

# COVID-19 State of Vaccine Confidence Insights Report

Report 18 | November 10, 2021 | Date Range: October 12 – 25, 2021



## Summary

**Findings.** The first major theme we identified was that consumers continue to express frustration with vaccine requirements and international travel guidance. The second major theme was that news reports and misinformation about current and former high-profile government officials increased online conversations about consumer misgivings about COVID-19 vaccines. An emerging theme during this reporting period was that consumers are interested in learning which booster dose and primary series combinations are most effective and safest. A continuing and evolving theme was that COVID-19 vaccination in children ages 5-11 years old continues to be a topic of conversation amongst parents and public health professionals. Finally, claims of infection-induced immunity, also referred to as natural immunity, as equal to or greater than approved COVID-19 vaccines persist and have informed legal and legislative action.

**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. The goal of these efforts is to increase confidence in COVID-19 vaccines and expand vaccine uptake more broadly. To demonstrate that vaccination is a norm among first responders, share messages about the percentage of first responders that already received the vaccine, along with personal stories regarding why they got vaccinated and, if they had hesitancy to get a vaccine, what helped them overcome their hesitancy. Create and disseminate messages about the frequency of severe COVID-19 outcomes in people who were previously vaccinated compared to those who are not vaccinated. Finally, share messages about the safety and effectiveness of mixing brands of the COVID-19 primary series and booster doses, and languages people understand.



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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 biweekly 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.

## Theme Classification

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

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

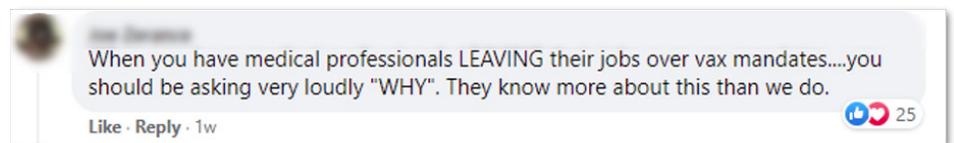
## Major Themes



### Consumers continue to have questions and express frustration with vaccine requirements and international travel guidance.

Social media users and other consumers continue to speak out against vaccine requirements.<sup>a,1,2,3,4</sup> However, the conversation appears to have shifted during the last two weeks, focusing more on terminations, fines, and vaccine requirement protests, and less on consumers' general disapproval of the requirements. During this reporting period, consumers increasingly searched Google with keywords related to terminations for not receiving the COVID-19 vaccine. One particular search phrase (health care workers speak out on why they would rather lose their jobs than take a COVID-19 vaccine) comes from a news article discussing the reasons healthcare workers give on why they would rather lose their job than take a COVID-19 vaccine.<sup>b,5</sup> A recent poll shows a split among US adults on the appropriateness of vaccine requirements for healthcare workers.<sup>6</sup> Opposition to the vaccine and/or vaccine requirements among healthcare workers, police officers, and other employees, including NBA players continue to threaten vaccine confidence, with social media users using such opposition to support their personal decisions not to get vaccinated.<sup>7,8,9,10,11</sup>

News articles discussing the number of employees leaving their jobs rather than receiving the COVID-19 vaccine continue to drive the misperception that this practice is common.<sup>12,13,14,15</sup> Online discussions



and online searches relating to groups and individuals protesting the vaccine requirements increased as professional athletes<sup>b,16,17,18,19,20</sup> and employees<sup>21,22,23</sup> call attention to their cause. During this reporting period, online searches related to New York City vaccine requirements and protests continued to rise.<sup>b</sup> Legal challenges related to vaccine requirements also continued during this reporting period<sup>24,25,26</sup> with some social media users seeing the challenges as validation of their vaccine hesitancy.<sup>27,28,29</sup> Some social media users continue to believe that CDC employees and other federal government workers are not required to get vaccinated, despite having a federal employee vaccination requirement, and believe this is hypocritical.<sup>30,31,32</sup>

