

# SARS-CoV-2 vaccine hesitancy in caregivers of hospitalized children

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## BACKGROUND

- SARS-CoV-2 vaccines, which became available under emergency use authorization (EUA) in December 2020, are safe and effective
- Unfortunately, adult SARS-CoV-2 vaccine hesitancy (VH) is hindering nationwide vaccination efforts and therefore leaving many parts of the US vulnerable to COVID-19 outbreaks
- Vaccines became available for 12 and up under EUA in May 2021 and for 5 to 11 years in October 2021
- Little is known about caregiver SARS-CoV-2 vaccine acceptance for children
- Data from the United States, especially from Southern states with lower adult immunization rates, are lacking

## PURPOSE

To characterize the attitudes, behaviors, and beliefs with regard to the COVID-19 pandemic and SARS-CoV-2 vaccines and identify associations with SARS-CoV-2 VH in parents of hospitalized children in Houston, TX.

## METHODS

- Cross-sectional survey-based study
- Convenience sample of English- and Spanish-speaking primary caregivers of children aged 6 months – 18 years admitted to general inpatient pediatric services from December 8, 2020 to April 5, 2021 and again from November 30, 2021 to February 18, 2022
- Caregivers were excluded if they did not speak English or Spanish, if they had already enrolled in the study, if their child was in Child Protective Services custody, and if they were SARS-CoV-2 positive or had a SARS-CoV-2 PCR pending in order to protect study personnel
- A 32 item survey was designed by the study team based on content expertise and adaptations from existing literature
- We assessed VH using the validated Parent Attitudes about Childhood Vaccine (PACV) survey

- 648 parents completed the survey on attitudes, behaviors, and beliefs about the COVID-19 pandemic and the SARS-CoV-2 vaccine and 645 completed the PACV
- 485 (75%) participants knew someone infected with SARS-CoV-2; 67% of parents knew someone who was hospitalized because of COVID-19 and 53% knew someone who died because of COVID-19 or related complications
- Not including the influenza vaccine, 91% | 90.4% of children were up-to-date with routine childhood vaccines in '20-21 and '21-22, respectively, but only 45% | 50% of parents planned to vaccinate their children against COVID-19; 50% | 71% of caregivers received the SARS-CoV-2 vaccine themselves

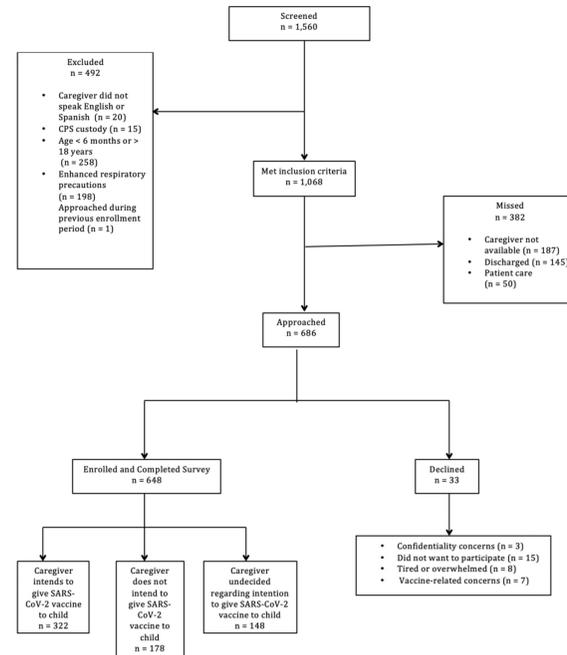


Fig 1: Participant flow chart from 2020-2022

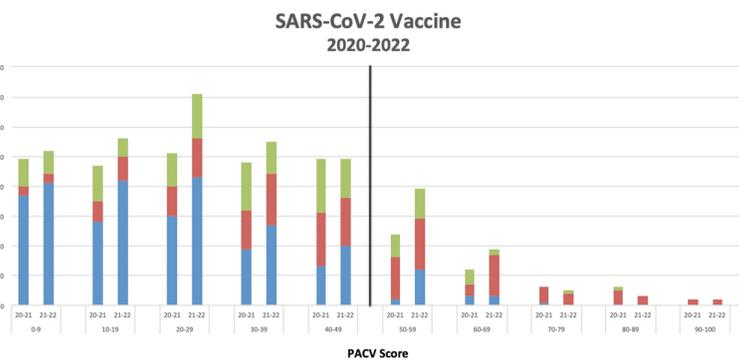


Fig 2: Intention to give child SARS-COV-2 vaccine by PACV score during 2020-2021 and 2021-2022

