

Brief Report (University College London)

COVID-19 Vaccine Acceptance among Parents (UCL-Osaka Vax-PaC Study)

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For more information about the study: www.VaxPacStudy.com

2-minute animation summary: <https://mediacentral.ucl.ac.uk/Player/00j74e4B>

UCL-Osaka University Vax-PaC Study



Methods

Participants

Parents who took part the UCL-Penn Global COVID Study (Wong & Raine, 2020) between April and July 2020 were recontacted to gauge interest in the current project. A flyer and brief email with the link to a 10-minute questionnaire on Qualtrics was include in the invitation email. Based on the survey responses, forty parents ($M = 43.53$, $SD = 5.87$ years, range = 30 - 54; males = 17.5%) with children under the age of 18 years were recruited into the current study. Importantly, all parents completed a questionnaire screener for their COVID-19 vaccination status prior to being scheduling a 1-on-1 interview with a research assistant over Zoom. 90% of the parents would take the vaccine, while only 60% of them were likely to get their children vaccinated if the vaccine was offered. The majority of parents (75%) identified being White. Informed consent was obtained from all participants. This study received ethics approval on 15 November 2021 from the UCL Institute of Education (REC 1564).

Table 1. Vaccination status of parents and children

Groups	Vax status	n (male: female)
Unvaccinated parents + unvaccinated children	UU	1 (0:1)
Vaccinated parents + unvaccinated children	VU	15 (3:12)
Vaccinated parents + vaccinated children	VV	9 (0:9)
Vaccinated parents + children planning to be vaccinated	VV'	15 (4:11)

Materials

Survey. The following questionnaires were used to assess parents and children's mental health: The Strength and Difficulties Questionnaire (SDQ; Goodman, 1997), General Anxiety Disorder-7 (GAD-7; Spitzer et al., 2006;), Patient Health Questionnaire-9 (PHQ-9;

Spitzer et al., 1999;), University of California Los Angeles Loneliness Scale (UCLA LS; Russell, 1978), and Social Mistrust Scale (SMS; Wong et al., 2014). The survey questionnaire was administered online using Qualtrics and data collected prior to the 1-on-1 interviews.

Analytic Strategy

Data from this study were analysed in two parts. All quantitative survey data were analysed using SPSS, of which parent's answers to the question about vaccination status determined whether or not parents were invited for an interview. Qualitative responses from the 1-on-1 interviews were thematically analysed following the six steps from Braun and Clarke (2006) by three research assistants and supervisor. A code book with the common themes associated with the interview questions on how parents made covid vaccine decisions for themselves and their children, as well as the types of support they would like were created through an iterative process. For example, when a new code was added to the code book, the coder went back to review past transcripts and continued from there until saturation was reached.

Results

Table 2 outlines the total and subscale scores for the full sample of parents and their children. The family composition for our sample varies in terms of the number of children. Families had children under the age of 4-years-old ($n = 2$) and thus no data were available on the SDQ. Most other families had at least one child only ($n = 18$), two children ($n = 15$), three children ($n = 5$). No families had more than three children.

Table 2. *Descriptive statistics of parent's self-reported questionnaires on psychosocial functioning*

Questionnaires	Subscales	N	Min.	Max.	Mean	SD
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PHQ-9		40	0	14	3.08	3.29
GAQ-7		40	0	14	3.10	3.21
UCLA Loneliness		40	22	74	37.80	9.80
SMS		40	0	6	0.88	1.52
SDQ S18+ TDS	Total	40	0	18	7.60	4.51
	Emotional Symptoms	40	0	8	2.30	2.07
	Problems in Conduct	40	0	5	1.60	1.19
	Hyperactivity	40	0	6	2.03	1.83
	Peer Problems	40	0	78	1.68	1.57
	Prosocial Behaviour	40	6	10	8.95	1.26
SDQ P4-17 TDS (Child 1)	Total	38	0	28	7.71	6.87
	Emotional Symptoms	38	0	8	1.71	2.01
	Problems in Conduct	38	0	7	1.50	1.80
	Hyperactivity	38	0	10	2.92	2.85
	Peer Problems	38	0	8	1.58	1.91
	Prosocial Behaviour	38	2	10	7.97	2.20
SDQ P4-17 TDS (Child 2)	Total	19	1	20	6.89	5.63
	Emotional Symptoms	20	0	5	1.75	1.86
	Problems in Conduct	20	0	5	1.15	1.18
	Hyperactivity	20	0	5	2.45	1.93
	Peer Problems	19	0	6	1.63	1.80
	Prosocial Behaviour	20	4	10	8.70	1.67
SDQ P4-17 TDS (Child 3)	Total	5	0	5	3.60	2.19
	Emotional Symptoms	5	0	1	0.60	0.55
	Problems in Conduct	5	0	2	1.00	0.71
	Hyperactivity	5	0	3	1.40	1.52
	Peer Problems	5	0	2	0.60	0.89
	Prosocial Behaviour	5	6	10	9.20	1.79

Note. PHQ-9: Patient Health Questionnaire-9, GAD-7: Generalized Anxiety Disorder-7, SMS: Social Mistrust Scale, UCLA LS: University of California, Los Angeles Loneliness Scale, SDQ: Strength and Difficulties Questionnaire; TDS: Total Difficulties Score. SD: Standard Deviation.

Parent Self-Report

Patient Health Questionnaire-9 (PHQ-9). Regarding the frequency of their depressive symptoms over the past 2 weeks, most parents (>85%) answered “not at all” or “several days”. Most parents (72.5%) had minimal depression symptoms (0-4), 22.5% had mild symptoms (5-9), and 5% of them were considered to have moderate symptoms (10-14).

Compared to parents in Japan ($M = 4.50$, $SD = 4.70$), UK parents on average had less depression severity ($M = 3.08$, $SD = 3.29$, range = 0-21) and no UK participants fall within moderately severe (15-19) or severe range (20-24), which indicated that there might be more depression concerns among Japan parents.

Generalised Anxiety Disorder-7 (GAD-7). Similar to PHQ-9 answers, most parents (>87.5%) responded “not at all” or “several days” regarding the frequency of their anxiety symptoms. Seventy percent of them had minimal anxiety (0-4), 25% had mild symptoms (5-9), and 5% were considered moderate (10-14) –the same two participants who had moderate depression symptoms. On average UK parents had an average anxiety score of 3.10 with standard deviation of 3.21, which were lower than Japan parents ($M = 3.7$, $SD = 4.4$, range = 0-20).

Social Mistrust Scale (SMS). Most parents had someone to trust at home (95%) and at office (97.1%), believed they were trusted at home (100%) and at office (100%), and

believed in their answers (92.5%). In comparison, Japan parents were more mistrustful ($M = 6.30$, $SD = 3.1$, range = 0-13) than their UK peers ($M = 0.88$, $SD = 1.52$, range = 0-6).

Loneliness Scale. Parents' loneliness scores varied from 22 to 74 ($M = 37.80$, $SD = 9.80$), and 32.5% of them scored above 40, indicating a higher level of loneliness. UK and Japan parents (23-78) shared similar score ranges, while Japan parents had a higher average score ($M = 44.30$, $SD = 11.00$).

