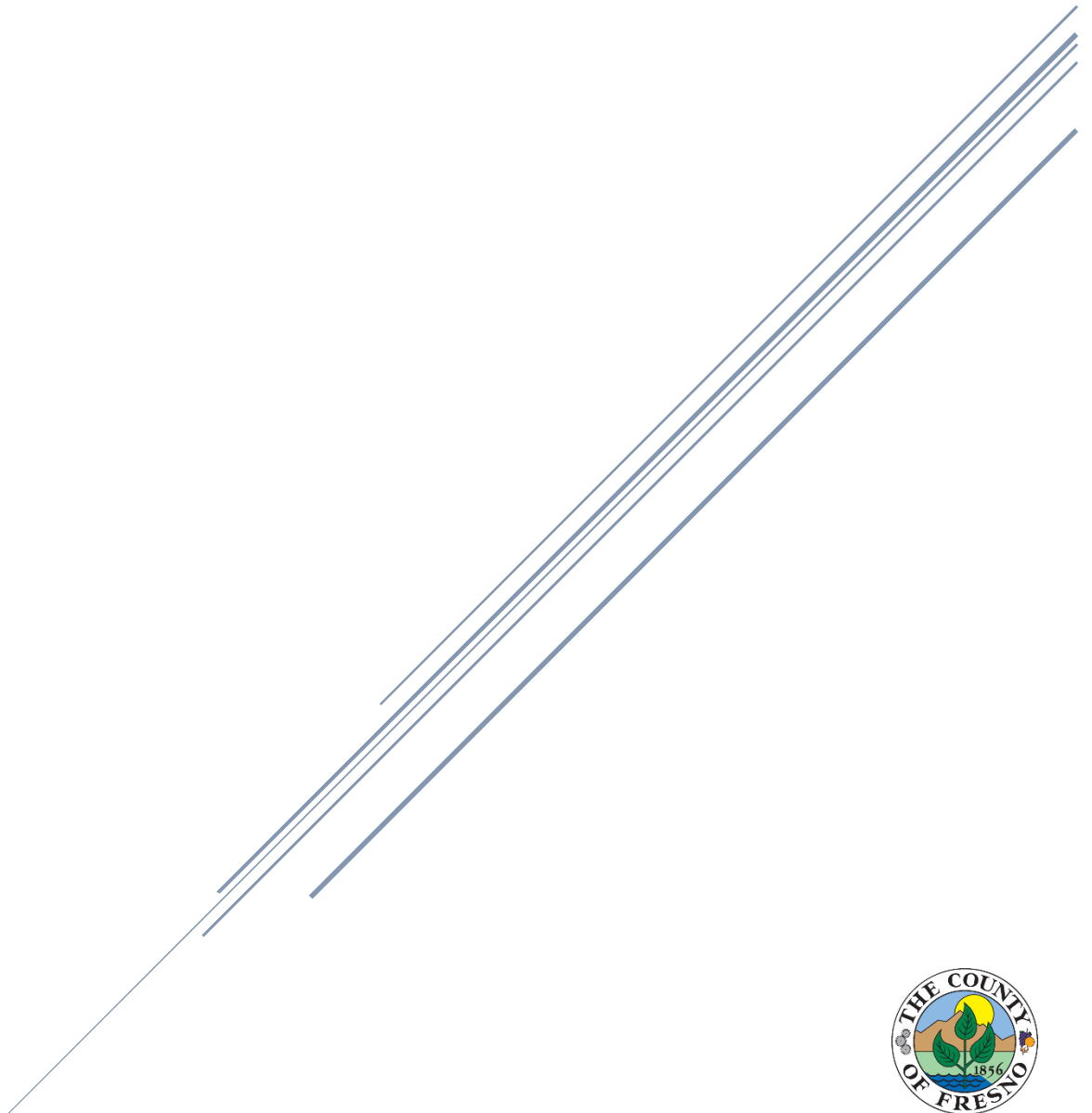


SARS-COV-2/COVID-19 TESTING PRACTICES IN THE CALIFORNIA CENTRAL VALLEY

Research Findings



2023

SARS-CoV-2/COVID-19 Testing Practices in the California Central Valley

This research summary was produced by the Epidemiology Program within the Division of Epidemiology, Statistics, & Data Management at the Fresno County Department of Public Health.

