Parental Perception of Pediatric COVID-19 Vaccination

Mara Meyer Epstein, Kimberly A. Fisher, Ngoc Nguyen, Kathleen M. Mazor

The Meyers Health Care Institute,

Department of Medicine

University of Massachusetts Chan Medical School

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Children during COVID-19

- Over **12.8 million** US children aged 0-17 have tested positive for COVID-19 as of March 24, 2022
- Despite common perception that children are at low risk for serious outcomes from COVID-19, over **118,000** children aged 0-17 have been hospitalized for COVID-19, and over **1,370** have died
- During the Omicron surge, hospitalizations in children aged 0-17 in the US were higher than at any point in the pandemic (**1.25 per 100,000** on January 16, 2022)
- Children who have had COVID-19 may develop the rare but serious Multisystem Inflammatory Syndrome in Children (MIS-C), and may have an increased risk of developing diabetes

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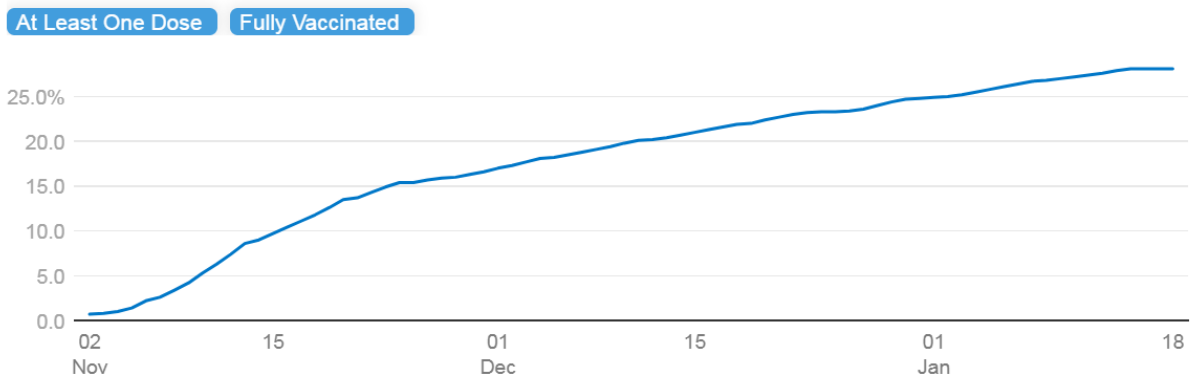
Timeline for pediatric COVID vaccines

- **December 2020**: Pfizer vaccine approved (EUA) for ages 16+
- **May 2021**: Pfizer vaccine approved for children aged 12-15
- **Late October 2021**: Pfizer vaccine approved for children aged 5-11
- No vaccines yet approved for children <5

Figure 1

Cumulative Share of Children Ages 5-11 Who Have Received At Least One Dose of a COVID-19 Vaccine



NOTE: Data are as of January 18, 2022.
SOURCE: KFF analysis of data from the CDC COVID Data Tracker and American Community Survey. • PNG

KFF

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https://www.kff.org/coronavirus-covid-19/issue-brief/update-on-covid-19-vaccination-of-5-11-year-olds-in-the-u-s/

