whether had to cut size of meals or skip meals												
No	1001	95% (93%-96%)	240	86% (82%-90%)	154	96% (92%-98%)	191	88% (83%-91%)	152	76% (70%-81%)	1771	91% (89%-92%)
Yes	54	5% (4%-7%)	38	14% (10%-18%)	6	4% (2%-8%)	27	12% (9%-17%)	48	24% (19%-30%)	180	9% (8%-11%)
Missing	30		14		3		10		21		92	
Total	1085	100%	292	100%	163	100%	228	100%	221	100%	2043	100
Whether worried about the job security of the main earner												
Disagree - not worried	554	51% (48%-54%)	95	33% (28%-38%)	53	33% (26%-41%)	53	24% (19%-30%)	48	27% (21%-34%)	810	41% (39%-43%)
Neither	231	21% (19%-24%)	46	16% (12%-21%)	34	21% (15%-28%)	34	15% (11%-20%)	76	43% (36%-50%)	437	22% (20%-24%)
Agree - worried	295	27% (25%-30%)	149	51% (46%-57%)	74	46% (38%-54%)	137	61% (55%-67%)	54	30% (24%-37%)	728	37% (35%-39%)
Missing	5		2		2		4		43		68	
Total	1085	100%	292	100%	163	100%	228	100%	221	100%	2043	100
Whether worried about being evicted/ repossessed												
Disagree - not worried	834	79% (76%-81%)	181	65% (59%-70%)	105	68% (60%-75%)	127	58% (51%-64%)	136	64% (57%-70%)	1403	71% (69%-73%)
Neither	153	14% (12%-17%)	47	17% (13%-22%)	33	21% (16%-29%)	60	27% (22%-34%)	48	23% (18%-29%)	359	18% (17%-20%)
Agree - worried	72	7% (5%-8%)	50	18% (14%-23%)	16	10% (6%-16%)	33	15% (11%-20%)	28	13% (9%-18%)	204	10% (9%-12%)
Missing	26		14		9		8		9		77	
Total	1085	100%	292	100%	163	100%	228	100%	221	100%	2043	100

Figure 2. Comparison of financial and food insecurity, housing and employment security by current employment circumstances.

still working. Table 5a shows that the current employment of the main earner differs by ethnicity suggesting that insecurities identified here may be explained by the type of employment held by the main earner in the household, rather than being directly related to ethnicity.

Physical health and health behaviours

A low percentage of mothers reported having poor general health (N=135, 7%) however this more than doubled in households that were financially insecure, unemployed, or living in poor housing conditions (Table 6a).

A large proportion of mothers who smoked (N=191, 9%) or drank alcohol (N=533, 26%) reported smoking more (N=70, 37%) and drinking more (N=164, 31%) during lockdown. Nearly half of mothers (N=832, 47%) reported doing less physical activity in lockdown than before. 118 (6%) reported that their children did no physical activity at all, 300 (15%) did exercise 1–2 times a week. Mothers of Pakistani heritage were most likely to do no physical activity as were those who were financially insecure, in poor health or had severe depression or anxiety (Table 6b).

341 (17%) of mothers reported worrying about their health most or all of the time. This was more common in those who were financially insecure, unemployed, living in poor quality housing, and in those who had someone in the home who was clinically vulnerable to Covid-19 and/or if the household had self-isolated at some point (Table 6c).

Mental health

Reports of depression and anxiety symptoms were high with 838 (43%) mothers reporting depression, 19% of whom had clinically significant (moderate/severe) symptoms. 762 (39%) mothers

reported anxiety, 16% of whom had clinically significant (moderate/severe) symptoms. White British participants were most likely to be moderate/severely depressed but there were no ethnic differences in moderate/severe anxiety. Moderate/Severe depression and moderate/severe anxiety were associated with financial insecurity, unemployment, poor quality housing (see Table 7a and Table 7b; Figure 3a and Figure 3b).

The experiences of partners

101 (5% of all responses) partners completed the survey making it difficult to generalize from their responses. Partners who responded were more likely to be White British (N= 38, 58%) and were more financially secure (N=34, 34% were living comfortably) than the mothers overall, but showed little difference to the mother's responses for all other measures, see Supplementary Table 8 (Extended data)²⁹.

The lived experiences of participants

We asked participants to tell us their biggest three worries at the moment, a challenge they have faced in the last two weeks, and whether anything had been made easier or more enjoyable in lockdown. Some of the most commonly reported worries reflected those captured in the survey including financial insecurity and mental health concerns; other reported worries reflected concerns and challenges specific to Covid-19 including health anxieties, caring for or educating their children at home, seeing and supporting their family and friends, bereavement and wider fears about the impact of Covid-19 on society.

Health anxieties. The most commonly reported worry was that themselves, their children and/or wider family members might catch the coronavirus and become seriously ill or die. Participants were particularly concerned if they perceived themselves

Table 6a. General health by sample characteristics.

