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ORIGINAL ARTICLE

Parents' COVID-19 vaccine intentions for children under 5 years: Brief reflections from a qualitative study

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Aim: Australian authorities made COVID-19 vaccines available for children aged under 5 years old with serious comorbidities in August 2022. There is presently no universal programme for young children, but crucial to any rollout's success is whether parents are motivated and able to vaccinate. By examining parents' vaccine intentions, this study aims to inform current and future COVID-19 vaccine roll-outs for children aged under 5 years.

Methods: As part of the mixed methods project 'Coronavax: Preparing Community and Government' we interviewed 18 Western Australian parents of young children about their intentions in late 2021.

Results: Two thirds intended to vaccinate if and when they could, with one third intending to delay for reasons including risk and safety perceptions, fears about side effects and influence from their social networks. However, even those choosing to delay were waiting rather than refusing.

Conclusions: To improve uptake, targeted messaging should emphasise that COVID-19 can be a serious disease in young children, with such messaging drawing on the reputability and esteem of scientific and technical authorities. Such messaging should be oriented towards parents of children with serious comorbidities at the present time. It will be important to emphasise that government vaccine recommendations are based on supporting families to protect their children and keep them healthy.

Key words: child health; COVID-19; vaccination.

What is already known on this topic

- 1 Australian parents of children under 5 years are generally well-connected to immunisation systems, as they are in the process of obtaining scheduled vaccines for their children.
- 2 Uptake of the free childhood vaccines on the National Immunisation Programme (excluding the annual influenza vaccine) has been at record highs in Australia in recent years.
- 3 A crucial component of an Australian COVID-10 vaccine rollout's success lies in the thoughts and feelings of the parents of young children and whether they are motivated to vaccinate their offspring.

What this paper adds

- 1 Parents' plans for their children generally, but not always, aligned with their own COVID-19 vaccination plans.
- 2 Parents largely intended to either accept or delay (rather than outright refuse) vaccination for their young children.
- 3 Australian governments must ensure that immunisation providers are equipped with the knowledge to answer parents' questions about the COVID-19 vaccine for young children.

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Vaccines for SARS-COV-2 (Moderna Spikevax; 25 µg dose) were recommended in August 2022 for Australian children aged under 5 years with serious comorbidities. Vaccines were made available from September 2022, with a three-course primary dose of Pfizer also provisionally approved by the Therapeutic Goods Administration from the end of that month.^{1,2} A universal programme is not yet recommended. The Australian Technical Advisory Group on Immunisation recommends these vaccines for children with 'severe immunocompromise, complex or multiple health conditions, or disability with significant or complex health needs'.¹ In contrast, some countries, including the USA and Canada, have already started whole of age-group universal programmes using the paediatric formulations of either Moderna Spikevax or Pfizer Comirnaty.²⁻⁴

All children aged over 12 years in Australia have been able to access COVID-19 vaccines since September 2021. Australia's roll-out for older children (5–11 years) commenced in January 2022 but has lagged behind adult uptake. The spread of disease in the community since these children became eligible may have meant that parents did not commence or finish their children's vaccinations. For example, if children had recently been infected, parents may have been unsure about when or even whether to vaccinate afterwards. Parents' awareness that severe disease is infrequent in this age group, their own experiences of side effects following their COVID-19 vaccinations, concerns about vaccine safety, and a lack of mandates for children are other potential explanations for lagging uptake. Some of these issues were fleshed out in a national community forum conducted in March 2022.⁵

Parents of children under 5 years are generally well-connected to immunisation systems, as they are in the process of obtaining scheduled vaccines for their children. Uptake of the free childhood vaccines on the National Immunisation Programme (excluding the annual influenza vaccine) has been at record highs in Australia in recent years, due to a range of successful government interventions including mandates, such as No Jab, No Pay and No Jab, No Play requirements.⁶ However, there is no indication of COVID-19 vaccines being mandated for children, and parents' engagement with immunisation services would be unlikely to be sufficient to ensure a streamlined COVID-19 vaccination programme. This is demonstrated with uptake of the seasonal influenza vaccine: though it has been on the NIP since 2020 for all children aged 6 months to less than 5 years, it remains voluntary, and uptake is not on par with other NIP vaccines.⁷ As COVID-19 vaccines for children have only recently become available (to varying degrees in different contexts), little is known about parents' decision-making regarding them, and the qualitative research that exists tends to focus on older children.⁶ This study provides much needed insights into parents' COVID-19 vaccine intentions for their children aged under 5 years old.

Methods

A crucial component of an Australian rollout's success lies in the thoughts and feelings of the parents of young children and whether they are motivated to vaccinate their offspring. When Australian authorities introduced the pandemic (H1N1) 2009 influenza vaccine for children under 5 years, parents demonstrated significant uncertainty, particularly about vaccine safety, despite also worrying about the severity of the disease.⁴ Accordingly, between 27 May and 30 November 2021, and ahead of Therapeutic Goods Administration approval of a reduced dose paediatric formulation of Moderna vaccine specific for this cohort, we interviewed 18 Western Australian parents with at least one child aged below 5 years to ascertain their intentions to vaccinate them against COVID-19, once they could, and to elucidate the reasons for their positions.