Citing:

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https://redcap.link/FCDPH_epi_request

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Introduction

The SARS-CoV-2/COVID-19 Testing Practices in the California Central Valley research collected cross-sectional self-reported data on participant demographics, SARS-CoV-2 testing practices and beliefs, COVID-19 infection history, and COVID-19 vaccination status. This research was approved by the County of Fresno, Department of Public Health, Institutional Review Board on July 05, 2022. Data was collected through an anonymous survey in 2022 by the Fresno, Madera, Merced, and Kings County Health Departments. Recruitment occurred with the assistance of print and electronic flyers.

Key Findings

- Overall, 30% of participants reported that they thought they ever had COVID-19 (this percentage ranged from 19-55% depending on age)
 - 61% of those participants reported at least 1 COVID-19 infection was in 2022
- 50+ year olds were 5.3 times as likely to have been fully vaccinated for COVID-19 with a booster^a, than 12-29 year olds
- 65% of participants reported they had at least one official COVID-19 test from a testing or healthcare facility completed in 2022
- Out of those who believed a household child had COVID-19 in 2022, in all youth age groups, less than 50% of participants reported that they knew the child had COVID-19 due to a positive test at a testing/healthcare facility
- A greater percentage of participants, regardless of gender, age, or race/ethnicity, stated they would only go get a COVID-19 test at a testing/healthcare facility if they already tested positive using an At-Home test than those who stated they would only get an official test if symptomatic and At-Home tested negative
- 25% of participants thought COVID-19 testing costs too much and 22% specifically thought this about At-Home test kits

^aCompleted initial COVID-19 vaccine series and had 1 or more booster doses

Research Participants

There were a total of 4,139 Participants with usable^a data. (Table 1)

- The majority of participants were under 50 years of age; males and females had similar representation (51% males, 46% female, 3% other/unknown); when asked which race/ethnicity they most identified with 59% selected white; and 37% were Fresno County residents
 - *Study weakness: Researchers were only able to recruit a limited sample of Hispanics in proportion to the total population size for the California Central Valley*
- 31% of total participants and 33% of Fresno participants thought they ever had COVID-19
 - As a comparison, an estimated 15-28% of the total Fresno County population ever had a COVID-19 diagnoses based on a reported positive PCR COVID-19 laboratory test^b during the approximate same time period as the study (*data source: [Open Portal CDPH Data](#)*)
- The percentage of participants who believed they had COVID-19 at any point during the pandemic increased with both participant age and child's age category (Table 3 & 4)
 - In all age category, between 60 - 80% of those who believed they had a past COVID-19 infection, reported at least 1 incident occurred in 2022 (Figure 1 & 2)
 - 50+ year olds were 5.3 times as likely to have been fully vaccinated with a booster^c, then 12-29 year olds (*Data not shown*)

Table 1: Study Participants (n=4,139¹)

	n	Total, %	Fresno, %	Kings, %	Madera, %	Merced, %
County						
Fresno	1536	37.11	-	-	-	-
Kings	365	8.82	-	-	-	-
Madera	976	23.58	-	-	-	-
Merced	687	16.6	-	-	-	-
Other	545	13.17	-	-	-	-
Unknown	30	0.72	-	-	-	-
Race/Ethnicity						
Native American/Alaska Native	477	11.52	16.34	10.41	8.4	5.53
Asian	171	4.13	3.78	2.47	5.43	4.51
Black/African American	318	7.68	6.64	4.11	8.61	9.61
Native Hawaiian/other Pacific Islander	183	4.42	2.99	4.11	4.51	5.53
Hispanic/Latino	394	9.52	11.07	12.05	10.14	5.39
White	2439	58.93	55.99	63.56	59.02	67.39
Multi-racial	67	1.62	1.43	0.82	0.92	0.73
Other	11	0.27	0.33	0.27	0.41	0.15
Unknown	79	1.91	1.43	2.19	2.56	1.16
Age						
12-17	76	1.84	0.98	1.92	3.48	1.89
18-29	2142	51.75	50.65	47.67	52.66	55.31
30-49	1611	38.92	37.96	44.93	35.66	40.17
50-69	225	5.44	8.2	4.38	5.12	1.89
70 or older	41	0.99	1.43	0	1.43	0.29
Unknown	44	1.06	0.78	1.1	1.64	0.44
Gender						
Male	2125	51.34	49.61	49.04	52.97	50.95
Female	1897	45.83	48.44	47.95	44.06	45.12
Another gender	40	0.97	0.2	1.64	0.82	2.62
Unknown	77	1.86	1.76	1.37	2.15	1.31
COVID-19 Vaccinated						
Not vaccinated	606	14.64	10.81	16.44	15.06	23.29
Partially Vaccinated (1 dose of an mRNA)	989	23.89	21.88	25.21	25.61	26.35
Fully Vaccinated WITHOUT Booster	962	23.24	21.61	20.27	24.39	22.56
Fully Vaccinated WITH Booster(s)	1526	36.87	44.01	36.71	33.50	27.51
Unknown	56	1.35	1.69	1.37	1.43	0.29
Think have ever had COVID-19	1236	30.92	32.78	27.35	31.60	24.89
In 2022	737	61.16	56.7	70.21	68.07	66.46
Symptomatic	857	71.24	66.32	76.34	78.75	75.64