Parent – Child Relationships

Unsurprisingly, parent self-reported SDQ total scores were positively correlated with parent-reported child SDQ total scores across the children and parent-reported levels of mental health, specifically for feelings of loneliness ($R_{range} = .45-57$). Parent's level of depression is positively associated with Child 1's SDQ score, while parent's levels of anxiety and mistrust is associated with Child 2's SDQ score. Child 3's SDQ score is not associated with parent's SDQ score. Of course, the current analyses do not account for parent's age, socioeconomic status, and child's age.

Table 3. Correlations between parent-reported self and child mental health measures.

	N	1	2	3	4	5	6	7	8
<i>SDQ</i>									
1. Parent	40	-							
2. Child 1	38	.51**	-						
3. Child 2	19	.64**	.59**	-					
4. Child 3	5	.14	.61	.54	-				
<i>Parent-report</i>									
5. Depression	40	.46**	.34*	.27	.08	-			
6. Anxiety	40	.50**	.26	.50*	.54	.83**	-		
7. Mistrust	40	.45**	.13	.55*	.36	.11	.24	-	
8. Loneliness	40	.57**	.04	.07	.34	.24	.35*	.37*	-

Notes. $p < .01$ ** $p < .05$ *. SDQ = Strengths and Difficulties Questionnaire Total score

Qualitative interview themes

Parent interviews were largely split into two parts: 1) reasons behind vaccination decision for the parent and child and 2) what support they would like in making vaccination decisions. Table 4 maps out the common themes across each of these parts.

Vaccination decision challenges. Our results show that parents of all vaccination status groups felt that making vaccination decisions for their child differed to making vaccinations for themselves. Many parents spoke about having to conduct independent research on the vaccines (e.g., production and side effects) as there was a lack of information available on vaccines. Parents were influenced by authorities as being the source of the public messaging campaigns, preferring trusted medical doctors/scientists over politicians but wanting information to be more accessible and jargon-free as well. Apart from the unvaccinated group, which is too small to be representative, most parents particularly those in the VV' group were influenced by how their vaccination decisions may impact the community (n = 8/15) across the groups. Across the groups, it was clear that the majority of parents were vaccinated themselves and were more 'hesitant' to getting the vaccine for their children than they are 'resistant' (completely opposed to the vaccine). If given more vaccine-specific information and time to see what the side-effects are and whether the COVID situation may have changed, parents are likely to consider getting their children vaccinated when it becomes available to them.

Support. In terms of support that parents would like to help them in making vaccination decisions, parents of all groups spoke about getting information from healthcare professionals, schools, and existing social groups (e.g., parent groups). Negative support came mostly from social media/media outlets, the information is less information and not tailored to their individual situations, and parents spoke about wanting the opportunity to have a chat with general practitioners (GPs doctors) and nurses to better understand the risks/benefits of the vaccination. Parents also spoke about importance of having consistency in the public health messaging that aligns with their workplace and guidance. Additional quotes can be found from parents after Table 4.

UK – Japan Comparison. Whilst the themes across parents in the UK and Japan were similar, there were some interesting key qualitative **differences** listed below.

- *View of self in relation to the community.* Parents in Japan spoke about getting their children vaccinated so that children do not miss education, socialisation opportunities, and keeping the community safe (citizenship) much more than UK parents, although with a few exceptions where UK children were already vaccinated, the UK parents operated on this assumption (see quotes *Child already vaccinated*). Most UK parents are hesitant towards vaccinating their children because of the uncertainty and mixed messaging around the COVID vaccine and whether children actually *need* it.
- *Peer pressure.* Parents in Japan spoke about peer pressure, or even bullying and isolation, being received by children as a social push towards getting children vaccinated. This is not something that UK parents spoke about happening to children per se, but a few parents did feel pressurised in vaccinating their children when they received notifications from the NHS, citing that they would rather not be forced to get their children vaccinated and wished the reminders were supplemented with useful information clarifying the vaccination decision making process.
- *Vaccination status of the surroundings.* Parents in Japan spoke about how the vaccination status of the surroundings may impact their vaccination decisions for themselves and also for their children. Again, this was not observed in UK parent accounts. UK parents spoke about receiving conflicting information from experts on whether children needed the vaccine to begin with, whether it was better that children should 'get covid' and build immunity, and general fear that there could be longer-term side-effects from the vaccine for children.

Table 4. *Reasons for getting/refusing vaccination among Parents and Children compared across groups (n = frequency of quote across participants, q = number of quotes illustrating the theme)*

	VV (n=9)	VV' (n=15)	VU (n=15)	UU (n=1)
Vaccine decisions	Deciding for children (n=9, q=24)	Deciding for children (n=15, q=44)	Deciding for children (n=14, q=33)	Deciding for children (q=4)
	Independent research (n=5, q=13)	Independent research (n=10, q=21)	Independent research (n=9, q=17)	Independent research (q=1)

	Influenced by authorities (n=3, q=5)	Influenced by authorities (n=4, q=11)	Influenced by authorities (n=4, q=5)	Influenced by authorities (q=2)
	Influenced by community (n=3, q=5)	Influenced by community (n=8, q=10)	Influenced by community (n=2, q=3)	-
	Protecting others (n=6, q=9)	Protecting others (n=8, q=11)	Protecting others (n=6, q=9)	Protecting others (q=1)
	Weighing out risks (n=6, q=13)	Weighing out risks (n=9, q=19)	Weighing out risks (n=9, q=22)	Weighing out risks (q=6)
	Work or travel restrictions (n=2, q=2)	Work or travel restrictions (n=2, q=3)	Work or travel restrictions (n=7, q=10)	-
Personal vaccine concerns	Child-specific concerns (n=5, q=7)	Child-specific concerns (n=5, q=11)	Child-specific concerns (n=5, q=12)	-
	Conflicting messaging about necessity of vaccine (n=1, q=1)	Conflicting messaging about necessity of vaccine (n=1, q=1)	Conflicting messaging about necessity of vaccine (n=2, q=6)	Conflicting messaging about necessity of vaccine (q=1)
	Known side-effects (n=2, q=3)	Known side-effects (n=2, q=2)	Known side-effects (n=4, q=5)	Known side-effects (q=2)
	Mandatory nature of the vaccine (n=1, q=1)	Mandatory nature of the vaccine (n=1, q=1)	Mandatory nature of the vaccine (n=3, q=4)	Mandatory nature of the vaccine (q=1)
	-	Media representations (n=2, q=2)	Media representations (n=2, q=4)	Media representations (q=1)
	Pre-existing health concerns (n=1, q=1)	Pre-existing health concerns (n=3, q=4)	Pre-existing health concerns (n=3, q=4)	Pre-existing health concerns (q=2)
	Preference for type of vaccine (n=3, q=6)	Preference for type of vaccine (n=6, q=7)	Preference for type of vaccine (n=3, q=5)	-
	Speed of vaccine development (n=4, q=5)	Speed of vaccine development (n=2, q=2)	Speed of vaccine development (n=6, q=6)	-

