

COVID-19 State of Vaccine Confidence Insights Report

Report 24 | March 28, 2022 | Date Range: February 1 – 21, 2022



Summary

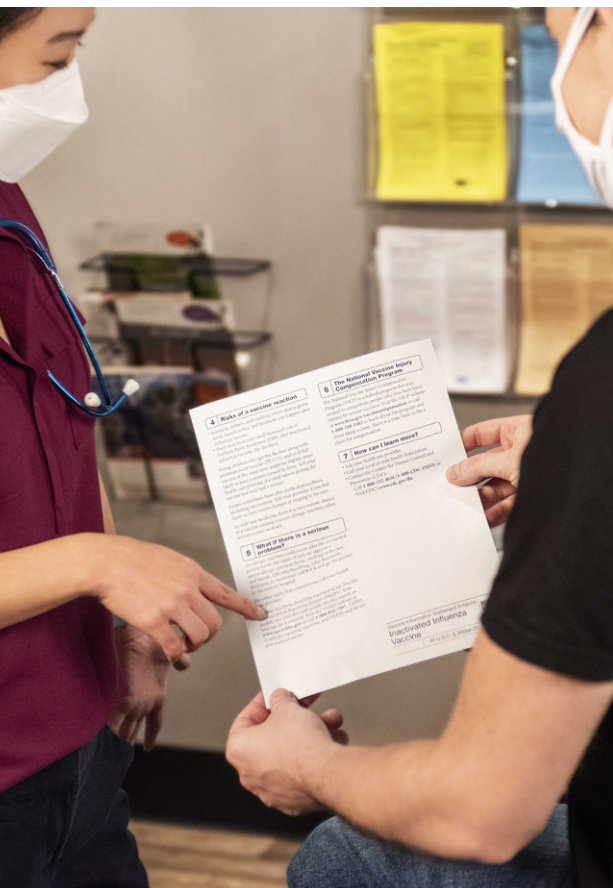
Major Themes

- Consumers' interest in new COVID-19 vaccines from Ocugen-Bharat Biotech and Novavax, which are not yet FDA-authorized, but are WHO prequalified.
- Continued discussions on infection-induced immunity versus vaccine-induced immunity among the public.
- Increasing public perception that the pandemic is over; support for community mitigation efforts is waning.
- **New and Emerging Myths**
 - Myth emerged about a syndrome called Vaccine Acquired Immune Deficiency Syndrome (VAIDS).
- **Continuing and Evolving**
 - Some parents are disappointed in the delay of COVID-19 vaccines for children less than 5 years old while others are strongly opposed to pediatric vaccines.

Ways to take action. Federal, state, and local partners should continue to work together to explain the rationale for updated guidance, respond to gaps in information, and confront misinformation with evidence-based messaging. These efforts aim to increase confidence in COVID-19 vaccines and expand vaccine uptake more broadly. Partners should create and disseminate messages about the safety and effectiveness of COVID-19 primary series vaccination and a booster dose compared to getting immunity by being infected with the SARS-CoV-2 that causes COVID-19 (known as infection-induced immunity).

Resources: The following link contains social media resources such as graphics, language, and social media calendars that our partners can use to address the issues raised in this report:

<https://centersfordiseasecontrol.sharefile.com/d-s2cd17ce5f09d4884908cf8aa486ffea0>



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The findings and conclusions in this report are those of the author(s) and do not necessarily represent the official position of the Centers for Disease Control and Prevention (CDC).

Aims and Methods

By rapidly reviewing and analyzing numerous sources and inputs (see [Appendix](#)), the COVID-19 State of Vaccine Confidence Insights Report emphasizes major themes influencing COVID-19 vaccine hesitancy and uptake. These are characterized by the level and type of threat to vaccine confidence, degree of spread, and directionality. In addition, by examining how consumers think and feel, social processes, and the practical issues around vaccination, the Insights Report seeks to identify emerging issues of misinformation, disinformation, and places where intervention efforts can improve vaccine confidence across the United States.

The information in this report is only a snapshot, and certain populations may be underrepresented. Images and quotes are illustrative examples and are not meant to comprehensively cover all content related to the highlighted themes.