¹Excludes 114 surveys with incomplete data and 16 surveys completed by under 12 years old
n = number

Table 2. Number of participants with children in household

	Number of Households
Children in household	1567 (37.86%)
<i>Age category of children</i>	
0-4 years	698
1 child in category	320
2 children in category	67
3+ children in category	22
Unknown number	289
5-11 years	636
1 child in category	345
2 children in category	102
3+ children in category	61
Unknown number	128
12-13 years	291
1 child in category	175
2 children in category	24
3+ children in category	27
Unknown number	65
14-18 years	242
1 child in category	119
2 children in category	44
3+ children in category	30
Unknown number	49

Table 3. Percentage of participants who believed they ever had a COVID-19 infection by Age¹

	% ²
12-29 Years	25.73
30-49 Years	35.46
50 and older	42.25

¹ Some age categories were aggregated due to small sample size
² Percentage based on those with data.

Table 4. Percentage of participants who reported at least 1 household child ever had a COVID-19 infection, by child(ren)'s age

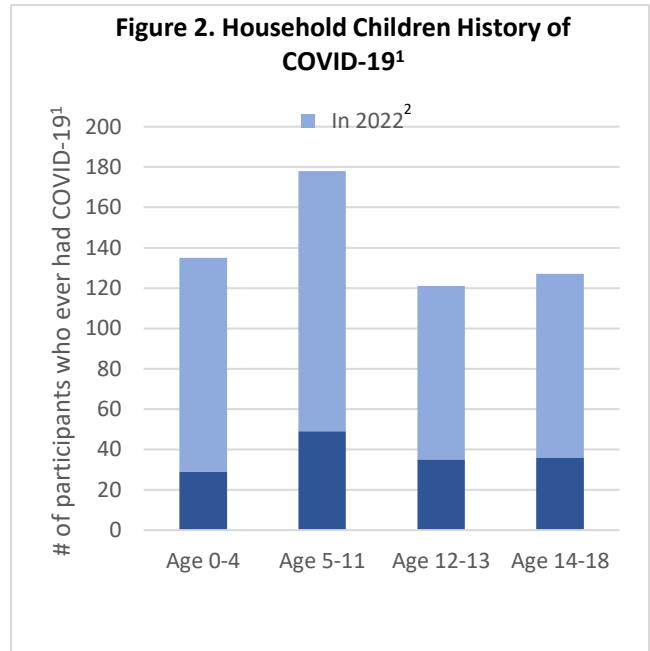
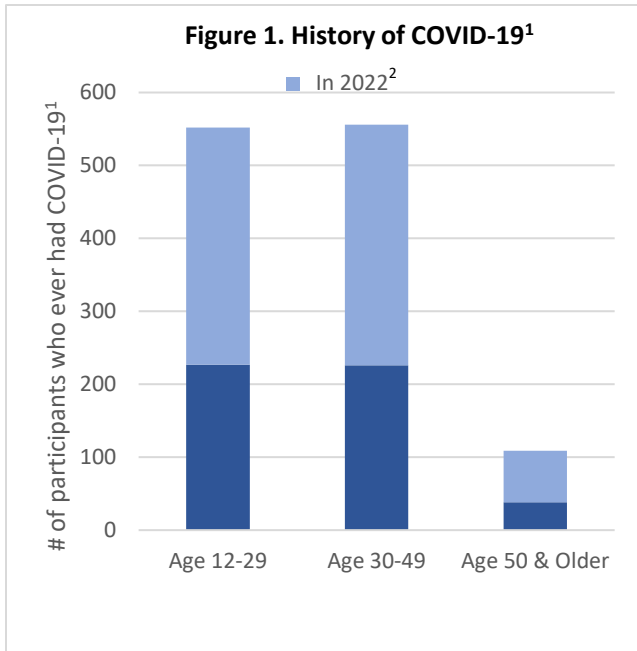
	% ¹
0-4 Years	19.45
5-11 Years	28.99
12-13 Years	43.37
14-18 Years	54.98