	Unknown side-effects (n=6, q=9)	Unknown side-effects (n=4, q=6)	Unknown side-effects (n=5, q=11)	Unknown side-effects (q=1)
Pro-vaccination	Protect others (n=4, q=7)	Protect others (n=6, q=11)	Protect others (n=6, q=6)	-
	Thoughts on pre-covid vaccines (n=8, q=14)	Thoughts on pre-covid vaccines (n=12, q=17)	Thoughts on pre-covid vaccines (n=9, q=12)	Thoughts on pre-covid vaccines (q=1)
	Trust in science (n=8, q=17)	Trust in science (n=12, q=21)	Trust in science (n=7, q=11)	-
Receiving the vaccine	Challenging (n=1, q=1)	Challenging (n=1, q=3)	Challenging (n=2, q=3)	-
	Side-effects (n=2, q=2)	Side-effects (n=4, q=4)	Side-effects (n=4, q=4)	-
	Supportive (n=7, q=11)	Supportive (n=5, q=10)	Supportive (n=3, q=3)	-
Positive support	-	Child-specific support (n=1, q=1)	-	-
	From health authorities (n=5, q=14)	From health authorities (n=11, q=15)	From health authorities (n=5, q=6)	From health authorities (q=1)
	From media (n=6, q=8)	From media (n=6, q=8)	From media (n=4, q=7)	-
	From schools (n=5, q=9)	From schools (n=6, q=7)	From schools (n=3, q=4)	-
	From social groups (n=4, q=6)	From social groups (n=9, q=11)	From social groups (n=5, q=7)	-
	From the workplace (n=3, q=5)	From the workplace (n=4, q=3)	From the workplace (n=3, q=3)	-
	Personal resources (n=5, q=8)	Personal resources (n=8, q=16)	Personal resources (n=6, q=9)	Personal resources (q=1)
Negative support	From media (n=2, q=2)	From media (n=5, q=6)	From media (n=4, q=11)	-
	From schools (n=2, q=2)	From schools (n=6, q=8)	From schools (n=5, q=6)	From schools (q=1)
	From social groups (n=1, q=1)	From social groups (n=2, q=2)	From social groups (n=1, q=1)	-
	From the workplace (n=2, q=2)	From the workplace (n=3, q=3)	From the workplace (n=4, q=5)	-

	Lack of information (n=5, q=5)	Lack of information (n=9, q=18)	Lack of information (n=8, q=24)	-
	Lack of support from GPs (n=2, q=4)	Lack of support from GPs (n=6, q=6)	Lack of support from GPs (n=3, q=3)	-
	-	Personal resources (n=4, q=6)	Personal resources (n=1, q=1)	Personal resources (q=1)

Vaccine Decisions (n=40)

Deciding for Children (n=39)

anti-vaccination for children

pro-vaccination for children

Child already vaccinated

- ⇒ ID1145: We're vaccinating children maybe to protect older people.
- ⇒ ID810: I think it was a sort of being able to be in school and the impact that has if they had to be out of school and the impact that would have on their mental health.
- ⇒ ID926: And so, he watched me, you know, unable to function, unable to breathe, unable to stand: So he didn't want to get Covid. All, all power to him, he said I don't want to bring it home to you. I don't want to get it and infect you again.

Child eligible but unvaccinated

- ⇒ ID1399: No, I'm choosing not to at the moment and because she is just coming into puberty.And I have been reading papers that there is research there that says that there is an impact on hormones for women. No, I'm choosing not for my daughter to have that vaccine.
- ⇒ ID1221:it was a doctor from the joint vaccines committee, and I listened to him talking about it.....And that's how he explained the risk, and I just, and he also said in that age group it may be more beneficial for them to get the virus to develop the immunity from it, it seemed to have longer lasting benefits.
- ⇒ ID292: I have said that it is entirely up to her. She can weigh up, she's 17, she's capable of weighing up an option. She's capable of talking to me about it, it is entirely up to her.

Will vaccinate child once eligible

- ⇒ ID870: She thinks she, if she's got, gets vaccinated then she wouldn't have to be tested so much and things, so yeah, she's very, very keen.

- ⇒ ID1027: But then my instinct again, sort of, mothering instincts, sort of kicked in. Kind of like a protection, you know it's the right thing to do, it's you know better, for her than not, and all this kind of thing.
- ⇒ ID533: Again, going back to the data that's available, and if it appears to be safe enough and have a greater benefit of being vaccinated, weighing out the long-term benefit and possible side effects, probably quite likely to have them vaccinated, yes.
- ⇒ ID202: I think that, for, I try and teach my daughter, that we should care about others as well as ourselves, in fact, beyond ourselves because that's, that's what human nature is about..... Well, um obviously, when I said I was excited about it doesn't mean there aren't doubts around it..... I'm already a 30, I'll be 30 this year. I've got maybe 40 years left to live. She's got an entire life to go. I would hate to put something into her body that hasn't been tested, at least as much as we possibly can.
- ⇒ ID4006: As long as everything looks safe, the younger, the better, and we would do it as soon, as possible.

Will not/Hesitant against vaccinating child once eligible

- ⇒ ID2098: But we're being told that Covid is not a risk to children, so I don't understand why there needs to be a vaccination program for them.
- ⇒ ID221: I won't...I don't see the reason to give her the vaccine at this moment. She's already had Covid.
- ⇒ ID4004: I don't think it's as clear cut the benefit of them having the jab, either for them or the benefit for the wider population..... It is risk versus benefits, but there is also a slightly irrational thing of. Well he's already had to stay off school for four months at the beginning, as have the other school aged children and therefore he doesn't need to do anymore, and I recognize that that is irrational but it's staying there.
- ⇒ ID4000: I can't really say, but these are all the questions that they will ask, and when you have to weigh the pros and cons, do you want to risk putting your child in harm's way with something injected into their body, and heaven forbid anything went wrong.
- ⇒ ID2228: Because there's not much research around it. And I wouldn't like my child to be a guinea pig.

Independent Research (n=25)

- ⇒ ID221: I did a bit of reading... Just making myself familiar with the findings and the research behind it and everything, helped made a decision that we're going to do it.
- ⇒ ID810: I'm not scared of the science behind it, and I can read some of the science behind it so...To that extent, you know I'm, I feel quite pro. I mean, obviously, I did a lot of reading.
- ⇒ ID559: From the Internet, or from the news, or from the TV, like, we could get informed, you could find the information you need, and also the statistics that will show you how safe or not it is or everything.

Weighing out Risks (n=25)

- ⇒ ID814: So I was determined on doing it, I mean, is it possible, like, I know that there are side effects, is it possible that all vaccinations kill people? It doesn't make sense.
- ⇒ ID1027: I don't agree with all the kind of conspiracy theories going around and, yes, you might have a reaction to it but it's surely better than the alternative.
- ⇒ ID2228: But just done it, pros and cons, and I think that there were more pros than cons of having the vaccine, rather than not having.