How do you classify this theme/information?			
High risk	Moderate risk	Low risk	Positive sentiment
			
<ul style="list-style-type: none"> May lead to vaccine refusals and decreased uptake Wide reach, pervasive 	<ul style="list-style-type: none"> Potential to trigger hesitancy to vaccination Moderate reach, modest dissemination 	<ul style="list-style-type: none"> Concerning, but low risk to vaccine confidence Limited reach, limited dissemination 	<ul style="list-style-type: none"> Could increase vaccine confidence, intent, or motivation Variable reach and dissemination

How has this theme/idea changed over time (since last report or over the course of multiple reports)?		
		
<p>Increasing Information spreading rapidly</p>	<p>Stable Information remaining constant at prior level</p>	<p>Decreasing Information is not gaining further traction and there has been no indication of additional activity</p>

Major Themes Affecting Vaccine Confidence^a



Consumers expressed interest in getting Ocugen-Bharat Biotech and Novavax's COVID-19 vaccines

On January 31, 2022, Novavax filed for an emergency use authorization (EUA) from the U.S. Food and Drug Administration (FDA) for its COVID-19 vaccine, known as Nuvaxovid in other countries.¹ On February 18, 2022, Ocugen-Bharat Biotech announced that the FDA lifted a clinical hold on the company's application to evaluate their COVID-19 vaccine, known as Covaxin in other countries.^{2,3,4} During this reporting period, the United Kingdom and Canada approved the Novavax vaccine for use.^{5,6} Online searches related to these two vaccines increased more than 300% during this reporting period.^b

News outlets discussed that these vaccines are not mRNA vaccines, that people perceive them to be more "traditional" vaccines, and that this may increase preference for their use.^{7,8} News outlets also reported that the Novavax vaccine has similar efficacy to the Pfizer-BioNTech and Moderna COVID-19 vaccines⁹ but has fewer side effects.¹⁰ Also, the Ocugen-Bharat Biotech and Novavax vaccines were not developed or created using fetal cell lines. News stories discussed that, for this reason, people who are opposed to the use of fetal cell lines and who have not received a COVID-19 vaccine may get the Ocugen-Bharat Biotech or Novavax vaccine.¹¹ The mRNA vaccines currently authorized or approved by the FDA (Pfizer-BioNTech and Moderna) do not use fetal cell lines or any live viruses that cause COVID-19 in vaccine manufacturing and cannot cause infection with the virus that causes COVID-19.¹² However, mRNA vaccines required the use of fetal cell lines in testing during research and development, and Johnson & Johnson's Janssen COVID-19 vaccine used fetal cell lines during the production process.¹³

Perceptions, Concerns, and Threats to Vaccine Confidence

- A recent Harris Poll found that 73% of Americans would like to see additional COVID-19 vaccines available to the public and developed from a more "traditional" method, while 40% of parents with unvaccinated children 18 years old and younger say they would be more likely to vaccinate their children if there were a new COVID-19 vaccine developed from a more "traditional" method.^{14,15,16}
- Social media users campaigned for these new vaccines using hashtags such as #ichoosecovaxin, #covaxin4kids, and #Novavaxnow.^{17,18,19,20}
- Social media users expressed their preference for the Ocugen-Bharat Biotech and Novavax vaccines for several reasons.
 - Allergies to the COVID-19 vaccines that are currently available in the United States.^{21,22}
 - Belief that mRNA vaccines are not effective.^{23,24,25}
 - Belief that the Ocugen-Bharat Biotech and Novavax vaccines are safer than COVID-19 vaccines that are currently available in the United States.^{26,27,28}
- The availability of vaccines people perceive as more "traditional" may increase vaccine confidence because the public believes they are safer and more effective.



Content Gaps and Information Voids

- What is the authorization status of the Ocugen-Bharat Biotech and Novavax vaccines?²⁹
 - On February 18, 2022, Ocugen-Bharat Biotech announced that the FDA lifted a clinical hold on the company's application to evaluate their COVID-19 vaccine for adults.^{30,31,32} Ocugen-Bharat Biotech is proceeding with Phase 2 and 3 clinical trials.³³ Also, on March 4, 2022, the FDA declined to issue an EUA for the Ocugen-Bharat Biotech vaccine for children and adolescents ages 2 to 18 years.³⁴
 - On January 31, 2022, Novavax filed for an EUA from the FDA for its COVID-19 vaccine for adults.³⁵ There is no additional information at this time.