After the October 25 travel announcement that as of November 8, 2021, international travelers to and from the United States would need proof of COVID-19 vaccination status or a recent test,<sup>33,34</sup> many people had questions about the rules. For example, consumers questioned if vaccination with any vaccine would qualify, if travelers needed boosters or just the primary series, if children need to be vaccinated, travelers from which countries are affected, post-travel quarantine requirements, and if paper vaccination cards will be required.<sup>c,35,36,37,38,39,40</sup> Google searches related to the phrase "travel ban" also increased during this reporting period.<sup>d</sup> Some social media users and news outlets are reporting travelers' interest in using fake vaccine cards.<sup>41,42</sup>

Other information gaps related to vaccine requirements persisted into this reporting period. Specifically, individuals wanted to know what to do if they lost their vaccination cards.<sup>c,d,43</sup> Consumers had questions about obtaining a religious exemption and if the exemption would apply in all circumstances when proof of vaccination is required (i.e., work requirement, travel requirement, participation in school activities, attending public events).<sup>c,44,45,46</sup> Misinformation circulated that the federal vaccine requirement was invalid because it was announced during a press conference rather than a written executive order.<sup>47,48,49</sup> Another circulating piece of misinformation is that vaccine requirements for COVID-19 are comparable to HIV workplace requirements, yet there are NO workplace requirements for people living with HIV, making COVID-19 vaccination requirements hypocritical.<sup>50,51,52,53,54,55</sup>

### Ways to act:

- Create and disseminate personalized messages from healthcare workers, police officers, and firefighters on why they got vaccinated and, if they had hesitancy to get a vaccine, what helped them overcome their hesitancy.
- Demonstrate that vaccination is a norm among first responders by creating and disseminating messages about the percentage of first responders that already received the vaccine.
- Partner with trusted messengers to counter the misinformation that there is no federal vaccine requirement.

<sup>a</sup>CDC-INFO

<sup>b</sup>Google Trends

<sup>c</sup>CDC-INFO

<sup>d</sup>Google Trends



## Consumer distrust about COVID-19 vaccines may have increased because of news reports and misinformation about current and former high-profile government officials.

Initial reports of Colin Powell's death on October 18, 2021 announced that the 84-year-old retired general had died from complications related to COVID-19 despite being fully vaccinated.<sup>56,57,58,59,60,61</sup>

Vaccine advocates and skeptics discussed this on social media and in online comments, where skeptics offered divergent arguments.<sup>62,63,64,65,66,67,68,69,70</sup> Most skeptics ignored Powell's underlying immunocompromising conditions, asserting that his fatal breakthrough infection proved vaccination is ineffective, actively dangerous, or both, while a smaller number saw evidence of a conspiracy to inflate the pandemic death toll, arguing that an "84-year-old dying from 'complications of Covid' despite being fully vaccinated and having blood cancer doesn't necessarily mean vaccines don't work. It means our Covid death reporting is fraudulent."<sup>71,72,73</sup> Interest in Powell's cancer and his vaccination status was reflected in Google search data, with a spike in searches on his name, "covid shot," "vaccinated," "cancer," and "multiple myeloma" from October 18–20, 2021. Searches related to the string "what covid vaccine did Colin Powell have" further suggest that some consumers considering a booster dose might want to avoid the vaccine that Powell received.<sup>e</sup>



Commenting on-air about Powell's death, a former CDC Director said "more than 40% of people who died in Maryland were fully vaccinated."<sup>74</sup> This piece of misinformation<sup>75</sup> was repeated by vocal vaccine deniers and amplified across the misinformation ecosystem under the headline "Former CDC Director gives alarming statistic on fully vaccinated COVID deaths."<sup>76,77,78,79,80,81</sup> Blogs and websites sharing the quote cited the statistic, which most labeled "alarming."<sup>82,83,84</sup> The statement was widely shared online and amplified misinformation channels. On October 19, 2021, a television station reported, "According to the Maryland Department of Health, 30% of those who have died from COVID-related illnesses, between September 1 and October 15, were fully vaccinated."<sup>85,86,87</sup> Three days later, the station presented a follow-up report under the headline "Doctors dispel deceiving statistics on COVID-19 deaths in Maryland."<sup>88</sup> These reports appear to be the only mainstream response to the statistic cited on October 18, which seems not to have been evaluated by any fact-checking service.