Protecting Others (n=21)

- ⇒ ID1721: Yeah, it did, it just worried me as well if you know wouldn't forgive myself if I caught coronavirus and passed it on to my children, then I'd feel obviously the guilt of.
- ⇒ ID971: Personally, I don't think of it as an individual decision. I think of it is a public health question.
- ⇒ ID23: I knew would help protect everyone as a whole.

Influenced by community (n=13)

- ⇒ ID45: And I was sort of hoping that Okay, let other people get vaccinated, first I want to see how they're coping with it, etc, etc, and then, once I feel ready and comfortable, then I will go for the vaccination.
- ⇒ ID202: But, for me it caused internal conflict because lots of people around me didn't want to do it and haven't done it, particularly my daughter's father, which was really difficult.
- ⇒ ID818: There are quite a few medically qualified people at my children's school, they tend to hold court on these things. So they have more of an influence over others, I think.

Influenced by authorities (n=12)

- ⇒ ID1399: I was very much influenced by government broadcasts, you know watching people like Professor Van Tam coming on and he definitely influenced me to have my vaccine, the way he presented data and spoke about the vaccine and why we would do it, I was more inclined to believe him than anyone else, so influence definitely.
- ⇒ ID1426: Maybe this is me being naive, but you know if the general medical Council or whatever says it's okay, I'm gonna believe them, like I do put my faith in those institutions, and you see the experts on TV and you know trust the science.

Work or Travel Requirement (n=11)

- ⇒ ID4007: It was kind of like, “Well, in the future if you want to travel internationally having a vaccine passport for our son is going to make things a lot easier.” I mean certainly to go back to Japan or to visit China, because my wife’s families from China, so if that happens, we’ll definitely need vaccine proof.
- ⇒ ID559: I was like working with young children, they would, it was really easy to catch it, I mean, in my work environment, so it wasn't something that I had second thoughts for, like, straight when it was available, like, straight away I did it.

Parent’s Suggestions on the Support they would like (n=39)

For Public Health Messaging (n=31)

- ⇒ ID2073: In terms of the public, they might benefit and probably from maybe diagrams or sometimes visual representations of things.
- ⇒ ID1399: I think information would have been better delivered in a human, more human way.
- ⇒ ID1721: Just some guidance and support from like even like a nurse practitioner or anybody, just an, or even a little pack with information.
- ⇒ ID450: So, a good FAQ site, plus the opportunity to maybe submit questions if your question isn't there, type thing.
- ⇒ ID1473: I think for more information on it, not just being a personal risk balance, but a community-wide risk balance is why this is important.
- ⇒ ID23: And then, if you know if you've kind of know how that process works, then it's less mysterious. Making it accessible to people is a key.
- ⇒ ID664: I think the most important thing that I could probably say to you is that any information that comes from the government and, or any other source, always needs to be honest and clear, because whenever there's conflicting information, where people are confused, then people will turn.

For Child Vaccination Support (n=30)

- ⇒ ID814: I would share this point about the importance of involving children and creating materials for them. Like some of the activities that they do in school would be dedicated for this part. I think that's really important, because I felt that children are a bit marginalized from this process
- ⇒ ID1434: I think they want to be really, really certain. As certain as the scientists can be about what the potential side effects could be.
- ⇒ ID879: I think data. Data. That's the main thing that will change my mind around, and I wouldn't have had any kind of guilt or any kind of remorse if I would allow my child to have the vaccination.....I think information is power.
- ⇒ ID23: I think the main thing would be what possible side effects there might be and how likely they are to get those side effects and, and also what impact they think children having the vaccine.

⇒ ID202: I want some peer reviewed studies to go actually, "this is safe."

For Supporting the Vaccine Hesitant (n=27)

- ⇒ ID450: I think there is a need for people to feel that the information that they're getting is trustworthy, but I think people do have high levels of trust in, like, SAGE and hopefully the NHS, so I think receiving, maybe, balanced information from the NHS and then information about where to get more information, like a list of links, or something, could be really useful.
- ⇒ ID814: Calling would be like really useful or liaising with community organizations. About like having sessions, I mean, even if they were like online sessions, so that some people like nurses, doctors, can speak to these people in their languages, if possible.
- ⇒ ID45: I want to be able to go to a clinician and I want to be able to ask them that look my daughter has these conditions, if we decide to go for the vaccination does she have any risks.
- ⇒ ID588: To have that kind of bit more of an expert opinion would have been good.
- ⇒ ID664: And if you want to convince somebody to do something, then you need to have accurate clear, concise information, and if you don't have that, then you're creating confusion and people won't do what you want them to do.

For School Involvement in Vaccine Navigation (n=9)

- ⇒ ID1221: I mean, I think the school and the school nurses have got a part to play, I think, I mean I don't think anybody has spoken to the children about having the vaccine, I don't think anyone has.
- ⇒ ID870: Clear messages, kind of, and, yeah, infographics. Pictures, videoclips, that kind of thing, so that that can be disseminated and shared by, by schools.
- ⇒ ID814: So children should not be kept away from that information. I mean, they should be informed and helped to make their decisions about these issues.

Positive Support (n=38)

From Health Authorities (n=22)

- ⇒ ID1399: And [Professor Van Tam] talking real English out of all the people, he said things that I understood. He had put it in such a way, and the metaphors he used just made sense, a lot more sense than the scientists.
- ⇒ ID814: Sometimes you get like text messages from the GP and from the NHS about getting vaccinated, and I also used to check like their websites and read, like, some information, informative leaflets about this.
- ⇒ ID292: The NHS website, where I look for most my information for anything that is medical related. Because it's the only place, I think I can generally trust is going to be correct.

Personal Resources (n=20)

- ⇒ ID1721: I'm still very you know I don't mix with a lot of people, still, and I constantly gel my hands. And I mean I wear the mask, so I do wear, it depends on where I'm going on, like on and off.
- ⇒ ID2228: I mean, actually we spoke with the...because one of my husband's friends is the virologist, is very famous biologist from Italy and we spoke with him, I think my husband spoke with him and he kind of said that okay there's nothing to worry about and so on.
- ⇒ ID533: I work closely, I am a scientist, so I work closely with people in the epidemiological field, as well, so I had a quiet, I would say, quite insightful knowledge compared to a lot of my friends.

From Social Groups (n=18)

- ⇒ ID1145: So I spoke to people around me, we've got some medical people in our families and then my partner's family his mother was an ex-GP.
- ⇒ ID217: Lots of more things, lots more things went online, so there were lots more things that were available, were accessible, like exercise classes or social groups, that we just couldn't really access before that you suddenly could.
- ⇒ ID4000: I have some, I have some friends. I have a friend, very good friend of mine who, again, is, is has education, has an educated background, who helped me go through, to somatically understand, and we talked about it quite a lot.

From Media (n=16)

- ⇒ ID1399: That there is just mixed data, I do like following Tim Spectre and the ZOE app, I think there's some good data, you know weekly updates from him I like how he's presenting the information.
- ⇒ ID450: BBC had sort of a very good information out there, there were good information sources, but you had to go to find them, they didn't find you. I mean there was all the, sort of, general publicity and my main news sources, I suppose the BBC and the guardian.
- ⇒ ID4007: I was following Twitter quite a lot, um, a lot of doctors on Twitter, who were sort of people like Adam Kaczorowski, Christine Pagel, I think Christine Pagel. So there were a lot of, you know, epidemiologists who became quite, kind of, celebrities or whatever, but during the pandemic, um, I think I was reading those guys.