	Excellent (N=197)		Very good (N=455)		Good (N=814)		Fair (N=135)		Poor (N=135)		Total (N=2,013)	
	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)
All	197	10% (9%-11%)	455	23% (21%-24%)	814	40% (38%-43%)	412	20% (19%-22%)	135	7% (6%-8%)	2013	100%
Ethnicity												
White British	57	8% (6%-10%)	199	28% (25%-32%)	261	37% (34%-41%)	141	20% (17%-23%)	43	6% (5%-8%)	701	100%
Pakistani heritage	95	10% (9%-13%)	160	18% (15%-20%)	389	43% (40%-46%)	193	21% (19%-24%)	74	8% (7%-10%)	911	100%
Other	35	11% (8%-14%)	77	23% (19%-28%)	136	41% (36%-46%)	67	20% (16%-25%)	18	5% (3%-8%)	333	100%
Finance status (current)												
Living comfortably	64	16% (13%-20%)	155	39% (34%-43%)	136	34% (29%-39%)	38	9% (7%-13%)	9	2% (1%-4%)	402	100%
Doing alright	74	9% (7%-11%)	193	23% (20%-26%)	388	46% (42%-49%)	162	19% (17%-22%)	33	4% (3%-5%)	850	100%
Just about getting by	39	8% (6%-11%)	79	16% (13%-19%)	197	40% (35%-44%)	137	28% (24%-32%)	44	9% (7%-12%)	496	100%
Finding it quite/ very difficult	13	6% (3%-9%)	23	10% (7%-15%)	81	35% (29%-42%)	66	29% (23%-35%)	47	20% (16%-26%)	230	100%
Employment status (current)												
Employed	99	9% (8%-11%)	278	26% (23%-29%)	433	40% (37%-43%)	212	20% (17%-22%)	50	5% (4%-6%)	1072	100%
Employed but not working (on furlough)	26	9% (6%-13%)	65	22% (18%-28%)	123	42% (37%-48%)	50	17% (13%-22%)	26	9% (6%-13%)	290	100%
Self-employed and working	17	10% (7%-16%)	49	30% (24%-38%)	58	36% (29%-43%)	31	19% (14%-26%)	7	4% (2%-9%)	162	100%
Self-employed and not working	27	12% (8%-17%)	40	18% (13%-23%)	99	43% (37%-50%)	51	22% (17%-28%)	11	5% (3%-9%)	228	100%
Unemployed	17	8% (5%-12%)	19	9% (6%-14%)	84	39% (33%-46%)	56	26% (21%-33%)	37	17% (13%-23%)	213	100%
Does your home need any major repairs												
No	184	11% (9%-12%)	423	24% (22%-26%)	709	41% (38%-43%)	335	19% (17%-21%)	97	6% (5%-7%)	1748	100%
Yes	12	5% (3%-8%)	29	11% (8%-16%)	101	40% (34%-46%)	76	30% (25%-36%)	37	15% (11%-19%)	255	100%

	Excellent (N=197)		Very good (N=455)		Good (N=814)		Fair (N=135)		Poor (N=135)		Total (N=2,013)	
	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)
Do you have any damp or mould in house												
No	159	11% (10%-13%)	361	25% (23%-27%)	588	41% (38%-43%)	251	17% (16%-20%)	79	5% (4%-7%)	1438	100%
Yes	36	6% (5%-9%)	92	16% (13%-20%)	220	39% (35%-43%)	160	28% (25%-32%)	56	10% (8%-13%)	564	100%
Do you have any problems with vermin												
No	176	11% (9%-12%)	398	24% (22%-26%)	683	41% (39%-43%)	316	19% (17%-21%)	93	6% (5%-7%)	1666	100%
Yes	19	6% (4%-9%)	56	16% (13%-21%)	131	38% (33%-43%)	95	28% (23%-33%)	42	12% (9%-16%)	343	100%

Table 6b. Current exercise behaviour by sample characteristics.

	How often do you currently do any kind of physical activity									
	Never (N=253)		1 or 2 days a week (N=532)		Most days (N=587)		Every day (N=655)		Total (N=2,017)	
	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage
All	253	12% (11%-14%)	532	26% (24%-28%)	587	29% (27%-31%)	655	32% (30%-34%)	2027	100%
Ethnicity										
White British	47	7% (5%-9%)	139	20% (17%-23%)	222	32% (28%-35%)	294	42% (38%-46%)	702	100%
Pakistani heritage	153	17% (14%-19%)	292	32% (29%-35%)	229	25% (22%-28%)	241	26% (24%-29%)	915	100%
Other	45	13% >(10%-17%)	89	26% (22%-31%)	110	32% (28%-38%)	96	28% (24%-33%)	340	100%
Financial status (current)										
Living comfortably	56	10% (8%-13%)	130	23% (20%-26%)	160	28% (25%-32%)	223	39% (35%-43%)	569	100%
Doing alright	89	12% (10%-15%)	205	28% (25%-32%)	214	30% (26%-33%)	216	30% (27%-33%)	724	100%
Just about getting by	50	15% (12%-20%)	100	31% (26%-36%)	86	26% (22%-31%)	91	28% (23%-33%)	327	100%
Finding it quite/ very difficult	29	24% (17%-33%)	34	29% (21%-37%)	33	28% (20%-36%)	23	19% (13%-27%)	119	100%

	How often do you currently do any kind of physical activity									
	Never (N=253)		1 or 2 days a week (N=532)		Most days (N=587)		Every day (N=655)		Total (N=2,017)	
	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage
General health (current)										
Excellent	16	8% (5%-13%)	25	13% (9%-18%)	60	31% (25%-38%)	93	48% (41%-55%)	194	100%
Very good	34	7% (5%-10%)	87	19% (16%-23%)	149	33% (29%-37%)	184	41% (36%-45%)	454	100%
Good	93	11% (9%-14%)	239	30% (26%-33%)	248	31% (28%-34%)	230	28% (25%-32%)	810	100%
Fair	62	15% (12%-19%)	134	33% (28%-37%)	99	24% (20%-29%)	115	28% (24%-33%)	410	100%
Poor	42	31% (24%-39%)	43	32% (25%-40%)	25	19% (13%-26%)	25	19% (13%-26%)	135	100%
Depression PHQ8 (current)										
None	98	9% (7%-11%)	248	22% (20%-25%)	344	31% (28%-34%)	429	38% (36%-41%)	1119	100%
Mild	73	16% (13%-19%)	141	30% (26%-35%)	134	29% (25%-33%)	117	25% (21%-29%)	465	100%
Moderate	33	15% (11%-21%)	64	30% (24%-37%)	58	27% (22%-34%)	58	27% (22%-34%)	213	100%
Moderately severe/ Severe	44	28% (21%-35%)	54	34% (27%-42%)	35	22% (16%-29%)	25	16% (11%-22%)	158	100%
Anxiety GAD7 (current)										
None	117	10% (8%-12%)	299	25% (23%-27%)	363	30% (28%-33%)	423	35% (33%-38%)	1202	100%
Mild	56	13% (10%-16%)	122	27% (24%-32%)	127	29% (25%-33%)	139	31% (27%-36%)	444	100%
Moderate	32	18% (13%-24%)	47	26% (20%-33%)	55	30% (24%-37%)	47	26% (20%-33%)	181	100%
Severe	37	27% (21%-36%)	47	35% (27%-43%)	27	20% (14%-28%)	24	18% (12%-25%)	135	100%

or others to be at a heightened risk due to existing health conditions like diabetes and asthma or if someone in the household was a key worker:

'I worry about contracting coronavirus particularly whilst at work and either becoming critically myself unwell or bringing it home to my family'

'[I have] underlying health conditions so worried about becoming susceptible to the virus and how body would cope'

These health anxieties had changed people's behaviour with some reporting being too scared to go out at all or infrequently:

'I worry that I might die if I catch coronavirus and I worry how this will affect my children. I'm terrified they will be separated as I have 2 children with my ex-husband and one with my current. So I haven't been outside in 10 weeks'

'I'm worried my children are at risk if we go out so I only go out once a week at the weekend for a walk'

Table 6c. Health anxiety by sample characteristics.