¹ Percentage based on those with data.

^a To be considered 'usable data', the participants must have met the research age requirement (12 years old). Questionnaires did not have to be fully completed to be included but must have contained responses for multiple COVID-19 testing questions; questionnaires with only demographic and/or geographic data completed were excluded.

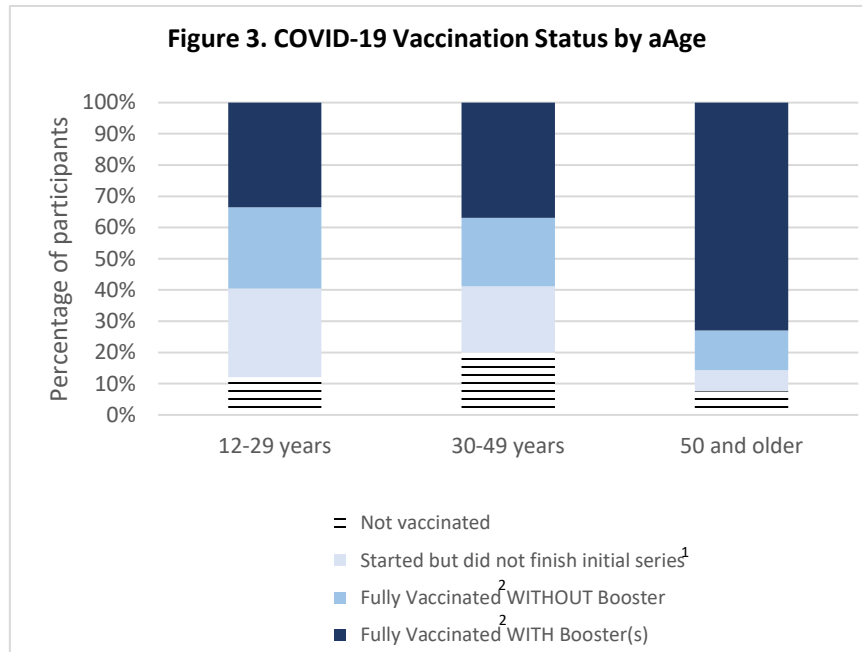
^b A real-time reverse transcriptase-polymerase chain reaction (rRT-PCR) laboratory positive confirms the presence of SARS-CoV-2 virus and COVID-19 infection in an individual. PCR testing results were required to be reported to the Local Health Department in 2022.
The percentage provided may be minimally inflated as a result of the potential for double counting of persons reported more than one time due to reinfections.

^c Completed initial COVID-19 vaccine series and had 1 or more booster doses.



¹Based on belief that they had COVID-19 regardless of official confirmation

²'In 2022' is calculated as the number who reported ever having COVID-19, who also reported at least 1 incidence in 2022



¹1 dose of an mRNA vaccine like Moderna or Pfizer

²Completed initial series (2 doses of mRNA or 1 dose of 1 dose series)

Past Testing Methods

- 65% of participants reported they had at least one official COVID-19 test at a testing/healthcare facility completed in 2022 (Table 5)
- Fresno County had the highest percentage of participants who reported past use of an official testing site, but the lowest percentage of At-Home testing kit usage and the highest percentage of no testing at all, as compared to other research study counties (Table 6)
- The highest percentage of never testers was seen in the oldest age group (Table 7)

Table 5. COVID-19 Testing Methods Used 'This Year' (2022)