## RESULTS

Characteristic	Total n (%)	Caregivers who gave or intend to give their child the SARS-CoV-2 vaccine N = 322	Caregivers who do not intend to give their child the SARS-CoV-2 vaccine N = 178	Caregivers who are undecided in their intention to give their child the SARS-CoV-2 vaccine N = 148	p-value
Reason for hospitalization <sup>a</sup>					
Pneumonia	50 (7.7)	17 (5.3)	17 (9.6)	16 (10.8)	0.06
Asthma	40 (6.2)	20 (6.2)	10 (5.6)	10 (6.8)	0.91
Bronchiolitis	38 (5.9)	18 (5.6)	10 (5.6)	10 (6.8)	0.87
Gastroenteritis	39 (6.0)	24 (7.5)	7 (3.9)	8 (5.4)	0.30
Other infection	277 (42.7)	138 (42.9)	74 (41.6)	65 (43.9)	0.91
Other non-infection	280 (43.2)	143 (44.4)	84 (47.2)	53 (35.8)	0.10
Child age					
6-23 months	139 (21.5)	46 (14.3)	48 (27.0)	45 (30.4)	<0.01
24-59 months	120 (18.5)	63 (19.6)	33 (18.5)	23 (15.5)	
5-18 years	389 (60.0)	213 (66.1)	97 (54.5)	80 (54.1)	
Household income					
\$30,000 or less	248 (38.4)	126 (39.3)	58 (32.6)	64 (43.8)	0.06
\$30,001-50,000	122 (18.9)	57 (17.8)	36 (20.2)	29 (19.9)	
\$50,001-75,000	87 (13.5)	35 (10.9)	35 (19.7)	17 (11.6)	
\$75,001-or more	188 (29.1)	103 (32.1)	49 (27.5)	36 (24.7)	
Race/ethnicity <sup>a</sup>					
White	227 (35.2)	105 (32.7)	77 (43.3)	45 (30.8)	0.02
Black or African American	125 (19.4)	52 (16.2)	45 (25.3)	28 (19.2)	0.05
Hispanic/Latino	292 (45.3)	156 (48.6)	67 (37.6)	69 (47.3)	0.06
Asian	41 (6.4)	26 (8.1)	2 (1.1)	13 (8.9)	<0.01
Native Hawaiian or other Pacific Islander	1 (0.2)	1 (0.3)	0 (0)	0 (0)	>0.99
American Indian or Alaska Native	7 (1.1)	3 (0.9)	3 (1.7)	1 (0.7)	0.69
Other	20 (3.1)	8 (2.5)	7 (3.9)	5 (3.4)	0.58

<sup>a</sup>Parents could select more than one answer choice, percentages might not add up to 100%

Table 1: Demographics of study population

Item	Parent response	Total n (%) N = 648	Caregivers who gave or intend to give their child the SARS-CoV-2 vaccine N (%) N = 322	Caregivers who do not intend to give their child the SARS-CoV-2 vaccine N (%) N = 178	Caregivers who are neutral in their intention to give their child the SARS-CoV-2 vaccine N (%) N = 148	p-value
A COVID-19 vaccine will play an important role in bringing the pandemic under control	Strongly agree/agree	361 (55.7)	270 (83.9)	27 (15.2)	64 (43.2)	<0.01
	I do not agree nor disagree	205 (31.6)	46 (14.3)	82 (46.1)	77 (52.0)	
	Strongly disagree/disagree	82 (12.7)	6 (1.9)	69 (38.8)	7 (4.7)	
I am scared of my child getting COVID-19	Strongly agree/agree	442 (68.2)	260 (80.7)	82 (46.1)	100 (67.6)	<0.01
	I do not agree nor disagree	112 (17.3)	28 (8.7)	49 (27.5)	35 (23.6)	
	Strongly disagree/disagree	94 (14.5)	34 (10.6)	47 (26.4)	13 (8.8)	
I am scared of my child getting the COVID-19 vaccine	Strongly agree/agree	278 (42.9)	74 (23.0)	125 (70.2)	79 (53.4)	<0.01
	I do not agree nor disagree	166 (25.6)	72 (22.4)	37 (20.8)	57 (38.5)	
	Strongly disagree/disagree	204 (31.5)	176 (54.7)	16 (9.0)	12 (8.1)	

Table 2: Caregiver attitudes and beliefs surrounding the COVID-19 pandemic and the SARS-CoV-2 vaccine

Item	2020-2021 N (%) N = 295	2021-2022 N (%) N = 353	p-value
Has your child or will your child receive the SARS-CoV-2 vaccine			
Yes	134 (45.4)	177 (50.1)	0.33
No	81 (27.5)	97 (27.5)	
Unsure	80 (27.1)	79 (22.4)	
PACV score			
PACV score < 50	244 (83.0)	283 (80.6)	0.44
PACV score ≥ 50	50 (17.0)	68 (19.4)	
Know someone infected with COVID-19 – how many people			<0.01
1	13 (6.4)	7 (2.5)	
2-5	98 (48.0)	76 (27.0)	
5-10	51 (25.0)	75 (26.7)	
More than 10	42 (20.6)	123 (43.8)	
The COVID-19 pandemic has made me more supportive of vaccines in general			
Strongly agree/agree	116 (39.3)	120 (34.0)	0.12
I do not agree nor disagree	99 (33.6)	146 (41.4)	
Strongly disagree/disagree	80 (27.1)	87 (24.6)	
The COVID-19 pandemic has influenced my decision to give my child regular childhood vaccines			
Strongly agree/agree	82 (27.8)	89 (25.2)	0.05
I do not agree nor disagree	69 (23.4)	113 (32.0)	
Strongly disagree/disagree	144 (48.8)	151 (42.8)	

Table 3: Comparison of study population, 2020-2021 versus 2021-2022

- Based on PACV score, 17% and 19% of parents were VH in 2020-2021 and 2021-2022, respectively
- Overall, 68% were scared of their child getting COVID-19 but 43% were scared of their child getting the vaccine
- While 27% did not want to vaccinate their child, 25% were neutral in their intention
- Caregivers who intended to vaccinate their child were more likely to be Asian

## CONCLUSION

- The majority of caregivers believe that the SARS-CoV-2 vaccine will help control the pandemic, but only up to half have or plan to vaccinate their children
- Compared to earlier studies, intended SARS-CoV-2 vaccine uptake is lower than it had been at the beginning of the pandemic
- Close to a quarter of caregivers expressed uncertainty regarding the vaccine and therefore may be amenable to education and discussion
- SARS-CoV-2 VH is different from VH towards routine vaccinations, but similar to influenza VH
- More research is needed to address SARS-CoV-2 specific VH and concerns