	How often worry about health in the last week							
	Did not worry		Worried occasionally		Worried much/ most of the time		Total (N=2,024)	
	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)
All	620	31% (29%-33%)	1063	53% (50%-55%)	341	17% (15%-19%)	2024	100%
Ethnicity								
White British	174	25% (22%-28%)	427	61% (57%-64%)	103	15% (12%-17%)	704	100%
Pakistani heritage	303	33% (30%-36%)	436	48% (45%-51%)	171	19% (16%-21%)	910	100%
Other	117	34% (29%-40%)	166	49% (43%-54%)	58	17% (13%-21%)	341	100%
Finance status (current)								
Living comfortably	168	42% (37%-47%)	207	52% (47%-56%)	26	6% (4%-9%)	401	100%
Doing alright	277	32% (29%-36%)	471	55% (52%-58%)	106	12% (10%-15%)	854	100%
Just about getting by	127	25% (22%-29%)	263	53% (48%-57%)	110	22% (19%-26%)	500	100%
Finding it quite/ very difficult	36	15% (11%-21%)	105	45% (39%-51%)	93	40% (34%-46%)	234	100%
Employment status (current)								
Employed	337	31% (29%-34%)	585	54% (51%-57%)	156	14% (12%-17%)	1078	100%
Employed but not work	91	31% (26%-37%)	137	47% (42%-53%)	62	21% (17%-26%)	290	100%
Self-employed and working	50	31% (24%-38%)	88	54% (47%-62%)	24	15% (10%-21%)	162	100%
Self-employed and not working	64	28% (23%-34%)	125	55% (49%-61%)	38	17% (12%-22%)	227	100%
Unemployed	58	26% (21%-33%)	109	50% (43%-56%)	53	24% (19%-30%)	220	100%
Does your home need any major repairs								
No	574	33% (31%-35%)	916	52% (50%-55%)	265	15% (13%-17%)	1755	100%
Yes	43	17% (13%-22%)	142	55% (49%-61%)	74	29% (23%-34%)	259	100%
Do you have any damp or mould in house								
No	479	33% (31%-36%)	749	52% (49%-54%)	216	15% (13%-17%)	1444	100%
Yes	138	24% (21%-28%)	308	54% (50%-58%)	125	22% (19%-25%)	571	100%

	How often worry about health in the last week							
	Did not worry		Worried occasionally		Worried much/ most of the time		Total (N=2,024)	
	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)
Do you have any problems with vermin								
No	535	32% (30%-34%)	881	53% (50%-55%)	258	15% (14%-17%)	1674	100%
Yes	83	24% (20%-29%)	180	52% (47%-57%)	83	24% (20%-29%)	346	100%
Whether any household member is Covid vulnerable								
No	493	32% (29%-34%)	837	54% (51%-56%)	226	15% (13%-16%)	1556	100%
Yes	124	27% (23%-31%)	222	48% (44%-53%)	113	25% (21%-29%)	459	100%
Whether any household member currently/ previously self-isolating								
No	467	32% (30%-34%)	796	54% (52%-57%)	201	14% (12%-16%)	1464	100%
Yes	149	27% (23%-31%)	267	48% (44%-52%)	140	25% (22%-29%)	556	100%

Table 7a. Depression (PHQ8) by sample characteristics.

	None (N=1,123)		Mild (N=466)		Moderate (N=213)		Moderately severe/ Severe (N=159)		Total (N=1,961)	
	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)
All	1123	57% (55%-59%)	466	24% (22%-26%)	213	11% (10%-12%)	159	8% (7%-9%)	1961	100%
Ethnicity										
White British	350	51% (47%-55%)	190	28% (24%-31%)	81	12% (10%-14%)	67	10% (8%-12%)	688	100%
Pakistani heritage	533	61% (58%-64%)	175	20% (17%-23%)	97	11% (9%-13%)	70	8% (6%-10%)	875	100%
Other	200	60% (55%-66%)	80	24% (20%-29%)	32	10% (7%-13%)	19	6% (4%-9%)	331	100%
Finance status (current)										
Living comfortably	300	77% (72%-80%)	62	16% (13%-20%)	20	5% (3%-8%)	10	3% (1%-5%)	392	100%
Doing alright	515	62% (59%-65%)	205	25% (22%-28%)	68	8% (7%-10%)	42	5% (4%-7%)	830	100%
Just about getting by	221	46% (41%-50%)	134	28% (24%-32%)	79	16% (13%-20%)	51	11% (8%-14%)	485	100%
Finding it quite/ very difficult	71	32% (26%-38%)	58	26% (21%-32%)	40	18% (13%-24%)	54	24% (19%-30%)	223	100%

	None (N=1,123)		Mild (N=466)		Moderate (N=213)		Moderately severe/ Severe (N=159)		Total (N=1,961)	
	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)
Employment status (current)										
Employed	626	59% (56%-62%)	252	24% (21%-27%)	101	10% (8%-12%)	74	7% (6%-9%)	1053	100%
Employed but not working (on furlough)	157	57% (51%-62%)	65	23% (19%-29%)	34	12% (9%-17%)	21	8% (5%-11%)	277	100%
Self-employed and working	105	68% (60%-75%)	30	19% (14%-27%)	13	8% (5%-14%)	6	4% (2%-8%)	154	100%
Self-employed and not working	124	57% (50%-63%)	62	28% (23%-35%)	22	10% (7%-15%)	10	5% (2%-8%)	218	100%
Unemployed	86	40% (34%-47%)	52	24% (19%-30%)	35	16% (12%-22%)	41	19% (14%-25%)	214	100%
Does your home need any major repairs										
No	1029	60% (58%-63%)	390	23% (21%-25%)	168	10% (9%-11%)	116	7% (6%-8%)	1703	100%
Yes	87	35% (29%-41%)	75	30% (25%-36%)	44	18% (13%-23%)	42	17% (13%-22%)	248	100%
Do you have any damp or mould in house										
No	863	62% (59%-64%)	323	23% (21%-25%)	121	9% (7%-10%)	95	7% (6%-8%)	1402	100%
Yes	254	46% (42%-50%)	140	25% (22%-29%)	92	17% (14%-20%)	64	12% (9%-15%)	550	100%
Do you have any problems with vermin										
No	979	60% (58%-63%)	369	23% (21%-25%)	164	10% (9%-12%)	115	7% (6%-8%)	1627	100%
Yes	142	43% (38%-48%)	96	29% (24%-34%)	49	15% (11%-19%)	43	13% (10%-17%)	330	100%

Table 7b. Anxiety (GAD7) by sample characteristics.