^aCitations in this report are illustrative examples and are not the total number of instances of the corresponding themes.

^bGoogle Trends

^cWHO EARS

- Why has the FDA not authorized the Ocugen-Bharat Biotech and Novavax vaccines?^d
 - FDA is globally respected for its scientific standards of vaccine safety, effectiveness, and quality. The agency provides scientific and regulatory advice to vaccine developers and undertakes a rigorous evaluation of the scientific information through all phases of clinical trials, which continues after a vaccine has been approved by FDA or authorized for emergency use. FDA recognizes the gravity of the current public health emergency and the importance of facilitating availability, as soon as possible, of vaccines to prevent COVID-19 - vaccines that the public will trust and have confidence in receiving.³⁶ FDA is waiting on data from Ocugen-Bharat Biotech's Phase II/III study to move forward with authorization.
- Are the Ocugen-Bharat Biotech and Novavax vaccines safer or more effective than mRNA vaccines?^{37,38}
 - Scientists do not know how these vaccines compare to the current mRNA vaccines. However, in the World Health Organization's (WHO's) review of the Ocugen-Bharat Biotech and Novavax vaccines for emergency use listing, they are considered highly effective in preventing severe disease and hospitalization caused by COVID-19.³⁹

Misinformation Themes

- Misinformation about the FDA ignoring or purposefully delaying the authorization of the new vaccines continues.^{40,41,42}

Ways to Take Action

- Create and disseminate messages communicating that the currently authorized and approved COVID-19 vaccines are safe and effective, and that receiving these vaccines now is safer than waiting for authorization of new vaccines.
- Start creating messages and a communication plan with trusted messengers to share information on the efficacy, safety, and availability of the Ocugen-Bharat Biotech and Novavax vaccines. Once authorization of these vaccines occurs, quickly disseminate these messages to leverage the potentially increased online conversations and social media algorithms to increase the reach of the messages.

^dCDC-INFO



Consumers and news outlets continue to compare SARS-CoV-2 infection-induced immunity and COVID-19 vaccine-induced immunity

Infection-induced immunity was discussed by consumers and news outlets at a high but decreasing rate compared to the previous reporting period (January 11 – 31, 2022).^{43,44,45} Variations of search terms “CDC and natural immunity” continued to show popularity as Google Trends’ top and rising topics.⁴⁶ Also, online searches for “Johns Hopkins University” increased 550% during the reporting period.⁴⁷ This increase is potentially related to an article from a surgeon and public policy researcher at Johns Hopkins suggesting that the prevalence and durability of antibodies among people who are unvaccinated and previously infected lasted approximately 2 years.⁴⁸ The limitations of the study were notably absent from online conversations (for example, the test the researchers used, the Roche Elecsys test, yields high antibody test results over time even as antibodies decrease; therefore, persistent signals on this assay do not correspond well with protection from infection).⁴⁹ Other research contradicting the superiority of infection-induced immunity was released during the reporting period but failed to generate the same awareness as the article from the researcher at Johns Hopkins. Many consumers discussed the findings from an updated model from the Institute of Health Metrics showing that more than 70% of people in the United States had some protection against infection with the virus that causes COVID-19.^{50,51} Other conversations related to infection-induced immunity included the concepts of “herd immunity,”^{52,53} perceived need for childhood vaccination,^{54,55} and vaccine requirement opposition.^{56,57} Highly visible comments from philanthropist Bill Gates, which equated the spread of the Omicron variant in Africa to COVID-19 vaccine-induced immunity,⁵⁸ have likely contributed to sustaining the discussions on infection-induced immunity during the reporting period.