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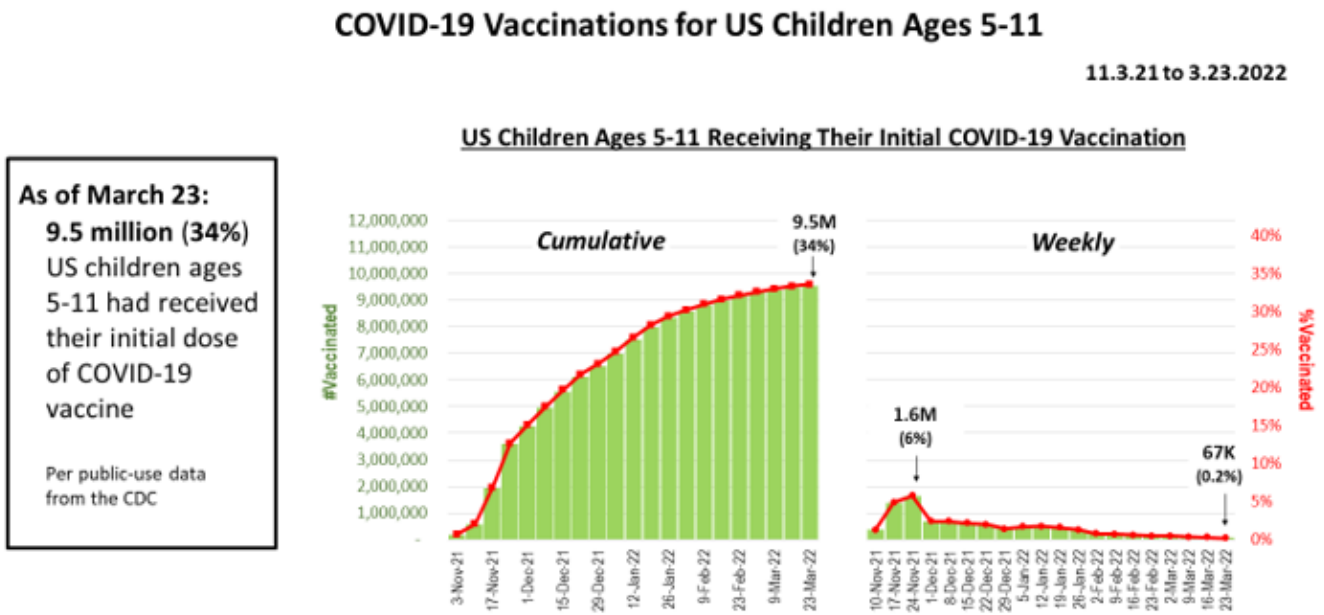
Pediatric vaccination for COVID-19

- As of March 23, 2022, just **34%** of US children aged 5-11 received ≥1 vaccine, with just **27%** considered fully vaccinated, and vaccination rates have slowed
- Vaccination rates vary widely by state (15-65%) in this age group



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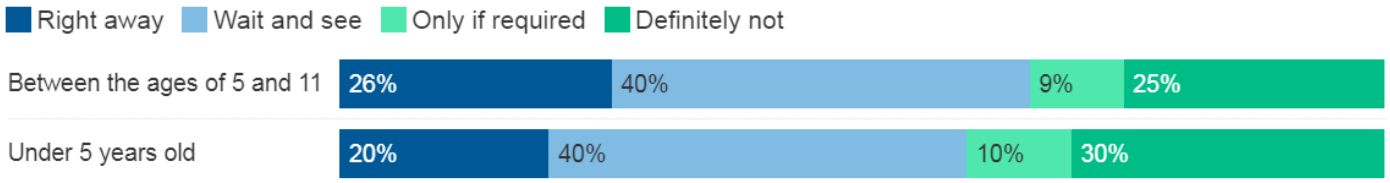
Parental Vaccine Hesitancy

- Prior to the COVID pandemic, nearly 20% of parents reported being vaccine hesitant (Santibanez 2020)
- About 20% of parents of children aged 12-17 will definitely not vaccinate their child against COVID-19 (April & September 2021 data, KFF)
- Common concerns include safety, side effects, and long-term effects of the vaccine

Figure 6

Four In Ten Parents Of Children Under 12 Say They Want To "Wait And See" Before Getting Their Child Vaccinated For COVID-19

Thinking about your child ... once there is a COVID-19 vaccine authorized and available for your child's age group, do you think you will get them vaccinated...?



NOTE: Among parents or guardians of children ages 5-11. See topline for full question wording.
SOURCE: KFF COVID-19 Vaccine Monitor: Parents And The Pandemic (Jul. 15-Aug. 2, 2021). • Download PNG

KFF COVID-19 Vaccine Monitor

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Study Objective

To characterize parental intent to vaccinate children against COVID-19 in a mixed-methods, cross-sectional analysis conducted within a national survey of US adults on COVID-19 vaccination

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Study population

- Online survey administered to 280 parents of young children via REDCap in June-July 2021 as part of a larger study on COVID-19 vaccine intent and attitudes
- National sample recruited through Prolific, an online platform for survey-based research
- Larger population oversampled to achieve 25% Hispanic, 31% Black, and 44% White participants
- Survey included closed- and open-ended questions about attitudes and perceptions of COVID-19 infection, knowledge, sources of information, and vaccination intention