	None (N=1,206)		Mild (N=444)		Moderate (N=183)		Severe (N=135)		Total (N=1,968)	
	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)
All	1206	61% (59%-63%)	444	23% (21%-24%)	183	9% (8%-11%)	135	7% (6%-8%)	1968	100%
Ethnicity										
White British	399	58% (54%-62%)	170	25% (22%-28%)	61	9% (7%-11%)	59	9% (7%-11%)	689	100%
Pakistani heritage	546	62% (59%-65%)	184	21% (18%-24%)	90	10% (8%-12%)	56	6% (5%-8%)	876	100%
Other	220	66% (61%-71%)	71	21% (17%-26%)	24	7% (5%-10%)	19	6% (4%-9%)	334	100%

	None (N=1,206)		Mild (N=444)		Moderate (N=183)		Severe (N=135)		Total (N=1,968)	
	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)	N	Percentage (95% CI)
Finance status (current)										
Living comfortably	307	77% (73%-81%)	66	17% (13%-21%)	15	4% (2%-6%)	9	2% (1%-4%)	397	100%
Doing alright	557	67% (64%-71%)	177	21% (19%-24%)	55	7% (5%-9%)	37	4% (3%-6%)	826	100%
Just about getting by	248	51% (47%-56%)	127	26% (23%-30%)	69	14% (11%-18%)	40	8% (6%-11%)	484	100%
Finding it quite/ very difficult	74	32% (27%-39%)	68	30% (24%-36%)	39	17% (13%-23%)	47	21% (16%-26%)	228	100%
Employment status (current)										
Employed	675	64% (61%-67%)	232	22% (20%-25%)	81	8% (6%-9%)	63	6% (5%-8%)	1051	100%
Employed but not working (on furlough)	170	60% (54%-65%)	67	24% (19%-29%)	29	10% (7%-14%)	18	6% (4%-10%)	284	100%
Self-employed and working	112	71% (64%-78%)	30	19% (14%-26%)	11	7% (4%-12%)	4	3% (1%-7%)	157	100%
Self-employed and not working	130	59% (52%-65%)	61	28% (22%-34%)	17	8% (5%-12%)	12	5% (3%-9%)	220	100%
Unemployed	92	44% (37%-51%)	47	22% (17%-29%)	36	17% (13%-23%)	35	17% (12%-22%)	210	100%
Does your home need any major repairs										
No	1094	64% (62%-66%)	367	22% (20%-24%)	146	9% (7%-10%)	96	6% (5%-7%)	1703	100%
Yes	106	42% (36%-48%)	74	29% (24%-35%)	37	15% (11%-19%)	38	15% (11%-20%)	255	100%
Do you have any damp or mould in house										
No	919	66% (63%-68%)	295	21% (19%-23%)	107	8% (6%-9%)	81	6% (5%-7%)	1402	100%
Yes	278	50% (46%-54%)	148	27% (23%-30%)	76	14% (11%-17%)	54	10% (8%-12%)	556	100%
Do you have any problems with vermin										
No	1034	64% (61%-66%)	353	22% (20%-24%)	144	9% (8%-10%)	97	6% (5%-7%)	1628	100%
Yes	170	51% (45%-56%)	90	27% (22%-32%)	39	12% (9%-15%)	37	11% (8%-15%)	336	100%

Respondents also often reported worrying about not seeing wider family and friends and being unable to help loved ones, especially if they lived far away or in another country.

‘Not being able to physically be there for my parents, dad very elderly and vulnerable and worrying if they died in these circumstances not being able to see them’

Some were experiencing recent bereavement of friends or family members, both Covid-19 and non-Covid 19 deaths, and were sad and distressed about being unable to attend their funerals and gather with loved ones for support.

‘I lost my mother 6 weeks ago and have not really been with it in terms of keeping up with my children’s school work. Not really got grieve as people normally do’

‘Uncle passed away of Covid 19 - made it very real, can happen to anyone, happened so fast - couldn’t be there with him, couldn’t go to funeral. Did Boris, prince Charles get better care than him?’

Financial insecurity. The second most commonly reported worry was around financial, housing and employment insecurity. Some respondents reported that either they and/or their

Figure 3a. Current depression status by respondent characteristics.

Figure 3b. Current anxiety status by respondent characteristics.

partner had already lost their job as a direct result of coronavirus and the lockdown, and many more were worried about this eventuality. It was clear, even from these brief responses, that for many participants, any change to income was a serious concern because they were only just managing to get by before the pandemic. For families already reliant on credit cards and overdrafts to get by, Covid-19 and lockdown measures had pushed them into deeper and longer-term debt.

'I have maxed my credit card .. so I'm worrying how im going to pay it back and when I'm going to be able to pay it back'

'We are surviving only on child credit tax and unable to pay rent, insurance even council tax all accounts are on overdraft limit'

Some reported having to work despite being advised not to due to Covid-19 vulnerability, or being subject to poor treatment from employers.

'Husband's job, it took ages for his boss to furlough him and he's threatened him that he wont have a job when it ends. He also makes him come into work some days as he does with other staff who are furloughed'

I was advised to self-isolate with my husband as he is classed a vulnerable person. I could not do this as I would not of had the money to pay bills or buy food'

Mental health. Respondents frequently reported concerns about their mental health, such as existing mental ill health getting worse, and the mental load of managing work, home-schooling, childcare and domestic tasks alongside wider anxiety about their family's health, increased money worries and concerns about what the future held.