From Schools (n=14)

- ⇒ ID1399: Private and state schools and again, you know my daughter was very privileged to be able to be in a Public Private school, which meant that she got online teaching throughout the pandemic and in lockdowns, so for all of us it was normal life but online.
- ⇒ ID814: Sometimes the school, my children's school will send like information about like a vaccine and encouraging parents to get vaccinated to protect them. I know they did a lot of work during the pandemic about talking to children about fake news media outlets and how to avoid them, and why are they fake and what are the examples of fake news.

From the workplace and university (n=10)

- ⇒ ID1473: I was really lucky that I've got a really nice support network locally, but also at university. My supervisors were very, very supportive and said, you know you can stop doing the PhD, you can continue doing it, you know just do what works for you.
- ⇒ ID45: I have been well, so I think I couldn't thank enough that I have been well, and I do have a steady job.

Challenges During the Pandemic

Personal Health Concerns (n=27)

- ⇒ ID1721: My medication has gone up, in milligrams, um I've suffered a lot as well and find, struggled with hiring tutoring because my son didn't find it very easy, and so that was a difficulty as well, and then obviously pressures on my own mental health with anxiety heightening over Covid as well and uncertainties with things like you know vaccinations, changes in lifestyles.
- ⇒ ID1221: Like the kind of stresses that were there, it just kind of like just really intensified and aggravated them and grief and bereavement and all of that as well just made the whole thing just much, much worse.
- ⇒ ID4008: I'm not sure, really, I kind of felt like there was less stimulus in my life, probably. Like when I did speak to people, I had less things to talk about and all of the conversations that I had were all exactly the same, "How's COVID been for you? How you getting on with school learning, home learning?"
- ⇒ ID879: It was very scary, because no one really, especially in the beginning, no one really knew what was happening, and no one really knew how infectious this new virus was so it was.

Social Challenges (n=27)

- ⇒ ID450: There's a sort of slight residual stress it's just from that process of trying to have to juggling so many things, and also just that loss of social contact, so not being able to go out and see friends and kind of missing those kinds of connections with people.

- ⇒ ID1473: My grandmother died of Covid fairly early on, she was in a home anyway, she's 92.
- ⇒ ID879: Who were observing the same things and they were obeying the same laws, so I think this whole thing was Downing Street really made me mad. I nearly gave birth all by myself, I mean, surely you can leave cheese and wine out of your agenda for a while.
- ⇒ ID4000: But I'm a very isolated case because I'm a single parent, I have no family, I have one family member here in the UK, all of my family's in the Caribbean.

Work Challenges (n=26)

- ⇒ ID1145: My partner works freelance and he's in advertising, so his work just stopped so that was not so good financially.
- ⇒ ID2098: Women were imprisoned through lack of childcare, so many women lost their income, their jobs.
- ⇒ ID559: Challenging because I had to go to work, my husband had to work from home, so it was a bit tricky for us to actually manage that, the home-schooling, and the working at the same time.
- ⇒ ID292: It's been quite challenging because I lost my job, just before COVID kicked off, but then it made it 10 times harder for me to find another job, um, because the industry that I worked in completely shut down.
- ⇒ ID1687: Teaching remotely was exhausting.

Childcare Concerns (n=24)

- ⇒ ID1145: They are beginning to think about the world and understanding what's happening at the moment and having the impact of Covid over the last two years has been a massive impact, and some of them are really struggling with How to deal with that and their futures, and I wonder what impact it is going to have on their futures, having experienced something so significant that's happened to them at such a young age.
- ⇒ ID4008: And it was also tough for myself and my wife, with the children being off school for so long. Home learning was difficult, the children were frustrated. It kind of felt like, during the lockdown, we were almost in a pressure cooker.
- ⇒ ID4005: We tried to give because, because of the children we, we needed to be calm and to show them that we would have the control of the situation because they will have a lot of questions and we didn't know what to answer. Because we don't even know, we have the same questions as the kids. So it was a very anxious period, very stressful period.
- ⇒ ID4000: And that was very difficult on her. We were on a tiny flat at that time, we were in a tiny one-bedroom flat and psychologically it impacted on the both of us. Didn't feel safe to go anywhere, it was like a bird in a cage, it was horrible. So we did suffer, like everybody else.

Uncertainty (n=12)

- ⇒ ID1721: And it's like you could see no way-out kind of thing that was worrying as well, it just felt like there was, we couldn't see a way out of what was happening. And with infection rates going up and then coming out of a lockdown and going back into a lockdown again and that was very worrying as well, because it felt like is this our lifestyle now, are we always going to have to live like this, when is this going to end, or it was just it felt like there was no end to it as well, so that was quite hard on a daily basis to go through.
- ⇒ ID2228: And, as we know, in 21st century is very difficult to live with unknown. We are having so many unknown things, that yeah, I think that for a human being in 21st century unknowing is an extremely anxiety provoking thing. Because it's out of control yeah you cannot control it. So you feel like you have a very little influence on something.

Attributions to Vaccine Hesitant People

Lack of scientific literacy (n=21)

- ⇒ ID814: So I think they need more to be educated about like these fake news sources more than getting educated about the vaccine itself, because once you solve that problem, then yes, people will start accessing the real information and then they will start to make informed decisions.
- ⇒ ID533: And also maybe interpretation of scientific data is not something that's always, I feel, conveyed in a correct way to the public.

Mistrust in Institutions (n=20)

- ⇒ ID1221: This is in direct relation to how little trust people have in the government right now, and I think those two things are kind of, yeah, they are definitely related.
- ⇒ ID4008: I mean there's, there's some paranoia or about the vaccine, right? Maybe it hasn't been tested properly, maybe it's been rolled out too quickly. It hasn't gone through the same kind of rigorous, yeah, kind of, procedures that other vaccines have.
- ⇒ ID879: When I was just started hearing about all the celebrations and all the parties, you know drinks and everything at Downing Street because everybody was helping out and they were soldiering through, believing that they were a part of a larger group of people. Who were observing the same things and they were obeying the same laws, so I think this whole thing was Downing Street really made me mad.
- ⇒ ID533: I think they probably have a strong belief on how it may affect their health, or they may perceive that maybe other bodies like government might be trying to do something that they don't particularly agree.

Anecdotes of vaccine risks (n=17)

- ⇒ ID450: We talked about various things, the personal stories about people who handle the measles vaccine and then their children got really sick and to balance. And I was like, is there anything that could change your mind? She was like “No, because every time I start to change my mind, I get more stuff through on social media.
- ⇒ ID1434: A little bit like when it was the MMR crisis and people didn't vaccinate their children against measles because it sounded like measles lead to autism, and we now know that was discredited but at the time that was very scary for the parents, so a similar kind of thing really.