Perceptions, Concerns, and Threat to Vaccine Confidence

- Consumers noted there are conflicting opinions on the topic of infection-induced immunity.⁵⁹
- Some consumers inquired why more research on infection-induced immunity was not conducted to establish the connection between previous infection with the virus that causes COVID-19 and lasting protection against the disease.⁶⁰
- Increased discussion of infection-induced immunity coupled with the removal of safety measures and vaccine requirements may be perceived by some to mean that primary series vaccination or a booster dose are not necessary.⁶¹

Content Gaps and Information Voids

- Are people who recover from SARS-CoV-2 infection more protected from COVID-19 than people who have received a primary series vaccination?
 - Getting COVID-19 offers some protection from future illness with COVID-19; this is sometimes called “natural immunity.” The level of protection received from having COVID-19 may vary depending on the severity of illness, time since infection, and age. No currently available test can reliably determine if you are protected after infection with the virus that causes COVID-19 or how long any such protection would last.⁶² mRNA vaccines tend to produce more consistent high-titer antibody response in comparison to infection. In spite of this, multiple large epidemiologic studies have shown protection following infection was at least comparable to protection following vaccination. Vaccination provides additional benefit for those with a history of SARS-CoV-2 infection.⁶³
- Why should people get vaccinated if they already had COVID-19?
 - All COVID-19 vaccines currently available in the United States are effective at preventing COVID-19 and preventing severe illness, hospitalization, and death. People who have already been sick with the disease and get vaccinated get some additional protection against getting infected, severe illness, hospitalization, and death. Getting COVID-19 can offer some protection against future illness, but the level of protection a person receives from having COVID-19 may vary depending on how mild or severe their illness was, the time since their infection, and their age. Additionally, history of infection alone offered much less protection against infection with Omicron than previous variants; however, those with [hybrid immunity](#) (results from a combination of natural immunity to SARS-CoV-2 and vaccine-generated immunity) appear to develop better protection against new variants and longer-lasting protection.⁶⁴
- Will CDC incorporate the role of infection-induced immunity into their vaccination and mitigation guidance?
 - Currently, there are not enough data to know the level of antibodies needed to indicate when a person is protected from infection with the virus that causes COVID-19. There is neither an FDA-authorized or FDA-approved test nor any other scientifically validated strategy that providers or the public can use to reliably determine whether a person is protected from infection.

Misinformation Themes

- Risk of death associated with COVID-19 vaccination is equal to or greater than that associated with infection with the virus that causes COVID-19.⁶⁵
- The [MMWR on infection-induced immunity](#) supports other studies that found infection-induced immunity was **vastly** superior to vaccine-induced immunity.^{66,67,68}
- Public health officials ruined lives by implementing COVID-19 prevention measures.⁶⁹
- CDC is ignoring key data associated with the effectiveness of infection-induced immunity.^{70,71}
- Getting infected is safer than vaccination because there is no risk from potential COVID-19 vaccine side effects or adverse events.⁷²

Ways to Take Action

- Continue to support research that explores the levels and duration of protection from infection-induced immunity and vaccine-induced immunity.
- Create and disseminate messages, especially through trusted messengers, about the safety and effectiveness of COVID-19 vaccination, including a booster dose, compared to infection-induced immunity.
- Create talking points and fact sheets for healthcare providers to aid in patient discussions regarding the benefits of COVID-19 vaccination, including a booster dose, versus infection-induced immunity.
- Disseminate messages that explain the limitations of using antibody titer results to determine protection from future infection with the virus that causes COVID-19.



People express the belief that the pandemic is over and that their support for vaccine and community mitigation requirements has ended

As the Omicron wave receded across the United States, discussions about the COVID-19 response moving into an endemic phase fueled Americans' growing pandemic fatigue. Discussions about moving to an endemic phase also sowed more doubt about the need for vaccinations and other public health mitigation measures, including masking and lockdowns. Additionally, many state and local governments began repealing COVID-19 mitigation requirements and moving from an emergency to an endemic phase response plan.⁷³ Many Americans, including prominent politicians, urged CDC and government officials to "return to normal," citing the number of Americans infected during the Omicron surge as evidence that COVID-19 should be considered endemic.^{74,75}

Perceptions, Concerns, and Threat to Vaccine Confidence

- Opinions from public health officials on the next phase of the pandemic are divided.^{76,77,78}
- Some social media users expressed pandemic fatigue^{79,80,81,82} and wanted CDC to stop disseminating public health messages/recommendations on COVID-19.^{83,84,85,86}
- Many consumers believed the mask mandates and lockdowns didn't help reduce COVID-19 deaths^{87,88,89} or were based solely on political motivations.⁹⁰
- Some social media users believed Omicron was not severe and created enough natural immunity to remove all COVID-19 prevention measures and requirements.^{90,91,92,93}
- Some social media users believed the repeal of COVID-19 protections vindicates their refusal to follow COVID-19 prevention recommendations.^{94,95,96,97}