	Had a COVID-19 test 'this year' ¹	% ²	Positive results	% ³
No Testing	181	4.37	-	-
At a testing/healthcare facility	2696	65.14	733	27.19
At-Home Testing kit	1662	40.15	564	33.94
At another location	240	5.80	80	33.33

Participants could test at more than 1 location

¹ Year of survey- 2022

² Percentages out of total participants

³ Percentages out of those who tested using that method

Table 6. COVID-19 testing methods used (2022), includes both positive and negative tests

	Testing /healthcare facility, %	Used an At-Home Testing kit, %	Never tested, %
Fresno	70.83	36.72	6.51
Kings	67.95	37.81	4.11
Madera	61.48	42.83	3.48
Merced	55.75	46.29	2.18

Participants could test at more than 1 location

Table 7. COVID-19 testing methods used (2022), includes both positive and negative tests, by age

	Testing / healthcare facility, %	Used an At-Home Testing kit, %	Never tested, %
12-29	66.37	35.53	4.06
30-49	66.36	42.95	2.92
50 and older	53.38	63.91	16.17

Some age categories were aggregated due to small sample size
Participants were able to select more than one option so percentages will not add to 100% (additional option testing at "another location" data not listed)

Table 8. COVID-19 testing methods used (2022), includes both positive and negative tests, by gender

	Testing / healthcare facility, %	Used an At-Home Testing kit, %	Never tested, %
Male	67.11	35.67	4.14
Female	64.36	45.07	4.38
Another gender	57.5	60	2.5

Sample size in "another gender" group smaller than other groups and could impact results

Participants were able to select more than one option thus percentages will not add to 100% (data on the additional option of testing at "another location" not listed)

Table 9. COVID-19 testing methods used (2022), includes both positive and negative tests, by race/ethnicity

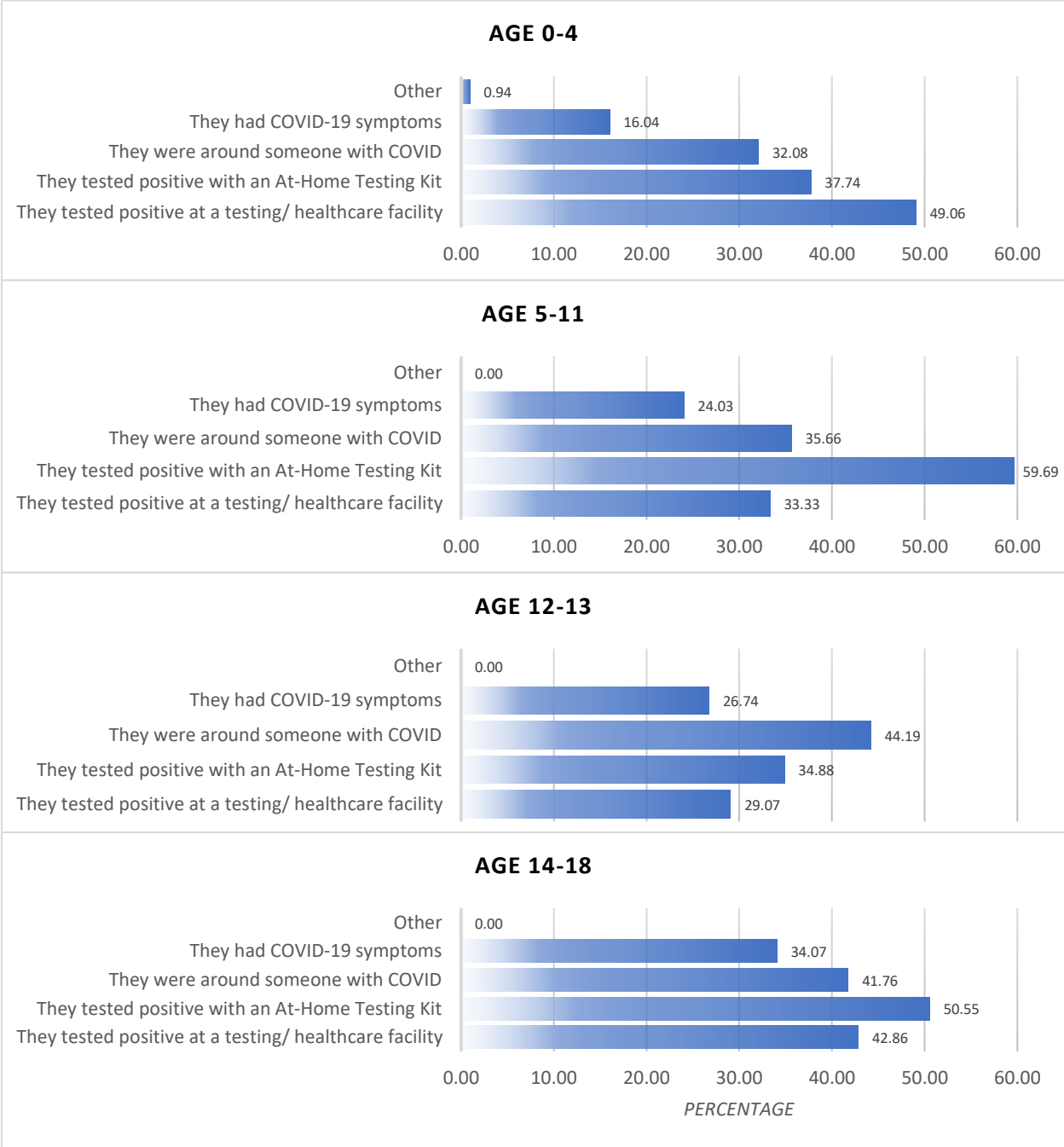
	Testing / healthcare facility, %	Used an At-Home Testing kit, %	Never tested, %
Native American/Alaska Native	75.47	24.32	8.39
Asian	57.31	57.31	6.43
Black/African American	55.66	50.63	2.52
Native Hawaiian/other Pacific Islander	56.28	40.44	4.92
Hispanic/Latino	58.88	58.63	6.09
White	66.95	37.64	3.08
Multi-racial or Other	70.51	42.31	7.69