Media Representations (n=15)

- ⇒ ID2010: those sorts of campaigns, and how algorithms effect response, and, you know, all those sorts of things, I think affect people's understanding; whether subconsciously or consciously.
- ⇒ ID221: Conspiracy theories and social media and Facebook and TikTok and all these, and I think we are getting wrong information. And from wrong people.

Social Barriers (n=12)

- ⇒ ID1145: I'm not really sure, I don't really fully understand that, and also, we have families there that are You know, maybe don't speak English as their first language and live in multiple occupancy homes and they maybe got a lot of other things going on.
- ⇒ ID814: I think the focus on language is only based on the languages that were mainly spoken by some ethnic minorities groups, but there are some groups, whose languages were not mentioned, like some African languages were not included in some of these leaflets.
- ⇒ ID664: I think that might be more difficult for somebody that English is a second language living in this country, you know, I think, to access information, to understand, as I said earlier, reading on the Internet or in the news, what's fake and what's real, you know, maybe they, they might need more support.

Denial (n=11)

- ⇒ ID217: There might be some people that don't believe in how bad COVID has been, or don't or can't appreciate how bad it's been, or want to, I don't know, maybe that's less so. Maybe they want to ignore or forget, I'm not sure.
- ⇒ ID664: I think, initially, a lot of people didn't get the vaccine because they thought COVID doesn't exist, that the government has created this scare mongering, I guess, to control us.

Political Ideologies (n=3)

- ⇒ ID4006: To be vaccinated or not, it is, it became political and politicized right? You found that you had. Many of the responses to whether we should or shouldn't and whether there was conspiracy, conspiracies that work. It really became, it came down to leadership, in many ways, country leadership. How poorly or how well leaders in the world had communicated.

Experience with Covid (n=18)

Minimal Covid Reaction (n=12)

- ⇒ ID292: From my experience for COVID, it was mild. It was a lot milder than the cold I had six weeks prior to it and...Because I thought I had COVID six weeks prior to having it, but I was testing negative all the way through, and when I had COVID it was just tiredness. And a burning feeling that was really weird, really burning feeling right in my nose. That was all I had, and I kind of go, if that's the type of baseline that you're working with in healthy people, who aren't in a high-risk group, you don't really need to be vaccinated.

Covid Impact on Mental Health (n=8)

- ⇒ ID1236: You know, that having caught Covid can affect, you're going to have, can affect, you know, all systems of your body even weeks or months or even. Potentially years after the first, like, serious, before you know, you actually felt, felt really sick of it.

Pro-Vaccination (n=36)

Thoughts on pre-covid vaccines (n=30)

- ⇒ ID1721: I felt that was just a necessary thing to do to protect your children against those diseases as well.
- ⇒ ID2010: And I think, you know, the other vaccines we... we do know a bit more about them, and they have been around a lot longer, and we do know the long-term implications of them. I think there is something about the longer-term nature of not knowing.
- ⇒ ID292: I'm in support of vaccinations if they are fully tested, and we know the long-term side effects and if the benefit of it outweighs the risk.
- ⇒ ID1687: I think vaccinations are one of the great medical advancements of the past couple of years and, and it's, it's absurd not to kind of participate, participate in having them unless there's a specific medical reason.

Trust in Science (n=27)

- ⇒ ID926: I'm definitely a proponent of vaccines, I was a nurse for 20 years of my career, and so I believe in science, I believe in Western medicine.
- ⇒ ID818: If certain publications and people who I respect and trust were saying on balance it's better to have this than to not have it, then it felt like it was a very easy decision to make.
- ⇒ ID4004: I believe that the vaccine was safe, I believed that it was effective in reducing severe disease.

Protect Others (n=16)

- ⇒ ID1473: I was aware of, like the impact on other people and I've always felt that vaccination is a social responsibility.
- ⇒ ID879: My civic duty to do so and protect people around me and myself, and everyone.
- ⇒ ID221: You know you're not only protecting yourself, you're protecting people around you, so that's how we thought about.

Anti-vaccination (n=33)

Thoughts on anti-vax people (n=21)

- ⇒ ID2073: And it almost is like a personality trait rather than anything else, so those people are very difficult to convince. Then there are people who are.
- ⇒ ID217: I'm sure there's loads of reasons, and I don't think it's, I try not to be judgmental towards people that don't have it because I recognize it's an individual choice.
- ⇒ ID1145: I think they're a bit stupid, but I guess they have their own reasons.
- ⇒ ID1221: But I understand why people don't trust the government, have lost faith in systems.
- ⇒ ID1473: I think it's probably very different for different people, I mean I think a reliable source of information is the big issue that I have seen.
- ⇒ ID926: I think that that that the anti vax side is really like stuck on these are the risks of the vaccine and I don't want to take that risk.

Conspiracy Theories (n=16)

- ⇒ ID1721: Of he said about there being maybe fetus in the vaccine and all sorts of things and that the vaccine, it has been developed to kind of control us, and do you know, kind of extreme opinions and that I've heard and some of them, I find it difficult to believe you know being told that it's something to control us through the government.
- ⇒ ID814: I think like from what I've heard from some of the people I know is that they think it's all. A capitalist, a capitalist trick. That it's just there are some countries that are

profiting and making more money, some pharmaceutical companies wanting to get more money.

- ⇒ ID664: I think, initially, a lot of people didn't get the vaccine because they thought COVID doesn't exist, that the government has created this scare mongering, I guess, to control us.

Anecdotes of Vaccine Risks (n=7)

- ⇒ ID1221: The only person that I know didn't have the vaccine at all was my sister, and she works with British Airways. (laughs) they do, they are so, they have a real anti-vax element at British Airways, which you might want to investigate at some point. I think they have this thing that five pilots died after the vaccine, it's a well-known kind of narrative of British Airways, and if you speak to anybody from there, they will tell you the same story that it's like five pilots had the vaccine and they died.
- ⇒ ID1027: And I've read things about why some people aren't vaccinating their children, because of stories around some of the side effects, all of which, as far as I understand, have been disproved over time so.

Thoughts on Pre-Covid Vaccines (n=7)

- ⇒ ID4000: I am against the flu vaccine because every single time I've taken it in my youth I got more sick than ever before.
- ⇒ ID292: yeah, I don't have a flu vaccination yearly. Again, I'm not a high risk, so I don't see the point of it.

Peer Influence (n=4)

- ⇒ ID1236: And I find it quite amusing that the information about the vaccine is there, right? I mean, it's easy to find, you could just do a Google search and you can look for that, but somehow people need some kind of personal reassurance even not, not, and this is funny because it isn't, I mean, these are strangers, this isn't even people that the person that, you know, so it isn't even personal reassurance from, from, from, from, from friends, but personal reassurance that other people in the same position as they, so in this case, you know other barons, for example, of young children. Are comfortable with it, and that gives them the reassurance that they can also be comfortable with it, and it's really, and it's irrational because the information is there, but I think that maybe that's what people need, people, some people need to hear that other people are doing it.