Content Gaps and Information Voids

- As the number of COVID-19 cases declines, is it still necessary to receive a primary series of COVID-19 vaccine or booster dose?⁹⁸
 - COVID-19 vaccines are effective at protecting you from severe outcomes and death from COVID-19, even if you have had COVID-19 in the past. Vaccination is an important tool to help us get back to normal.⁹⁹
- As state and local governments update their COVID-19 community mitigation recommendations, should masks still be worn in indoor public places?
 - When making decisions about community prevention strategies and individual preventive behaviors, health officials and people should consider the COVID-19 community level in their county.
 - Layered prevention strategies — like staying up to date on vaccines, screening testing, ventilation, and wearing masks — can help limit severe disease and reduce the potential for strain on the healthcare system. CDC recommends using county COVID-19 community levels to help determine which COVID-19 prevention measures to use for people and communities.¹⁰⁰
 - COVID-19 community levels do not apply in healthcare settings, such as hospitals and nursing homes.
 - You can find more information and your county's COVID-19 community level by going to [CDC's COVID-19 Community Levels website](#).

Misinformation Themes

- CDC and government officials knew mitigation efforts like vaccines, masks, and lockdowns would be ineffective but continued to push them for political gain.^{101,102,103}
- CDC and U.S. leaders will be tried for crimes against humanity for implementing COVID-19 vaccine and mask requirements.^{104,105}

Ways to Take Action

- Develop and amplify messages explaining why vaccines are still important in the COVID-19 prevention response.
- Disseminate messages about community-level risk and corresponding COVID-19 mitigation measures.

Emerging Misinformation Theme Affecting Vaccine Confidence



Emerging misinformation and myth that the COVID-19 vaccines cause Vaccine Acquired Immune Deficiency Syndrome (VAIDS), are made with HIV, or will give people HIV

Some consumers expressed the belief that people can acquire “Vaccine Acquired Immune Deficiency Syndrome” (VAIDS) or “immune erosion” from COVID-19 vaccinations.^{106,107,108,109,110} Misinformation was widely circulated across social media that the late French virologist Dr. Luc Montagnier, who won a Nobel Prize for his work on HIV, had recommended HIV tests for those receiving the third COVID-19 vaccine dose.^{111,112,113} There is no evidence Dr. Luc Montagnier ever said this. Some social media posts referred to a letter sent by a group of researchers to The Lancet on October 19, 2020, as the source of this misleading information.¹¹⁴ The letter expressed concern about the use of recombinant adenovirus type-5 (Ad5) vectors in Johnson & Johnson/Janssen and Astra-Zeneca COVID-19 vaccines.¹¹⁵ Online conversations surrounding “HIV/AIDS” rose by 3850% during the current reporting time frame.^e Notably, these false claims have been debunked by various news outlets,^{116,117,118,119} scientists, and doctors.

Perceptions, Concerns, and Threats to Vaccine Confidence

- Some social media users^{120,121,122,123,124,125} and news outlets^{126,127} claimed that COVID-19 vaccines (particularly a booster dose) contain “HIV particles,” which cause VAIDS.
- Based on the misleading VAIDS claim, there were calls online for those who had received COVID-19 vaccines to get tested for HIV.^{128,129,130,131,132}
- Some voiced concerns about the absence of long-term studies to determine side effects of COVID-19 vaccines.¹³³