'Finding working from home and looking after children very demanding. No time alone. No silence. Surrounded by people and electronics all my waking hours.'

'Balancing all our responsibilities - home schooling / going into work / working from home / housework - Feeling stressed'

'I suffer from anxiety and because the situation we are in I feel like my anxiety has increased as I can't do the normal things which I would normally do'

Some respondents reported not being able to access or feeling unable to access mental health services due to Covid-19 and lockdown measures:

'Not getting my mental health support since the lockdown. My cpn. not returning your calls. It has made me a lot worse. I try to talk to my husband so i am not keeping everything inside'

'Mental health, I have had previous issues in the past and am struggling and don't feel like I can approach my GP at the minute as it isn't an emergency'

Parents also frequently reported concerns about their children's mental health, particularly older children aged 11–16. They were considered to be particularly affected by lockdown and not being able to attend school as this was a time being able to socialise outside the family was more important. In addition, participants with children with special educational needs were especially concerned about their mental health and wellbeing, feeling less able to access sources of external support and worried about the long-term effects:

'I worry about my eldest child's mental well-being as she hates not being able to socialise. She does not like playing outside alone'

'My 13 year old son was offered school during lockdown but didn't take the offer as I don't want him to catch the virus - he is depressed at home'

'Mental health of children (especially youngest). Desperately missing social interaction with friends, school and all his sporting activities. He is getting increasingly angry'

Home schooling. The open text questions revealed home-schooling to be a source of tension within the home and parents were worried about their children becoming demotivated, getting behind at school, their future prospects if they were nearing important exams and poor behaviour. Some parents reported finding it particularly difficult to home school and keep their children entertained and focused if they had special educational needs like autism or ADHD. Problems with homeschooling were compounded by a lack of necessary devices like laptops or tablets and issues with broadband capacity.

'Every day is a challenge to get our 11 year old daughter out of bed before lunchtime and engaged in an activity'

'Worrying about our children's education and mental health. Both have autism and are finding the change in situation very challenging'

My son has behavioural problems partly due to medical reasons these behaviour issues have got a lot worse than normal due to all the change, no school, no routine, not seeing any family or friends'

Other worries and concerns. Many participants reported stress and anxiety around food shopping. There was a lot of fear around attending supermarkets and catching the virus, difficulties finding specific grocery items and catering for children with dietary requirements. Others shared their concerns about coming out of lockdown, being anxious about going into crowded places and what the new normal might look like.

'How will I manage things after the lockdown, as it makes me anxious people not standing at a distance and I worry how I will gel into the situation when we are outside and getting back into normal'

There were also a large number of participants concerned about what the virus and subsequent government measures would

mean for wider society. They were worried about the country's economic and political future and how people who were more vulnerable than themselves were coping. Participants reported feeling worried about the future, feeling helpless, unable to switch off from the news cycle and struggling to manage negative emotions around their children and offer them comfort.

'Trying to be strong for my children and convince them that everything is going to be okay'

'How the 'new' normal is going to affect our lives moving forward. Work, sports clubs, socialising, seeing family etc.'

'How and when will it be safe to go back to normality, how long is it going to last, will it get worse?'

Positive aspects of lockdown. One of the open-ended questions did enable people to report some positive aspects of the lockdown. When asked if there was anything that had become easier or more enjoyable since lockdown, some participants reported that nothing had improved, with many more reporting some positive consequences. These included getting to spend more quality time with their children, enjoying a slower pace of life, a more relaxed routine and spending less time driving and commuting. With less rushing to get to and from school, work and extracurricular activities, a number of participants reported that they were sleeping better, taking more time to cook meals and eating together as a family.

'Life has become a lot more relaxed over the last 3 weeks, no manic mornings trying to get everybody out of the house, time with kids, doing stuff with kids I would normally say 'not now' to. Get to know kids more. More time outside, [doing] jobs in the house that need doing'

'Being together with children and family. There has been more family time as usually life is so busy and the children are at school or with their friends. Have enjoyed every minute of being together more as a family'

Some participants who had children with health issues and/or special educational needs reported that it was easier to manage within the home:

'It's been easier to support my son and help him gain weight, he always eats better at home than at school so he has managed to gain a bit of weight'

'Not having to get kids ready for school and also as my eldest has epilepsy he had constant seizures in school and at home he's not had one'

Discussion

This cross-sectional study describes some of the key short-term experiences of families living in the deprived and ethnically diverse city of Bradford during the Covid-19 pandemic lockdown (April-June 2020). The findings have highlighted inequalities in living circumstances with a large proportion of ethnic

minority families having endured the pandemic in poor and overcrowded housing conditions. Economic insecurities were frequently reported with more than one-third reporting financial insecurity, and one-in-ten reporting serious economic difficulties such as having to regularly skip meals and serious concerns about being evicted or having their home repossessed. In particular, many families who have lost income due to being self-employed and not able to work, being furloughed, or recently unemployed, now find themselves in perilous financial, food and employment insecurity. Whilst the furlough scheme and support to self-employed workers has been designed to provide support during this difficult time, our findings suggest that the loss of 20% of a low income wage may be enough to tip families into financial difficulty, and potentially further exacerbate health inequalities. These findings reflect other research that has highlighted ethnically diverse and deprived families as high risk of financial and food insecurities^{5,6}.

Another major concern uncovered in the survey was the mental health of mothers, with 18% reporting clinically significant depression symptoms and 16% clinically significant anxiety symptoms. Many participants also raised concerns about the mental health of their children. These findings reflect depression and anxiety prevalence rates reported in other lockdown surveys^{3,4}. Depression was associated with White British ethnicity and both depression and anxiety were associated with financial insecurity. Further exploration of this finding is planned to understand the underlying causes of increased poor mental health and the potential ethnic differences.

Policy makers and commissioners must intervene quickly and provide greater support to these families. Families need support to enable them to manage financially and stop them becoming homeless and living in food poverty. Increasing access to support for mental wellbeing is also critical at this time. Whilst specialist services should focus on treating those with moderate to severe depression and anxiety, commissioners and policy makers must also consider broader, population-based preventative measures for those with mild symptoms.