Negative Support (n=31)

Lack of Information (n=22)

- ⇒ ID1473: I always think that as a public health institution they don't always get the message across.
- ⇒ ID879: It was lacked of data in a way, you know what I mean, it was about instinctual instinctive and gut feeling choices, it wasn't about something that we could base on science.
- ⇒ ID2228: I think probably they need more information about it, and I think probably more research needs to be done, because a lot of people are worrying that nowadays, they are saying oh there's no risk related to the vaccine, but they are worried that maybe in X amount of time and they will find out that actually you know the vaccine is causing X, Y, Z.

From Schools (n=14)

- ⇒ ID1721: I think it would have helped if she had more support from the teachers as well, she did have some but not as much support as I think was necessary for them, I think they had a lot of pressure put on them. And it quite an overload of work as well.
- ⇒ ID450: The other thing that I think would have been really important was that there was no public health messaging to schools.
- ⇒ ID4008: I think it would have been better if schools had been more prepared For lockdown and home learning, but it was a completely new situation and it happened very quickly.

From Media (n=11)

- ⇒ ID52: I'd read, you know, read stuff about in the media, but I, the information that was given through the media wasn't as clear as how she was able to explain this.
- ⇒ ID450: Combating of misinformation is probably the most important thing and, I agree, one of the most difficult, really.
- ⇒ ID2098: I think it's too much it's all from the media and that's not reliable it's not a good it's just causing more anxiety because it's very contradictory and, as we know it can be scaremongering.

From the Workplace and University (n=9)

- ⇒ ID221: Work has expanded so much and it's unmanageable. So, and I would expect some more acknowledgement and relief from workload and from the employers.
- ⇒ ID533: So for me the hardest, one of the hardest thing was that, you know, it felt like flu and after two weeks I should be able to go back to work and do my normal things and I really couldn't.

Lack of Support from GPs (n=9)

- ⇒ ID1721: I know it's like difficult to obviously with the Covid with getting an appointment with you GP.
- ⇒ ID926: The GPs, basically, and I get why, but they basically wash their hands of it. like if it was anything Covid related they're like yep cool you know call 111, call whatever you know yeah it was basically 111 at the time. And they just didn't getting get involved at all.
- ⇒ ID1687: But there has been surprisingly little engagement from public health services with parents directly.

Personal Resources (n=6)

- ⇒ ID1399: And I wish learned how to use all of the tools. So that was a shock to get going with zoom and MS Teams and everything else.
- ⇒ ID879: During the lockdowns you know you were not just a flight away, you couldn't, especially when there was a travel ban, you couldn't just leave the country, so I think this is what I missed the most, that you know my dad never got to see me pregnant.

From Social Groups (n=4)

- ⇒ ID2098: And so it was a very isolating time, I think, for myself definitely wondered how other people were coping, probably thinking you should be doing better the next minute thinking you need to relax more go with the flow more. It was a nightmare, and you are constantly being felt judged by other people because everybody had such different opinions on how much to em follow the rules, how serious it was, so you were constantly doubting yourself and everybody has different opinions that it was even more isolating.

Personal Vaccine Concerns (n=30)

Unknown Side-effects (n=16)

- ⇒ ID926:at the time it was definitely I wouldn't say I was torn because I knew that I would get it, but there was definitely a bit of trepidation about you know, was it going to trigger a relapse? was it going to worsen the long covid symptoms? You know, I didn't know really how my body was going to respond.....
- ⇒ ID45: And what if you're walking into an unknown, you know what are going to be the repercussions 5 years from today 10 years from today 15, 20 years from today. Those decisions they have been quite daunting.
- ⇒ ID664: This is a new vaccination; how do I know in 20 years' time that we're not going to read in the news that a consequence of getting vaccinated is that people can't have children or people having disabled children.

Child-specific Concerns (n=15)

- ⇒ ID2228: But right now I refuse to get the booster because I don't know, I feel like...I'm pregnant and, I don't know, it's not only the responsibility for myself, but as well for a baby and as much as you read some stuff that there's no risk and so on, I don't feel kind of confident taking any type of vaccines during the pregnancy and I refused the flu vaccine when I was pregnant with my first son, so yeah, that concerns me a little bit.
- ⇒ ID818: I tend to be more careful with my decisions regarding them. And also because of the developmental differences, children are impacted differently, both by the virus and presumably by vaccines as well. I think I definitely give it more thought and worry more about it.

Preference for Type of Vaccine (n=12)

- ⇒ ID1399: I became quite nationalistic, that's you know we're going to have the AstraZeneca, we're going to be British about this and we're going to do this. We're fighting a real war here. Not a phony war.
- ⇒ ID926: but because there were some concerns with you know, blood clotting with the AstraZeneca vaccine that felt like too much of a risk for me and then anecdotally in the long Covid groups, the people that were having worse reactions to the vaccine whether people getting the AstraZeneca so. For me, I. That was sort of my hard "no".
- ⇒ ID45: AstraZeneca was the one I was a bit scared about because there is a family history of heart disease in my family and high blood pressure as well, so I think the family history made me slightly more jittery and more anxious about getting AstraZeneca and it was about the type of vaccine that I will receive, so I will I wanted to, I remember I went to the vaccination centre and saying to myself that if it's not Pfizer then I'll turn back I won't have the vaccine.

Speed of Development (n=12)

- ⇒ ID1399: I didn't think that they would get a vaccine out so quickly. um so I was surprised how fast it was, a little sceptical in terms of the speed at which it was delivered, given that normally a vaccine goes through many iterations and testing.
- ⇒ ID2228: We are not 100% sure what are the long-term effects, because let's be honest, this vaccine has been around for such a short period of time.

Known Side-effects (n=9)

- ⇒ ID292: For me, as I said, for me the worry was blood clots. Because I saw people around my age group in the news, dropping dead of blood clots.

- ⇒ ID4000: I literally, the day before found out about the side effects of AstraZeneca and was paranoid about the blood clots.

Pre-existing health concerns (n=8)

- ⇒ ID45: Since my childhood, I am a chronic patient of migraines, so headaches, and I was slightly worried that what if I get any and after the side effect, I get something like, more headaches etcetera because they're really bad.
- ⇒ ID2228: I would like to know if the vaccine had any type of impact on possibility of getting pregnant. Even though, yes it didn't prevent me from getting pregnant. But yeah. Maybe this would be quite reassuring, I think, because I know some of my friends, they were quite concerned and some of them, they didn't get the second job as well because they were worried that they wouldn't be able to get pregnant.
- ⇒ ID292: And because of medication that I take, I have a heightened risk of blood clots anyway, so I kind of went - those side effects are enough for me to say no to it.

Mandatory Nature of Vaccines (n=6)

- ⇒ ID1399: And why am I being forced to have vaccine, why are we not doing something behaviourally to change, you know, why are people not wearing masks on the tube. I don't get it.
- ⇒ ID292: Everybody should be given the opportunity. But it's not something that should be like in, enforced, like becomes as the MMR is.

Conflicting Messaging about Necessity of Vaccine (n=5)

- ⇒ ID1399: JVC came out and said children don't need it, I'm still hanging on to that, I would like to know why they said that, then why they're now vaccinating children.
- ⇒ ID2098: But everything that we've been told so far in the pandemic is saying that children have very little risk, but I'm being asked to give them a vaccination that has not yet been FDA approved.