On October 20, 2021, reports that the National Institutes of Health (NIH) had unintentionally provided indirect funding for so-called gain-of-function research on naturally occurring bat coronaviruses at the Wuhan Institute of Virology (WIV) stirred outrage among vaccine critics, who called for the firing or prosecution of responsible parties, including the White House Chief Medical Advisor, who had categorically denied that NIH funding supported such research in testimony to Congress.<sup>89,90,91,92</sup> Then, on October 24, 2021, allegations that "his National Institutes of Health division provided a grant to a lab in Tunisia to torture and kill dozens of beagle puppies for twisted scientific experiments" appeared in certain US and UK newspapers and amplified online.<sup>93,94,95,96,97</sup> The stories had a large enough impact that variations on the advisor's name and "puppies," "dogs," "beagles," and "lied" were rising search terms at the end of the reporting period.<sup>f</sup>

### Ways to act:

- Create and disseminate messages about the frequency of severe COVID-19 outcomes in people who were previously vaccinated compared to those that are not vaccinated including messaging about findings from [a recent MMWR](#) that reported immunity from vaccines was more protective than immunity from recent SARS-CoV-2 infection.
- Partner with trusted messengers, especially medical and scientific professional associations, about the utility, rules, and ethical considerations of using animals in clinical trials.

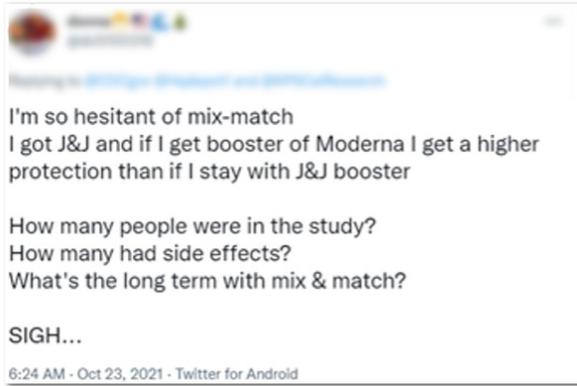
<sup>e</sup>Google Trends

<sup>f</sup>Google Trends

## Emerging Themes



### Consumers are interested in learning more about booster doses, especially which booster dose and primary series combination are most effective and safest.



On October 21, 2021, the CDC recommended that for groups recommended to receive a booster, people have the option to receive any of the FDA-approved or FDA-authorized COVID-19 booster products (Pfizer-BioNTech, Moderna [50 µg in a volume of 0.25ml], or Janssen).<sup>98,99,100</sup> This authorization refocused online conversations toward understanding the updated guidance. Consumers increasingly searched on Google for more information about mixing brands of the primary series with the booster dose.<sup>g,h</sup> Some social media users expressed concern about the safety of receiving a different brand of a booster dose than the primary series.<sup>101,102,103</sup> Consumers were interested in which combination of primary series vaccine and booster dose was the most effective at preventing or decreasing the severity of symptoms of COVID-19.<sup>h,104,105,106</sup> Consumers are especially interested in mixing their primary series vaccine with a Moderna booster dose.<sup>h,107,108,109,110,111,112,113,114</sup>



Consumers and some social media users continue to have questions about the duration of booster dose effectiveness, the justification of additional doses if the primary series “didn’t work” and eligibility questions.

For example, are booster doses required, who is eligible to receive booster doses, what pre-existing conditions qualify a person to receive a booster dose, and how long should one wait to get a booster after being infected with COVID-19.<sup>g,h,i,115,116,117,118,119,120,121</sup> Consumers continued to express interest in getting a Moderna booster dose and expressed a desire for CDC to authorize a Moderna booster.<sup>h,122,123,124,125,126</sup>

### Ways to act:

- Create and disseminate messages about the safety and effectiveness of mixing brands of the COVID-19 primary series and booster doses.
- Continue to partner with trusted messengers to share messages about the eligibility and effectiveness of the COVID-19 vaccines and booster doses.
- Clarify that persons who received Pfizer-BioNTech, Moderna, and Janssen vaccines can receive boosters and reference CDC’s website.