Whilst the physical health of families was overall good, participants who smoked or drank alcohol often reported smoking/drinking more during lockdown and a large number reported doing less, or no exercise. Poor housing and lack of access to outdoor space were also common in this population. The increase of negative health behaviours in addition to living in poor housing conditions with a lack of access to safe green space puts people at risk of developing, or exacerbating, non-communicable diseases and co-morbidities such as diabetes, hypertension and respiratory illnesses, conditions that in turn increase risk of worse outcomes of the Covid-19 virus.

More than one quarter of families had a person vulnerable to Covid-19 living in their household. Our open ended questions identified that health anxieties about catching the Covid-19 virus and becoming severely ill or dying was the most commonly reported worry and had a negative impact on behaviors such as exercise. There has been concern across the UK about

the dramatic drop in use of health services, and a lack of uptake of school places, especially for vulnerable children during lockdown. Given the high anxiety of being exposed to Covid-19, particularly in families living with a vulnerable person, methods to reassure and encourage vulnerable families to access critical services, return to work and school and engage in exercise needs to be considered extremely carefully and sensitively.

Strengths and limitations

These findings demonstrate a host of negative experiences during the Covid-19 lockdown for families living in the ethnically diverse and deprived city of Bradford. We used multiple methods to obtain a high response in a timely way, but acknowledge that the overall low response may have introduced selection bias. Comparing results with other studies of similar and differing populations will be important to gain a fuller picture of the impact of the pandemic and its management on social and health inequalities. The longitudinal nature of the BiB cohorts will allow us to look for change over time and we will continue to follow our families over a one year period from April 2020 to March 2021 so that we can look at trajectories of change overtime, adding more value to this research.

Conclusion

The effect of the pandemic and lockdown may be socially patterned, with the most vulnerable in society bearing the brunt. Vulnerable families could be pushed into poverty and worsening mental ill health. There is a need for policy makers and commissioners to consider how to better support vulnerable families to enable them to manage financially and avoid them becoming homeless and living in debt and food poverty. There is also a need to provide support for a significant proportion of people who are now suffering from depression and anxiety, enabling services for severe cases and preventative interventions for those with mild symptoms to stop these getting worse. There is also a need to develop methods to reassure and encourage vulnerable families to access health and education services with immediate effect to stop these health inequalities becoming even worse.

Data availability

Underlying data

Scientists are encouraged and able to use BiB data, which are available through a system of managed open access. The steps below describe how to apply for access to BiB data.

- Before you contact BiB, please make sure you have read our [Guidance for Collaborators](#). Our BiB executive review proposals on a monthly basis and we will

endeavor to respond to your request as soon as possible. You can find out about the different datasets which are available [here](#). If you are unsure if we have the data that you need please contact a member of the BiB team (borninbradford@bthft.nhs.uk).

- Once you have formulated your request please complete the 'Expression of Interest' form available [here](#) and send to the BiB Programme Director (rosie.mceachan@bthft.nhs.uk).
- If your request is approved we will ask you to sign a [collaboration agreement](#) and if your request involves biological samples we will ask you to complete a [material transfer agreement](#).

Extended data

Harvard Dataverse: Experiences of lockdown during the Covid-19 pandemic: descriptive findings from a survey of families in the Born in Bradford study. <https://doi.org/10.7910/DVN/BS28KA>¹⁵.

This project contains the following extended data:

- Supplementary Table 8.doc
- COVID_BiBAndBiBBSFamilyQuestionnaire_v1.pdf

Data are available under the terms of the [Creative Commons Zero "No rights reserved" data waiver](#) (CC0 1.0 Public domain dedication).

Acknowledgements

Born in Bradford is only possible because of the enthusiasm and commitment of the children and parents in BiB. We are grateful to all the participants, health professionals and researchers who have made Born in Bradford happen.

We acknowledge the input of the wider [Bradford Institute for Health Research Covid-19 Scientific Advisory Group](#)¹¹ in the preparation of this protocol which includes (in addition to the named authors: Maria Bryant, Abigail Dutton, Bo Hou, Tom Lawton, Dan Mason, Michael McCooe, Mark Mon-Williams, Gill Santorelli, Laura Sheard, Najma Sidiqqi, Kuldeep Sohal, Jane West).

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References

1. **Coronavirus (Covid-19) UK Government Response**. Accessed 15/06/2020. [Reference Source](#)
2. **Number of coronavirus (Covid-19) cases and risk in the UK:UK Government Guidance**. Office of National Statistics. 2020. Accessed 15/06/2020. [Reference Source](#)
3. **Coronavirus and depression in adults**. Great Britain: 2020. Accessed 24/08/2020. [Reference Source](#)
4. Fancourt D, Steptoe A, Bu F: **Trajectories of depression and anxiety during enforced isolation due to COVID-19: longitudinal analyses of 59,318 adults**