Participants were able to select more than one option thus percentages will not add to 100% (data on the additional option of testing at "another location" not listed)

COVID and Testing in Children

County COVID-19 case surveillance dashboards captured only cases that tested positive at a testing/healthcare facility. Out of participants who believed a household child had COVID-19 in 2022, in all youth age groups, less than 50% of participants reported that they knew the child had COVID-19 due to a positive test at a testing/health care facility (Figure 4). This highlights the potential that case incidence based on positive labs from facility reporting may under-represent the true case burden in youth.

Figure 4. How did participants know the child(ren) had COVID-19 this year (2022):
Participants could select more than one method



Future Testing

Per the [Centers for Disease Control](#), CDC, an At-Home over the counter (OTC) COVID-19 positive test likely means the tester has a COVID-19 infection, whereas a negative test “does not rule out COVID-19”. [Federal Food and Drug Administration](#), FDA, recommends serial testing following any negative result to reduce the risk of false negatives. With a greater risk of a false negatives than false positives^a, it would be more important if symptomatic to obtain a secondary test after an At-Home negative to fully rule out COVID-19 infection than to confirm an At-Home positive with a PCR test. However, a greater percentage of participants, regardless of gender, age, or race/ethnicity, stated they would only get a COVID-19 test at a testing/healthcare facility if they already had tested positive compared to those who stated they would only get an official test if symptomatic and tested negative with an At-Home test (Table 10-13).

Table 10. How are participants most likely to test in the future if they develop COVID-19 like symptoms:

	Adult, %	Child, %
Go get tested at a testing/healthcare facility	48.31	44.67
Only go get tested at a testing/healthcare facility if test positive using an At-Home Test kit	31.07	28.98
Only go get tested at a testing/healthcare facility if test negative using an At-Home Test kit	12.11	14.28
Only use an At-Home Test Kit	7.52	11.08
Unsure	0.99	0.99

Excludes those who reported they will not test regardless of situation

Table 11. How are participants most likely to test in the future if they develop COVID-19 like symptoms, by gender:

	Male, %	Female, %
Go get tested at a testing/healthcare facility	54.90	42.43
Only go get tested at a testing/healthcare facility if test positive using an At-Home Test kit	29.24	32.50
Only go get tested at a testing/healthcare facility if test negative using an At-Home Test kit	10.25	13.57
Only use an At-Home Test Kit	4.75	10.39
Unsure	0.86	1.12