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Survey

- To identify parents: “How many children under the age of 18 are currently living in your household and for whom you are the parent or legal guardian?”
- Asked about intent to vaccinate oldest child “when a vaccine for their age group is available”
- Open-ended query to share their thoughts on getting their child or children vaccinated for COVID-19
- Demographic information reported by respondent and by Prolific

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Quantitative Analysis

- Participant characteristics compared across categories of vaccination intent (yes, no, not sure) using Chi-square or ANOVA
- Univariate and multivariable multinomial logistic regression models adjusted for significant predictors
- Sensitivity analysis used stepwise regression to address collinearity between predictor variables

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Qualitative Analysis

- Inductively generated codes and identified themes in open-ended responses
- Created coding framework and iteratively revised codes and definitions
- All responses coded independently by two investigators; discrepancies were resolved by discussion and a third investigator
- More than one theme may be assigned to a single response

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Selected participant characteristics

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	Do you intend to vaccinate your child for COVID-19?			
	Yes 106 (38%)	**Unsure 86 (31%)**	**No 67 (24%)**	**Already Vaccinated 21 (7%)**
Age in years				
18-24	4 (27%)	6 (40%)	4 (27%)	1 (7%)
25-34	32 (44%)	23 (32%)	16 (22%)	1 (1%)
35-44	50 (38%)	36 (28%)	33 (25%)	10 (8%)
45-54	18 (33%)	16 (30%)	12 (22%)	8 (15%)
≥55	1 (13%)	4 (52%)	2 (26%)	1 (13%)
Race/Ethnicity				
Hispanic or Hispanic/White	30 (46%)	25 (38%)	10 (15%)	3 (5%)
Black	24 (29%)	32 (39%)	27 (33%)	5 (6%)
White	52 (47%)	29 (26%)	30 (27%)	13 (11%)
Hispanic/Black or Multi-Race	1 (25%)	3 (75%)	0	0
Sex				
Male	53 (49%)	33 (30%)	20 (18%)	3 (3%)
Female	52 (31%)	52 (31%)	46 (27%)	17 (10%)
Education				
High School or less	14 (27%)	17 (33%)	19 (37%)	2 (4%)
Some college	45 (37%)	41 (34%)	26 (21%)	10 (8%)
College or higher	47 (44%)	27 (25%)	22 (21%)	9 (8%)
US region of residence				
Northeast	23 (50%)	9 (20%)	9 (20%)	5 (11%)
Midwest	22 (53%)	11 (26%)	6 (14%)	3 (7%)
South	39 (27%)	53 (37%)	40 (28%)	11 (8%)
West	22 (45%)	13 (27%)	12 (24%)	2 (4%)

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Selected participant characteristics

	Do you intend to vaccinate your child for COVID-19?			
	Yes 106 (38%)	**Unsure 86 (31%)**	**No 67 (24%)**	**Already Vaccinated 21 (7%)**
Parent COVID-19 vaccination status				
Yes	80 (55%)	39 (27%)	8 (6%)	17 (12%)
No	26 (19%)	47 (35%)	59 (43%)	4 (3%)
Received a flu shot in last 12 months				
Yes	66 (51%)	30 (23%)	20 (15%)	13 (10%)
No	40 (27%)	56 (37%)	46 (31%)	8 (5%)
COVID-19 infection status				
Never had COVID-19	90 (40%)	66 (29%)	53 (24%)	14 (6%)
Yes, confirmed by test	6 (40%)	4 (27%)	3 (20%)	2 (13%)
Yes, not confirmed by test	4 (17%)	10 (42%)	7 (29%)	3 (13%)
Not Sure	6 (33%)	6 (33%)	4 (22%)	2 (11%)