We sought to recruit 20 such parents as part of the larger mixed methods study 'Coronavax: Preparing Community and Government'. Our qualitative methods, including recruitment, sampling, analytical tools and processes, and ethical approvals, have been previously published.⁸ For the present paediatric study (with data saturation reached at 18 interviews, undertaken by the second

author), we classified parents' intentions to vaccinate their young children using our COVID-19 vaccine intentions model, also available open-access.⁹ We noted whether the parents had refused or delayed COVID-19 vaccines for themselves. We then inductively coded the reasons parents were either planning to vaccinate their young children when they could (acceptors or cautious acceptors – see below), or to wait beyond this period (wait-awhiles).

Results

Our 18 participants' basic demographic details (including the pseudonyms we assigned them, as per common practice in qualitative research) and their COVID-19 vaccination decisions for themselves and their young children feature in Table 1. Parents' plans for their children generally, but not always, aligned with their own praxis. In brief, two thirds of the parents intended to vaccinate their children, with just under half of our total sample ($n = 8$) classified as unquestioning 'acceptors' for their children. Four were 'cautious acceptors', whereas we classified six as 'wait awhile's'. This category covered those who intended to delay receipt of COVID-19 vaccines for their young children once they became eligible, and included those who might be understood as vaccine hesitant.¹⁰ We did not interview any 'refusers'.

The overall group of participants who were planning to vaccinate (whether they were unquestioning or cautious acceptors) tended to identify as routine followers of scientific and government recommendations regarding vaccines. For example, Mindy described trusting these authorities, '*going with the flow*', and following vaccine recommendations for other diseases such as influenza. Tasha and Elle were reassured by vaccine trials conducted in older cohorts and overseas populations.

Jackson and Constanze invoked the risk of death from the disease as a motivating factor to vaccinate, whereas Daniel did not regard the disease as serious for young children but nevertheless intended to vaccinate his children if and when he could. Parents also sought to vaccinate their young children to maintain household functioning and their capacity to work outside the home, on the basis that young children '*spread bugs far more quickly than adults ... all the slobber and sharing drink bottles and washing their hands and being gross*' (Tina).

Parents who were cautious acceptors expressed concerns about risks to immature immune systems and preferences that children be vaccinated later generally, reasons which are also frequently invoked by parents who are hesitant about routine childhood vaccines.^{11,12} Mindy displayed her cautious acceptance by saying, '*I probably won't have my children be the first children vaccinated*', but went on to say that she did not think she would have '*any issues*' and was seeking to protect her child's health, as her daughter suffered from asthma. Cautious acceptors indicated that they would pay attention to studies and recommendations from overseas as well as Australia, but still intended to vaccinate if and when the local recommendation came through.

The six parents whom we classified as 'wait awhile's' did not fit with a blanket label of vaccine hesitancy, and indeed most were eager to emphasise that they vaccinate routinely for other diseases. Instead, and in keeping with our label, these parents spoke of '*wait[ing] a little bit*' (Katrina) or '*wait[ing] as long as I can*' (Melody) to vaccinate their young children against COVID-19. Their reasons included worries about side-effects, the influence

Table 1 Participants' characteristics

Pseudonym	Age (years)	Parent's highest education	Parent's job	Child has comorbidity?	Parent has comorbidity?	# Children (ages)†	Refused/delayed COVID-19 vaccine for self?	Vaccination intent for 0–5 years old
Daniel	44	TAFE/apprenticeship or equivalent	Draftsman	N	N	2 (2 months and 4 years)	N	Acceptor
Nonito	50	Undergraduate degree	Engineer	N	Y	2 (2 and 6 years)	N	Cautious acceptor
Enzo	47	Postgraduate degree	School Principal	N	N	1 (18 months)	N	Cautious acceptor
Jackson	40	Postgraduate degree	Teacher	N	N	3 (2, 6 and 10 years)	N	Acceptor
Dylan	30	Postgraduate degree	Teacher	N	N	1 (5 months)	N	Cautious acceptor
Constanze	37	Postgraduate degree	Teacher	Y	N	3 (2, 4 and 6 years)	N	Acceptor
Mindy	40	Undergraduate degree	Real Estate Licensee	Y	Y	2 (3 and 5 years)	N	Cautious acceptor
Tia	49	Postgraduate degree	Administration Manager	N	N	1 (1.5 years)	N	Acceptor
Tasha	32	Postgraduate degree	Teacher	N	N	1 (1 year)	N	Acceptor
Elle	34	Undergraduate degree	Youth Mental Health and Psychology Student	N	N	2 (6 months and 1.5 years)	N	Acceptor
Ellie	33	Undergraduate degree	HR Manager	N	N	2 (1 and 5 years)	N	Wait awhile
Katrina	37	Postgraduate degree	Public Servant	N	N	2 (1 and 4 years)	N	Wait awhile
Tina	34	Postgraduate degree	Registered Nurse	N	N	1 (3 months)	Y	Acceptor
Rachel	45	Undergraduate degree	Speech Pathologist	N	N	1 (5 years)	Y	Wait awhile
Melody	45	TAFE/apprenticeship or equivalent	Home Duties	N	N	3 (6, 27 and 30 years)	N	Wait awhile
Athena	36	Postgraduate degree	Lecturer	N	N	1 (1 year)	N	Acceptor
Carmen	29	Postgraduate degree	Nurse/Midwife	N	N	1 (1 year)	Y	Wait awhile
Tara	34	Undergraduate degree	Communications Adviser	N	N	1 (1.5 years)	N	Wait awhile