Media Representations (n=5)

- ⇒ ID533: Maybe something on the social media, which implied that it might not be safe. Or the probability of getting side effects is higher for different kinds of vaccines than others.

Receiving the Vaccine (n=22)

Supportive (n=15)

- ⇒ ID1399: Yeah, that that was all fine because I just got a text I signed up to the invitations and then I made an arrangement to come at weekends to have the vaccine, very simple very easy process. But I could not find a vaccine centre without a very long delay for the booster in Brighton, so I just resorted to come into London again.
- ⇒ ID1473: The system for getting the vaccines around here was brilliant, yeah it was very easy for us, we've got cars we can drive up to there and go and you know, yeah for us it was fine.
- ⇒ ID814: Like since I got like a few pre-existing conditions, like the practice I go to, the people where I got my vaccination explained it very well. Sorry, explained to me the side effects, what's going to happen, why it's important to me, so I think everything was clear about getting vaccinated.

Side-effects (n=10)

- ⇒ ID1399: And I thought right well I've had the first vaccine and two days later, I then got a period, and I hadn't had one for a year. So something was connected to that vaccine in my mind I don't think it just came just because of that, and so second time I thought well and see what happens, same again another cycle. So, even though it was a gap of six months, and I had no period in that time, second vaccine AstraZeneca again brought on another cycle. And I thought. I thought I was menopausal so, um, why I'm telling you that is that I do think there are some impacts for women.
- ⇒ ID1473: Oh, I did have a side effect from the Covid vaccine, so I got Bell's Palsy for a month or so, the whole side of my face sort of fell off.
- ⇒ ID221: Side effects, just a sore arm, and feeling a bit tired and things, so not major things just one day or two days uncomfortable.
- ⇒ ID4000: I reacted very badly to the AstraZeneca. I started to develop heart problems like an arrhythmia. And then the Moderna also impacted me. I start to develop arthritis all over in my joints and everything, it was really bad so.

Challenging (n=4)

- ⇒ ID1027: Because, in fact, when I went for my booster, the first time they said that it was too soon after me having COVID but like the advice when you actually completed online to do it, that wasn't very clear, that wasn't made clear things like that. So there's definitely some kind of gaps in the system that don't help and things to get the right information.
- ⇒ ID4000: And the same thing for the second shot. I asked for the Pfizer at the second shot, and they told me no that's all we have, AstraZeneca. So yes, I was not very happy about it.

Positive Experience during the Pandemic (n=21)

- ⇒ ID1399: During pandemic, extremely privileged and I've been very grateful for the pandemic, because it has actually allowed me to get to know my mum a lot better.
- ⇒ ID1145: I think we all started to eat a little bit more healthfully, drink a little bit less maybe go for more exercise.
- ⇒ ID450: I think we've been lucky in that the kids are fairly young. So they were basically very happy to be at home, all the time. We have a garden, so we spent a lot of time in the garden. So we were all outdoors a lot, we got a reasonable amount of exercise.
- ⇒ ID879: Especially during the first lockdown and because we were frontline workers, we have that sense of pride that you know we are there for people in need, and we are there to support each other.
- ⇒ ID202: Definitely women, women have taken center stage in this pandemic, and thank God, finally, men are realizing it's hard.

References

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- Wong, K. K.-Y., & Raine, A. (2020). COVID-19: Global social trust and mental health study. <https://doi.org/10.17605/OSF.IO/FE8Q7>
- Wong, K. K.-Y., & Miura, A. (2021). COVID19 vaccine acceptance for parents and children (Vax-PaC Study). <https://doi.org/10.17605/OSF.IO/4VCFQ>

2-minute animation summary of study findings



Infographics summarising study results

COVID VACCINE DECISIONS:

HOW DO WE SUPPORT PARENTS?

Parents with young children (< 18 years) represent a unique group of decision-makers with specific needs. Parent's role in the lives of children and families is key to the success of vaccination programs.



UCL-Osaka University
Vax-PaC Study



EASE OFF THE PRESSURE



Parents want more conversation and less pressure about vaccination, as constant "pings" from the NHS App with little to no additional information about the vaccine does not help with their decision-making.

INFORMATION PACKS

Vaccination campaign teams could use old-school methods of information packs or pamphlets posted to homes, as parents described this method to be more trustworthy, informative, and "official".



CHILD-FRIENDLY INFORMATION

For child vaccination, policymakers and scientists could provide more child-friendly resources to encourage whole families to make decisions together.

Graphics by Jess Zhou



LOCAL SUPPORT

Parents also suggested that more contact with their local GPs, nurse practitioners and healthcare providers would have helped with their vaccine decision-making. Advice and guidance from people whom parents know, trust and respect are key sources of support.

✓ Vaccine success depends on everyone being on board.

✓ Parents with young children are especially important, as their decisions have an impact on their children and often their wider family too.

✓ Understanding these individuals' vaccine decision-making is crucial to informing public health policy and strategy.

COMMUNITY Q&A SESSIONS

If face-to-face contact is impossible, local health providers could arrange online community sessions or forums for parents to join and share their concerns. Even just a 10–15-minute talk would have helped some parents to feel seen and supported by their community.



Graphics by Jess Zhou

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HERE'S WHAT OUR PARENTS SAID:

I would share this point about the importance of involving children and creating materials for them. Like some of the activities that they do in school would be dedicated for this part...

Lots of people were misinformed, and they did not, I mean if you look at the statistics, they did not receive any support...

It often usually helps if it's someone who looks like them and talks like them, who talks to them, so that they can relate more easily....

...I think that's really important, because I felt that children are a bit marginalised from this process."

...having sessions, I mean, even if they were online sessions, so that some people like nurses, doctors, can speak to these people in their languages, if possible, I think that would be really helpful.

...and you know, in a non-patronising non-arrogant way "why is it that you don't want to take the vaccine?", and actually try to understand.



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Graphics by Jess Zhou

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PARENT QUOTES

I'll be 30 this year. I've got maybe 40 years left to live. She's got an entire life to go. I would hate to put something into her body that hasn't been tested, at least as much as we possibly can.

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PARENT QUOTES

I don't agree with [all] the kind of conspiracy theories going around and, yes, you might have a reaction to it [the vaccine] but it's surely better than the alternative?

”



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PARENT QUOTES

I did my research as best I could. I found it difficult, I think many people I know did, in the sense that there were so many unknowns.

”



VaX-PaC Study
COVID-19

“

PARENT QUOTES

Just some guidance and support from like even like a nurse practitioner or anybody... or even a little pack with information in as well to like, you know, so it's basically you feel like it's set in stone.

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VaX-PaC Study
COVID-19

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PARENT QUOTES

I think we do need to get that message from the joint vaccine, JVICI folk very, very clearly. Do the children need it or do they not? And why is it government policy or why are we insisting on it, I mean I get texts now every two days, vaccinate, vaccinate, but I don't see why and I'm not buying into it.

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PARENT QUOTES

I would share this point about the importance of involving children and creating materials for them. Like some of the activities that they do in school would be dedicated for this part. I think that's really important, because I felt that children are a bit marginalised from this process.

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