Content Gaps and Information Voids

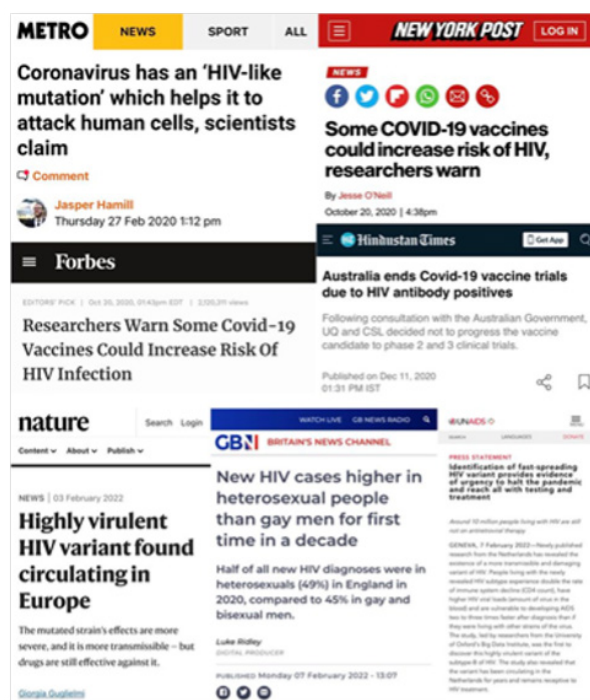
- Is VAIDS a known medical condition?
 - No. VAIDS is not a known medical condition.
- Do COVID-19 vaccines weaken the immune system?
 - No. There is no scientific evidence that COVID-19 vaccines weaken or impair the immune system.
- Did COVID-19 vaccines create the subtype-B variant of HIV-1?
 - No. There is no relationship between COVID-19 vaccination and HIV.¹³⁴

Misinformation Themes

- Moderna used HIV in its COVID-19 vaccine to allow the transport of mRNA into the human cell.^{135,136}
- People who got vaccinated against COVID-19 should get tested for HIV.^{137,138}
- COVID-19 vaccines increase the risk of HIV infection.¹³⁹
- Australia abandoned a COVID-19 vaccine trial because study participants were testing positive for HIV.¹⁴⁰
- VAIDS was invented to control the general population.^{141,142,143}

Ways to Take Action

- Promote the benefits of being vaccinated by amplifying the safety and efficacy of COVID-19 vaccines.
- Encourage healthcare providers to engage in conversations that address vaccine safety concerns by discussing potential side effects, vaccine benefits, and low rate of adverse events.
- Create and disseminate messages with talking points for healthcare providers to assist them in their conversations.



^eGoogle Trends

Continuing and Evolving Themes Affecting Vaccine Confidence

The themes below have been noted in previous reports and continue to undermine vaccine confidence. The information highlighted below focuses on what is new or different from previous reports. For additional context and previous recommendations on these themes, see previous [Insights Reports](#).



Consumers continue to discuss their concerns about COVID-19 vaccines for children

On February 1, 2022, following a request from the FDA, Pfizer and BioNTech initiated a rolling EUA submission process of their COVID-19 vaccine in children ages 6 months through 4 years.¹⁴⁴ However, on February 11, the FDA postponed the Vaccines and Related Biological Products Advisory Committee (VRBPAC) meeting, originally scheduled for February 15 to allow time to review additional data, specifically data that evaluated a third dose in this age group.¹⁴⁵ Although some parents have expressed disappointment and frustration about the delay,^{146,147,148,149} others expressed strong opposition to vaccination of children against COVID-19, maintaining that COVID-19 vaccines for children are unnecessary and unethical in this population.^{150,151,152}

Perceptions, Concerns, and Threats to Vaccine Confidence

- Many consumers are refraining from vaccinating their children ages 5 years and older because of concerns about unknown potential long-term side effects.^{153,154,155}
- Some social media users are extremely disinterested in vaccinating their children, leading to low vaccine uptake in this age group.^{156,157,158}
- Many parents are discouraged by the FDA's decision to delay authorizing a vaccine for children 6 months through 4 years of age and concerned that this will lead to an increase of COVID-19 cases in this age group, as well as heightened COVID-19 risk to family members.^{159,160,161}
- Public health officials have stressed the importance of vaccinating young children as soon as reliable, robust, and complete data are available and only after authorized by the FDA and recommended by CDC.^{162,163,164}
- Some social media users expressed the belief that there are not enough data to warrant the vaccination of children.^{165,166,167}