Univariate multinomial logistic regression – demographic predictors

		Intent to vaccinate child Odds Ratio (95% Confidence Interval)	
	N	Unsure versus Yes	No versus Yes
Sex			
Female	150	1.61 (0.90, 2.87)	**2.34 (1.22, 4.49)**
Male	106	referent	referent
Education			
High School or less	50	2.11 (0.90, 4.95)	1.59 (0.84, 2.99)
Some college	112	**2.90 (1.23, 6.83)**	1.23 (0.61, 2.49)
College or higher	96	referent	referent
Race/Ethnicity			
Hispanic or Hispanic/white	65	1.49 (0.74, 3.01)	0.58 (0.25, 1.35)
Black	83	**2.39 (1.19, 4.80)**	1.95 (0.96, 3.97)
White	111	referent	referent
Income			
Less than $30,000	56	0.98 (0.43, 2.22)	1.10 (0.46, 2.60)
$30,000 - $60,000	79	0.71 (0.34, 1.48)	0.78 (0.36, 1.71)
$60,000 - $100,000	78	referent	referent
More than $100,000	40	**0.41 (0.16, 1.00)**	0.37 (0.14, 1.03)
Prefer not to answer	4	0.31 (0.03, 3.17)	*

Univariate COVID and vaccine-related factors

		Intent to vaccinate child Odds Ratio (95% Confidence Interval)	
	N	**Unsure versus Yes**	**No versus Yes**
Received a flu shot in previous 12 months			
Yes	116	referent	referent
No	142	**3.08 (1.70, 5.57)**	**3.80 (1.97, 7.31)**
Past COVID-19 infection status			
Yes	34	1.91 (0.80, 4.56)	1.70 (0.66, 4.35)
Never had COVID-19	209	referent	referent
Parent COVID-19 vaccination status			
Yes	127	referent	referent
No	132	**3.71 (2.01, 6.85)**	**22.69 (9.59, 53.67)**

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Multivariable logistic regression

		Intent to vaccinate child Odds Ratio (95% Confidence Interval)[1,2,3]	
	N	**Unsure vs Yes**	**No vs Yes**
Education			
High School or less	50	2.08 (0.68, 6.41)	1.91 (0.50, 7.28)
Some college	112	1.56 (0.67, 3.63)	0.80 (0.29, 2.25)
College or higher	96	referent	referent
Received a flu shot in previous 12 months			
Yes	116	referent	referent
No	142	**2.06 (1.05, 4.05)**	1.65 (0.72, 3.78)
Parent COVID-19 vaccination status			
Yes	127	referent	referent
No	132	**2.75 (1.37, 5.52)**	**22.14 (8.42, 58.25)**

Models also adjusted for age, sex, race, and income

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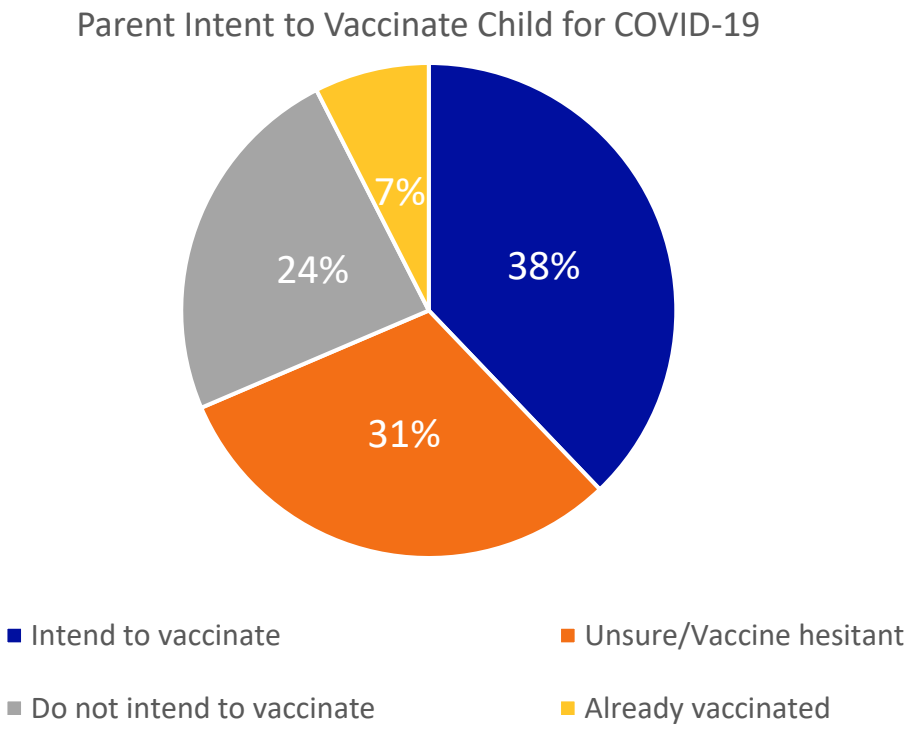
Qualitative Results