† At the time of survey collection. Those outside the age range for their children were within the age range when responding to surveys.

of COVID-19 vaccine hesitant people in their social networks, the fact that the vaccines were new with no long-term safety data (including regarding fertility), and perceptions that their healthy children could weather a COVID-19 infection or receive immunity through breastfeeding. Ellie described her parental anxiety conflicting with logic: *'the logical side for me knowing that if it goes through the testing that it's safe, but the mum side of me is like, oh, maybe we'll give it just a little bit longer just to make sure'*.

Katrina invoked the programme change that occurred with AstraZeneca,⁹ asking *'how do you know that's not gonna happen with kids?'* However, Katrina and the other 'wait awhile' parents generally presented the future vaccination of their young children as a viable option. Katrina suggested that in lieu of vaccinating promptly, she would be *'going in and seeing the GP and chatting about it'*. She also indicated that a high community caseload would make her more likely to *'make a decision sooner rather than later'*. Indeed, it is noteworthy that parents' plans to delay vaccinating their young children occurred in a context where there was little to no community spread of COVID-19 in Western Australia. It was only following the data collection, when Western Australia's State borders reopened after being intermittently closed for 2 years, that case numbers increased dramatically and children were at serious risk of catching the virus.

Government and health professionals seeking to design and contribute to a positive rollout of COVID-19 vaccines to Australian children under 5 years can start by reflecting on the immense strengths of the country's vaccination system in making paediatric vaccinations routine and normal. This continually reinforces social capital for vaccination, as reflected in our participants' responses. For COVID-19 vaccinations, most parents' underpinning orientation towards vaccination was reinforced by their trust in the recommendations of governments, with keen awareness that these draw from scientific studies and the advice of technical experts. Although one parent pointed to the adult programme change as a reason to delay paediatric vaccination, many others invoked their unquestioning intention to follow recommendations that would emerge for young children.

Discussion

Attitudinal studies for adult populations globally and within Australia have identified a now-familiar set of reasons why people are concerned about or seek to delay COVID-19 vaccines, including the need for additional information, lack of trust in authorities, concerns about side effects, fertility, and the novelty of the vaccines, and misinformation.^{13–16} The parents in this study who were 'waiting awhile' invoked some of these reasons, yet did not rule out accepting the vaccines for their children in the future. Their specific concerns demonstrate the need for targeted approaches to parents based on their levels of vaccine confidence or hesitancy.¹⁷

To enhance uptake of COVID-19 vaccines in a general young childhood population, messaging for all parents should emphasise that COVID-19 can, albeit infrequently, be a serious disease. Such messaging could be particularly important for those who are delaying or refusing because they believe that their children are unlikely to develop severe infection. Messaging should also emphasise the importance of protection for children with comorbidities, given that the risk of severe illness was a motivator for parents we interviewed; such messaging is

crucial for the present rollout. We also recommend drawing on the reputability and esteem of scientific and technical authorities within and outside Australia, since this was a powerful driver for our participants' trust. Messaging should further emphasise that government vaccine recommendations are based on supporting families to protect their children and keep them healthy.

Further, Australian governments must ensure that immunisation providers are equipped with the knowledge to answer parents' questions about the COVID-19 vaccine for young children. Parents had not often had conversations about vaccinating their young children with their peers or with medical professionals when we interviewed them, meaning that their decisions were often very tentative. Encouraging further discussion about children's vaccination is therefore crucial, and government messaging could orient wait-awhile or hesitant parents towards conversations with their family doctors. Speaking to these highly trusted health professionals could balance out some concerns received through social networks and address worries about the vaccines' long-term safety profile.^{17–19}

Conclusion

Reflections from our small qualitative study of parents in Western Australia during late 2021 need to be contextualised, with no community transmission in the state at the time it was conducted, and any future rollout of vaccines for young children commencing in very different conditions in terms of disease burden in the community. However, our findings that parents largely intended to either accept or delay (rather than outright refuse) vaccination for their young children remain pertinent, particularly given a dearth of other data on the perspectives of parents of this cohort. They point to how messaging drawing on the reputability and esteem of scientific and technical authorities might alleviate parents' concerns and encourage them to vaccinate their children.

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