- in the UK with and without diagnosed mental illness. *medRxiv*. 2020. [Publisher Full Text](#)
5. Wright L, Steptoe A, Fancourt D: **Are we all in this together? Longitudinal assessment of cumulative adversities by socioeconomic position in the first 3 weeks of lockdown in the UK.** *J Epidemiol Community Health*. 2020; **74**(9): 683–688. [Publisher Full Text](#)
 6. Power M, Doherty B, Pybus K, *et al.*: **How Covid-19 has exposed inequalities in the UK food system: The case of UK food and poverty.** *Emerald Open Research*. 2020; **2**: 11. [Publisher Full Text](#)
 7. Bibby J, Everest G, Abbs I: **Will Covid-19 be a watershed moment for health inequalities?** The Health Foundation. 2020. Accessed 15/06/2020. [Reference Source](#)
 8. Bradbury Jones C, Isham L: **The pandemic paradox: The consequences of Covid-19 on domestic violence.** *J Clin Nurs*. 2020; **29**(13-14): 2047–2049. [Publisher Full Text](#)
 9. Crawley E, Loades M, Feder G, *et al.*: **Wider collateral damage to children in the UK because of the social distancing measures designed to reduce the impact of Covid-19 in adults.** *BMJ Paediatrics Open*. 2020; **4**(1): e000701. [Publisher Full Text](#)
 10. McEachan R, Dickerson J, Bridges S, *et al.*: **The Born in Bradford Covid-19 Research Study: Protocol for an adaptive mixed methods research study to gather actionable intelligence on the impact of Covid-19 on families living in Bradford.** *Wellcome Open (submitted)*. [Publisher Full Text](#)
 11. Bird PK, McEachan RRC, Mon-Williams M, *et al.*: **Growing up in Bradford: protocol for the age 7-11 follow up of the Born in Bradford birth cohort.** *BMC Public Health*. 2019; **19**(1): 939. [PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
 12. Shire K, Andrews E, Barber S, *et al.*: **Starting School: a large-scale start of school assessment within the Born in Bradford longitudinal cohort [version 1; peer review: 1 approved, 1 approved with reservations].** *Wellcome Open Research*. 2020; **1**: 5–47. [Publisher Full Text](#)
 13. Dickerson J, Bird PK, McEachan RRC, *et al.*: **Born in Bradford's Better Start: an experimental birth cohort study to evaluate the impact of early life interventions.** *BMC Public Health*. 2016; **16**(1): 711. [PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
 14. The Bradford Institute for Health Research Covid-19 Scientific Advisory Group. Accessed 219/2020. [Reference Source](#)
 15. Dickerson J: **Experiences of lockdown during the Covid-19 pandemic: descriptive findings from a survey of families in the Born in Bradford study.** Harvard Dataverse, V1. 2020. <http://www.doi.org/10.7910/DVN/BS28KA>
 16. Office for National Statistics; National Records of Scotland; Northern Ireland Statistics and Research Agency: **2011 Census aggregate data. UK Data Service (Edition: June 2016).** 2016. [Publisher Full Text](#)
 17. **The Wellcome Trust's Covid-19 Questionnaire.** Accessed 26/08/2020. [Reference Source](#)
 18. **Millenium Cohort Study.** Accessed 26/08/2020. [Reference Source](#)
 19. Blower SL, Gridley N, Dunn A, *et al.*: **Psychometric Properties of Parent Outcome Used in RCTs of Antenatal and Early Years Parent Programs: A Systematic Review.** *Clin Child Fam Psychol Rev*. 2019; **22**(3): 367–387. [PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
 20. European Social Survey: **Personal and Social well-being (ESS3 2006, ESS6 2012).** Accessed 26/08/2020. [Reference Source](#)
 21. DePedraza P, Munoz de Bustillo R, Tijdens KG: **Measuring job insecurity in the WageIndicator questionnaire.** Amsterdam: WageIndicator. 2005. Accessed 26/08/2020. [Reference Source](#)
 22. Blumberg SJ, Bialostosky K, Hamilton WL, *et al.*: **The effectiveness of a short form of the household food security scale.** *Am J Public Health*. 1999; **89**(8): 1231–34. [PubMed Abstract](#) | [Publisher Full Text](#) | [Free Full Text](#)
 23. Strawbridge WJ, Wallhagen MI: **Self-rated health and mortality over three decades: results from a time-dependent covariate analysis.** *Res Aging*. 1999; **21**: 402–16. [Publisher Full Text](#)
 24. Salkovskis PM, Rimes KA, Warwick HMC, *et al.*: **The Health Anxiety Inventory: development and validation of scales for the measurement of health anxiety and hypochondriasis.** *Psychol Med*. 2002; **32**(5): 843–853. [PubMed Abstract](#) | [Publisher Full Text](#)
 25. Kroenke K, Strine TW, Spitzer RL, *et al.*: **The PHQ-8 as a measure of current depression in the general population.** *J Affect Disord*. 2009; **114**(1-3): 163–173. [PubMed Abstract](#) | [Publisher Full Text](#)
 26. Löwe B, Decker O, Müller S, *et al.*: **Validation and Standardization of the Generalized Anxiety Disorder Screener (GAD-7) in the General Population.** *Medical Care*. 2008; **46**(3): 266–274. [PubMed Abstract](#) | [Publisher Full Text](#)
 27. **English indices of deprivation 2019 - GOV.UK.** [Reference Source](#)
 28. StataCorp: **Stata Statistical Software: Release 15.** Station College, TX : Statacorp LLC; 2017; **15**. [Reference Source](#)
 29. Braun V, Clarke V: **Using thematic analysis in psychology.** *Qualitative Research in Psychology*. 2006; **3**(2): 77–101. [Publisher Full Text](#)

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Sharon Goldfeld

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² Population Health, Murdoch Children's Research Institute, Melbourne, Australia

Thank you for the opportunity to review this paper which was a pleasure to read. The results from this survey demonstrate firstly that, as we have always known, the social determinants continue to be the source of inequity for families and their children regardless of the pandemic. Both BBGU and BiBBS have a long history of exploring these issues. The authors have presented wide ranging data from a survey in these 2 existing cohorts in Bradford, UK. These cohorts are known for their ethnic diversity and general disadvantage. The cohorts are more or less concurrent but with different child ages. The authors have surveyed these families using a phone/postal survey in April-June 2020 which overlapped with the first wave and lockdown in response to COVID-19 in the UK. While the descriptive data are interesting, the volume of tables and lack of comparison to previous "states" means that it is difficult to both get a sense of the overall picture (too many tables) and to really understand the impact of the lockdown as opposed to the previous conditions and outcomes for these families. A potential reframe might be to focus on (1) where there are data to note the impact of the lockdown and pandemic using data that had questions focussed on "compared to" e.g. smoking or where there are data that are specific to the pandemic e.g. children learning from home or potentially those being furloughed and change in financial status and then (2) note that there is a substantial burden of disadvantage for these families that will inevitably worsen during the 2 waves of the pandemic (international data are already showing this) with COVID-19 exposing the inequity gaps in our systems. Further details are outlined below.

Introduction:

While noting that the aim was to describe the various outcomes for these families, it may be more helpful to have a sense of what the authors might hypothesise here in terms of the differential impact of the lockdown.

Methods

The descriptive methods here are quite straightforward.

Result

It was difficult to get a clear view of the differential impact of the lock down itself on specific populations and /or the different cohorts. There are too many tables each of which are quite complex to read. I wonder if a number of them might go into a supplementary set of files but a key number related to the lockdown impact where those questions/measures exist could be highlighted in the paper itself. This might hook back into the actual research question being asked here i.e. is the question about the differential impact of lockdown/the pandemic on families.

Given there are previous data I can only assume these comparisons will be published at a later time and hence the use of questions that I am sure align with previous cohort data collection. The strongest data related to those whose employment/financial status had changed. For this paper this would make the most sense to have as the anchor for all the tables and then to have the other tables in the supplementary files noting they might form the basis of another paper with comparative data and perhaps taking into account some of the confounding that might be contributing to the differences across ethnic groups. The qual data also aligns with the impact of loss of employment so works well.