- 280 parents responded to the open-ended question
- Excluded 8 incomplete or insufficient responses and 21 responses from parents whose children were already vaccinated
- Themes varied by parent intent to vaccinate their child for COVID-19



Among parents who **intend to vaccinate** their children (N=106):

- 37 (35%) said they will vaccinate to protect their child
- 28 (26%) said it's a good thing to do
- Other common themes included: believe the vaccine is safe (7%), vaccinate to protect others (6%), vaccinate to return to normalcy (6%), and general positive comments (8%)

"I want them to be safe since they have to go back to school."

"It's important to get them vaccinated to prevent Covid."

"I think the vaccine is safe for children and will have all my kids vaccinated when approved to do so."

"I do have some concerns over the risks from the vaccine, but I feel that getting COVID is more risky."

Among parents who were **unsure about vaccinating** their child (N=86):

- 26 (30%) wanted to wait for more data, or will wait and see
- 15 (17%) expressed concern about vaccine safety
- 11 (13%) thought their child was not at risk from COVID-19
- Other common themes included: concern for side effects (7%), the vaccine is too new (6%), and the parent will decide with their child (6%)

"I'm not very sure it's safe at the moment but when the time comes I'll be rest assured after I finish some research."

“I feel like with a new vaccine like this I’d rather be cautious and wait before getting my daughter vaccinated.”

"I am very hesitant because we don't know what possible long-term side effects there might be."

“I don’t see a need for a vaccine for my child and I am not sure about young kids getting vaccine.”

Among parents who **do not intend to vaccinate** their children (N=67)

- 14 (21%) believed their child was not at risk from COVID-19 disease
- 10 (15%) believed the vaccine was too new
- 10 (15%) were concerned about side effects from the vaccine
- Other common themes included: general negative comments (13%), do not trust the vaccine (9%), child is too young (7%), and parent won't get vaccinated (7%)

"The infection rate for children is low and I do not see a need for my child to get vaccinated with an experimental vaccine."

"There is no reason for me to vaccinate my children because I don't trust these people at all."

"Its absolutely not an option and highly ridiculous."

"I think the vaccine has too many side effects for m[e] to take a chance getting my children a vaccine."

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Summary of Results

- In this national sample of parents, more than **two-thirds** reported being unsure or did not intend to vaccinate their children for COVID-19
- Strongest predictors of intent include **parent COVID vaccination status**, followed by parent flu vaccination status and education level
- Qualitative analyses revealed **common themes by category of vaccine intent**
- Parents **intending to vaccinate** wanted to protect their child or others, or believed vaccination was a good thing to do
- **Hesitant** parents were more likely to want to "wait and see" or were uncertain about vaccine safety
- **Resistant** parents were more likely to think their child wasn't at risk from COVID-19, or had vaccine-specific concerns

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Discussion and Conclusion

- This **mixed-methods** analysis of a national sample of parents identified **several barriers** to achieving sufficient COVID-19 vaccination rates among children
- Efforts to **overcome vaccine hesitancy in adults** may also influence childhood vaccination rates given the importance of parental vaccination status
- Additional data needed to expand on observed parent-parent and parent-child **discordance**
- As pediatric vaccination rates plateau in the US, new initiatives and interventions are needed to **gain trust, reduce fear, and counteract misinformation** among parents
- Interventions must be targeted and account for **different priorities** of parents

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Thank you!

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Kimberly Fisher

Kathy Mazor

Ngoc Nguyen

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Example questions

Survey Question
How many children under the age of 18 are currently living in your household and for whom you are the parent or legal guardian?
How old is your oldest child under the age of 18?
Thinking about your oldest child under 18, do you intend for them to be vaccinated against COVID-19 when a vaccine for their age group is available?
Please share your thoughts on getting your child or children vaccinated for COVID-19:
Have you been vaccinated against Covid-19
Have you had either a flu shot or flu spray in the nose within the past year?
Have you had Covid-19?

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