Content Gaps and Information Voids

- When will a vaccine for children under 5 years old be available?
 - The timing of a COVID-19 vaccine authorized for children younger than 5 years is unknown. Currently, children 5 through 11 years of age are eligible to receive the Pfizer-BioNTech COVID-19 vaccine.
- Are unvaccinated children able to travel?
 - Travelers should be aware of vaccination requirements at their travel destinations.¹⁶⁸ Unvaccinated children older than 2 years of age must get a viral test no more than 1 day before the flight's departure from a foreign country and show their negative test result report. If the child had a positive viral test on a sample taken during the past 90 days, and they [met the criteria to travel](#), they may travel instead with a positive viral test results and a signed letter from a healthcare provider or a public health official that states they have been cleared for travel [according to CDC's travel guidance](#). These requirements do not apply to children under 2 years of age.
- What is the protocol concerning COVID-19 vaccination administration error if a child gets an adult dose of the Pfizer-BioNTech COVID-19 vaccine?
 - COVID-19 vaccination administration errors should be reported to VAERS and the parents notified of the error. [This table](#) provides resources for preventing and reporting COVID-19 vaccine administration errors and actions to take after an error has occurred. It includes additional scenarios that deviate from CDC recommendations for vaccine intervals but are not considered administration errors for completeness.¹⁶⁹ The table below provides interim recommendations when children receive the wrong dosage:

Administration error/deviation	Interim recommendation
<ul style="list-style-type: none"> If ages 5–11 years and Pfizer-BioNTech COVID-19 Vaccine ≥12 years formulation (purple or gray cap) inadvertently administered. 	<ul style="list-style-type: none"> If 0.1 mL administered, in general, do not repeat dose. However, based on clinical judgment (e.g., child received 2 doses of incorrect formulation), a repeat dose of Pfizer-BioNTech COVID-19 Vaccine 5-11 years formulation (orange cap) may be administered at an interval of ≥21 days after the dose given in error. If >0.1mL administered, resulting in a higher than authorized dose, do not repeat dose.[†]
<ul style="list-style-type: none"> If ages 12–17 years and administered the Pfizer-BioNTech Vaccine 5–11 years formulation (orange cap), resulting in a lower-than-authorized dose.[‡] 	<ul style="list-style-type: none"> In general, do not repeat dose. However, based on clinical judgment (e.g., the adolescent received two doses of incorrect formulation), a repeat dose of Pfizer-BioNTech COVID-19 Vaccine ≥12 years formulation (30 µg, purple cap) may be administered at an interval of 21 days after the dose given in error.

- Will data for the COVID-19 vaccine in children be available before the EUA is granted?
 - Pfizer-BioNTech publicly shares all results (neutral, negative, and positive) from clinical trials. If the FDA considers a COVID-19 vaccine for children under 5 years old, the agency will conduct an independent analysis of the data and that analysis will be publicly available ahead of a VRBPAC meeting. The companies also present their data at this public meeting.¹⁷⁰
- What is the appropriate dosage of COVID-19 vaccine that a child or teen should receive?
 - The below image is from the [CDC's COVID-19 Vaccine: Interim COVID-19 Immunization Schedule for Ages 5 Years and Older](#). It contains the dosage of each COVID-19 vaccine by brand and age range.¹⁷¹

Product	Age Indications	Diluent	Dosage (amount injected)	
Type: mRNA vaccine				
Pfizer-BioNTech Orange cap and bordered label	5 - 11 years	1.3 mL 0.9% sodium chloride (normal saline, preservative-free)	Doses 1 and 2	0.2 mL
			Dose 3*	0.2 mL
			Booster dose	Not recommended
Pfizer-BioNTech Gray cap and bordered label	12 years and older	NONE	Doses 1 and 2	0.3 mL
			Dose 3*	0.3 mL
			Booster dose	0.3 mL
Pfizer-BioNTech Purple cap	12 years and older	1.8 mL 0.9% sodium chloride (normal saline, preservative-free)	Doses 1 and 2	0.3 mL
			Dose 3*	0.3 mL
			Booster dose	0.3 mL
Moderna Red cap	18 years and older	NONE	Doses 1 and 2	0.5 mL
			Dose 3*	0.5 mL
			Booster dose	0.25 mL
Type: Viral Vector Vaccine				
Janssen [†] Blue Cap	18 years and older	NONE	Dose 1	0.5 mL
			Dose 2*	Dose 2 Administer mRNA vaccine only ‡
			Booster dose	0.5 mL