Excludes those who reported they will not test regardless of situation

Due to small sample size "another gender" excluded

Table 12. How are participants most likely to test in the future if they develop COVID-19 like symptoms, by age:

	Percentage per age category				
	12-17 ¹	18-29	30-49	50-69	70 or older ¹
Go get tested at a testing/healthcare facility	40.58	56.78	41.57	28.24	18.42
Only go get tested at a testing/healthcare facility if test positive using an At-Home Test kit	37.68	28.91	32.32	37.04	44.74
Only go get tested at a testing/healthcare facility if test negative using an At-Home Test kit	10.14	10.51	14.74	9.72	2.63
Only use an At-Home Test Kit	7.25	3.10	10.58	23.61	21.05
Unsure	4.35	0.70	0.79	1.39	13.16

Excludes those who reported they will not test regardless of situation

¹ Sample size in youngest and oldest age groups was smaller and could impact results

Table 13. How are participants most likely to test in the future if they develop COVID-19 like symptoms, by race/ethnicity:

	Percentage per Race/Ethnicity						
	Native American/ Alaska Native	Asian	Black/ African American	Native Hawaiian/ other Pacific Islander	Hispanic/ Latino	White	Multi-racial or Other
Go get tested at a testing/healthcare facility	70.64	37.11	39.18	38.73	38.8	48.49	39.39
Only go get tested at a testing/healthcare facility if test positive using an At-Home Test kit	19.27	42.77	35.74	35.84	36.89	30.77	31.82
Only go get tested at a testing/healthcare facility if test negative using an At-Home Test kit	7.34	14.47	17.87	18.5	7.38	12.45	10.61
Only use an At-Home Test Kit	2.75	4.40	5.84	6.36	15.57	7.43	12.12
Unsure	0.00	1.26	1.37	0.58	1.37	0.86	6.06

Excludes those who reported they will not test regardless of situation

^a False Negative: Have a COVID-19 infection but test negative; False Positive: Do not have a COVID-19 infection but test positive

Table 14. In the next 12 months, if the participant or their child is feeling ill with COVID-like symptoms, what percentage of participants would likely test (go get tested or test at home) in the following situations

	Test		Not Test		Maybe or Unsure		Missing	
	Adult, %	Child, % ¹	Adult, %	Child, %	Adult, %	Child, %	Adult, %	Child, %
<i>Close-contact tested positive</i>	55.88	53.73	16.19	12.96	26.07	30.50	1.86	2.81
<i>Mild illness</i>	40.08	36.90	18.39	19.27	39.96	40.92	1.57	2.90
<i>Low community incidence</i>	33.46	37.04	25.37	16.63	38.87	42.08	2.30	4.24
<i>Work/school requires testing negative to return early</i>	58.78	55.61	10.99	11.89	28.56	30.45	1.67	2.05
<i>Very sick</i>	-	50.13	-	13.24	-	32.95	-	3.68
<i>Very young child (0-4 years)</i>	-	39	-	17	-	42	-	1.89

¹ Denominators for Children exclude records with no children and those that stated "someone else would decided" if the child was tested in that situation.

- Data not collected

Testing Barriers

25% of participants thought COVID-19 testing costs too much and 22% specifically thought this about At-Home test kits (Table 15).

Out of those who did not want to test or thought there was no reason to test, 48% believed that testing would not change how they treat the illness (Table 16).

Table 15. What did participants find true about testing:

	%
<i>It is hard to find available testing</i>	15.15
<i>I do not have time to test</i>	18.56
<i>I do not have transportation to get tested</i>	17.18
<i>Testing costs too much money</i>	25.32
<i>At-home test kits cost too much money</i>	21.70
<i>I am scared to get tested</i>	16.89
<i>Testing may scare or upset a child</i>	15.25
<i>I do not know where to go to test</i>	9.62
<i>No reason to get tested</i>	4.78
<i>Do not want to test</i>	3.91
<i>None of the above</i>	21.43

Table 16. Out of those who said they do not want to test or there is no reason to test, what were the reasons:

	%
<i>It will not change how I treat the illness</i>	47.92
<i>It is not important to test</i>	39.94
<i>Takes too long to get test results</i>	29.71
<i>Other reason</i>	7.03