Of note the response rate of 28% was relatively low although it appears that the sample is relatively representative of the overall sample with some exceptions such as seemingly lower proportions of Pakistani families.

The graphs were definitely easier to read than the tables

Discussion/Conclusion:

I think the challenge of this paper is to anchor it more to a research question as it currently reads more like a report. The authors' conclusions regard the importance of noting the vulnerability of populations even before COVID-19 is well placed. Data to support how COVID-19 has worsened people's circumstances would strengthen this paper.

Is the work clearly and accurately presented and does it cite the current literature?

Yes

Is the study design appropriate and is the work technically sound?

Partly

Are sufficient details of methods and analysis provided to allow replication by others?

Yes

If applicable, is the statistical analysis and its interpretation appropriate?

Yes

Are all the source data underlying the results available to ensure full reproducibility?

Yes

Are the conclusions drawn adequately supported by the results?

Partly

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Child public health, health inequities, public policy, paediatrics.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard, however I have significant reservations, as outlined above.

Author Response 08 Feb 2021

Josie Dickerson, Bradford Teaching Hospitals NHS Foundation Trust, Bradford Royal Infirmary, Duckworth Lane, Bradford, UK

Thank you for your detailed review and helpful comments. We have submitted a revised version to re-frame the paper as suggested by this reviewer:

1. Introduction

- We have added clarity to the introduction regarding our hypothesis – that health inequalities are likely to have worsened during the pandemic and we intend to look at differential impacts based on ethnicity and current financial insecurity.
- We have clarified the intentions of the wider programme of research in the introduction:
- a) That this paper reports the participant characteristics and the immediate health, social and economic status (by ethnicity and financial insecurity) during the first survey of BiB parents undertaken during April – June 2020. One of our underlying aims of this paper was to make our Covid-19 survey findings widely available to researchers and policy makers as quickly as possible.
- b) That future plans are in place to use longitudinal data from before the pandemic, and from future surveys during the pandemic, to describe the trajectories, and identify the long-term consequences, of the pandemic on vulnerable populations.

2. Results

- The majority of the detailed tables are now supplementary tables, and we have used figures to more easily describe the data.
- As above, the results section is now hooked onto the hypothesis regarding differential impacts for ethnic minorities and those experiencing current financial insecurity. Other associations found are then described where relevant

3. Discussion / Conclusion

- We have added in references to recent papers that show similar findings to ours within England, further elaborated on the strengths / limitations section, and added in more about future research questions.

Competing Interests: No competing interests were disclosed.

Reviewer Report 09 November 2020

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Malavika Subramanyam

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This study describes the findings from a detailed survey of living conditions, psychological well-being, stresses, and lived experiences of a multi-ethnic socioeconomically disadvantaged sub-sample of the Born in Bradford cohorts during the Covid-19 lockdown. Unsurprisingly, the authors find that substantial proportions of the analytical sample lives in poor quality housing, has economic, housing, and food insecurities. Moreover, it was the socioeconomically disadvantaged sub-groups that reported greater proportions of depression and anxiety symptoms. The study underscores the burden of housing, economic, and psychological health issues in this population.

An international audience would benefit from a brief comparison of the socioeconomic profile of the final analytical sample with those of Bradford and other major urban areas in England. A note on the unique contribution of the current study, beyond providing data to policy-makers interested specifically in Bradford, would also be helpful.

The reader would also benefit from seeing a comparison of these lockdown prevalences of mental health outcomes with pre-pandemic prevalences in the same population. Similarly, it would be helpful to identify how the prevalence of the outcomes in this study compare with similar figures from the rest of England (or at least samples similar to the general English population).

One stated goal of the study was the "identify any other areas of concern for future research questions". It would have been helpful if the authors had expanded more on this point. The free-text responses to the open-ended questions appear to have provided rich data. Perhaps those responses lead to interesting questions for the future?

A few clarifications will further strengthen this excellent and detailed descriptive study. For instance, the abstract could clarify that a mix of telephonic, online, and paper-based surveys were used. And on a related note, a clarification could be added to the main text about any differences in the pattern of answers by the mode of survey data collection

Finally, the authors are requested to highlight a key finding which is specific and policy-relevant in the "conclusions" section of the abstract. For instance, perhaps they could offer a comparison with other cities/sub-groups or comment on the policies/programs in place which may need to be tweaked on the basis of these findings?

Is the work clearly and accurately presented and does it cite the current literature?

Yes

Is the study design appropriate and is the work technically sound?

Yes

Are sufficient details of methods and analysis provided to allow replication by others?

Yes

If applicable, is the statistical analysis and its interpretation appropriate?

Yes

Are all the source data underlying the results available to ensure full reproducibility?

Partly

Are the conclusions drawn adequately supported by the results?

Yes

Competing Interests: No competing interests were disclosed.

Reviewer Expertise: Social epidemiology.

I confirm that I have read this submission and believe that I have an appropriate level of expertise to confirm that it is of an acceptable scientific standard.

Author Response 08 Feb 2021

Josie Dickerson, Bradford Teaching Hospitals NHS Foundation Trust, Bradford Royal Infirmary, Duckworth Lane, Bradford, UK

Thank you for your review. We have noted the requests for clarity and trust that the revised version now provides that clarity, in particular:

- Method of data collection have been added to the abstract
- The abstract conclusion has been amended to highlight how we will use the longitudinal data to make more generalizable findings relevant to national policy.
- The discussion highlights how the sample compares to other findings from England
- The discussion highlights the unique contribution that this longitudinal study makes, and that this is the first of a planned series of follow-ups and analyses using longitudinal data to further explore changes in mental health and economic insecurity from pre-pandemic to during the pandemic.

We have also expanded on the identification of future research questions, particularly from the free text responses in the discussion section. Thank you for noting this omission.

We have not looked at differences in responses by completion mode (e.g. by phone/paper), but agree that this would be interesting. We plan to look at this, as well as potential differences in responses by time (e.g. immediate, compared to later lockdown) and will follow this up, perhaps as a separate methods paper.

Competing Interests: No competing interests were disclosed.