Misinformation Themes

- Children cannot get infected with the virus that causes COVID-19. In the rare situations in which children become sick with COVID-19, it is never severe. Therefore, vaccinating this age group is not needed.^{172,173,174}
- The COVID-19 vaccine will kill more children than infection with the virus that causes COVID-19.^{175,176,177}
- CDC and the FDA are untrustworthy and purposefully withholding data showing the inefficacy of vaccines.^{178,179,180}

Ways to Take Action

- Provide public health professionals, doctors, schools, and daycare centers with information about childhood morbidity from COVID-19 to communicate the urgency and importance of vaccination in all children.
- Ensure trial data for all COVID-19 vaccines are publicly accessible and easy to understand, especially information about potential side effects and adverse events.
- Encourage public health experts, community leaders, and pediatricians to promote pediatric COVID-19 vaccinations to parents of children 5 years and older.

Appendix: Inputs and Sources

Type	Input	Cadence	Sources	Tactics for Utilization
Social Media Listening & Media Monitoring	Communication Surveillance Report	Daily on weekdays	<ul style="list-style-type: none"> Google news Meltwater CrowdTangle Native platform searches 	<ul style="list-style-type: none"> Share of voice topic analysis to identify themes Emerging topics
	Meltwater	Daily	<ul style="list-style-type: none"> Facebook, Twitter, Instagram Blogs News media Online forums 	<ul style="list-style-type: none"> Share of voice topic analysis Emerging theme topics Identify high reach/velocity topics
	OADC (Office of the Associate Director of Communication) Channel COVID-19 Post metrics	Weekly	<ul style="list-style-type: none"> Sprout Social Native OADC account analytics 	<ul style="list-style-type: none"> Analyze # of posts, topics Success of messages, # of impressions, reach, # engagements
	OADC Channel Comment Analysis	Daily on weekdays	<ul style="list-style-type: none"> Native platform searches 	<ul style="list-style-type: none"> Sentiment analysis Identify message gaps/voids
Direct Reports	CDC-INFO Metrics	Weekly	<ul style="list-style-type: none"> CDC-INFO inquiry line list Prepared response (PR) usage report 	<ul style="list-style-type: none"> Cross-compare PR usage with inquiry theme analysis Sentiment analysis Identify information gaps/voids
	VTF Media Requests	Weekly	<ul style="list-style-type: none"> Media request line list 	<ul style="list-style-type: none"> Leading indicator for news coverage Identify information gaps/voids
	Web Metrics	Weekly	<ul style="list-style-type: none"> Top pages Google search queries Top FAQs Referring domains 	<ul style="list-style-type: none"> Identify information gaps/voids, Identify keywords/search terms, changes in web traffic
Research	Poll Review	Weekly	<ul style="list-style-type: none"> Harris Poll, PEW research, Gallup Poll, KFF New data related to vaccine hesitancy 	<ul style="list-style-type: none"> Identify socio-behavior indicators related to motivation and intention to vaccinate
	Literature Review	Weekly	<ul style="list-style-type: none"> PubMed, LitCovid, ProQuest Central, Altmetric New data related to vaccine hesitancy 	<ul style="list-style-type: none"> Identify current vaccination intention Identify barriers to vaccination
Third Party Reports	Tanaq Social Listening +Media Monitoring Report	Weekly	<ul style="list-style-type: none"> Meltwater Sprout Social First Draft Native platform searches 	<ul style="list-style-type: none"> Trending topics Demographic and geographic conversation monitoring
	CrowdTangle content insights report	Biweekly	<ul style="list-style-type: none"> Facebook 	<ul style="list-style-type: none"> Top pages (voices), groups General trends/sentiment analysis News analysis through posts
	First Draft News Vaccine Misinformation Insights Report	Monthly	<ul style="list-style-type: none"> Proprietary methods 	<ul style="list-style-type: none"> Media trends analysis Emerging threats and data deficits Online vaccine narratives
	Project VCTR	Weekly	<ul style="list-style-type: none"> Proprietary methods 	<ul style="list-style-type: none"> National and regional trends in negative attitudes toward vaccination Conversations around Legislation
	Virality Project	Weekly	<ul style="list-style-type: none"> Proprietary methods 	<ul style="list-style-type: none"> Mis- and disinformation trends related to COVID-19 vaccine