<sup>g</sup>CDC-INFO

<sup>h</sup>Google Trends

<sup>i</sup>SEMrush

## Continuing and Evolving Themes

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](#).

### COVID-19 vaccination in children ages 5-11 years continues to be a topic of conversation among parents and public health professionals.

Parents and public health professionals continued to discuss the anticipated emergency use authorization of COVID-19 vaccines in children ages 5-11 years. Due to the recent FDA authorization and ACIP recommendation, we anticipate this will continue to be a topic of high interest. Many consumers question the necessity and safety for childhood COVID-19 vaccination, asserting that low case numbers and deaths,<sup>127,128,129,130</sup> coupled with harmful side effects and adverse events,<sup>131,132,133,134</sup> contradict the urgency for vaccinating children against COVID-19.<sup>135,136,137</sup>

An analysis of search terms showed an increased interest in both the safety and risks of COVID-19 childhood vaccination. Google trends indicated “covid vaccine for children under 12” was a frequently recorded search term, demonstrating consumers’ continued concern and attention to this topic.<sup>j</sup> Before the October 29, 2021 FDA Emergency Use Authorization for the Pfizer-BioNTech vaccine in children ages 5-11 years and the corresponding November 2 ACIP recommendation,<sup>138</sup> many parents reported looking forward to the prospect of vaccinating children, while others remain adamantly opposed.<sup>139,140,141,142</sup>

Despite growing interest in childhood COVID-19 vaccination, a recent poll found that 30% of parents say they will “definitely not” get their children ages 5–11 years vaccinated, while 27% of respondents stated they will get their children ages 5–11 years vaccinated “right away.” The same poll showed parents are hesitant to vaccinate their children due to fear of long-term effects, serious side effects, and impacts on fertility. Additionally, parents are concerned about taking time off to take their child to get vaccinated, traveling to the site, and potential cost.<sup>143</sup>

### Claims that infection-induced immunity is equal to or greater than approved COVID-19 vaccines persist and informed legislative action.

Notable breakthrough infections,<sup>144,145,146</sup> coupled with legal<sup>147,148,149,150</sup> and legislative<sup>151,152</sup> responses to vaccine requirements, have sustained consumer interest in comparing the protective effect of vaccine-induced immunity to infection-induced (or natural) immunity. The protection from infection-induced immunity varies from person to person<sup>153</sup> and choosing not to vaccinate increases the risk of reinfection, hospitalization, or death.<sup>154,155,156</sup> Still, vaccine hesitant consumers cite research<sup>157,158</sup> claiming infection-induced immunity provides a protective effect “as good as”<sup>159</sup> or “more robust than”<sup>160</sup> vaccines.

Some consumers noted the emphasis of vaccine-induced over infection-induced immunity might be indicative of politicization<sup>161,162,163</sup> – an explicit demotivator for the vaccine hesitant<sup>164,165</sup> – and a failure to “follow the science.”<sup>166</sup> Some consumers maintain their hesitancy stems from an opposition to perceived governmental overreach and not COVID-19 vaccines or science at large<sup>167,168</sup>. However, people who are unvaccinated rank vaccine safety concerns and side effects as primary reasons for not vaccinating when polled.<sup>169</sup> As vaccine requirement deadlines approach, consumers may seek exemptions due to infection-induced immunity. Local governing bodies have drafted more than 100 pieces of legislation potentially limiting public health efforts to increase vaccination rates or implement community mitigation strategies,<sup>170</sup> including some allowances for exemptions based on antibody presence and explicit mentions of natural immunity.<sup>171,172,173</sup> These legislative efforts indicate a misalignment of consumer-level understanding of antibody presence and the amount of protection against reinfection they provide.<sup>174,175,176</sup>

### New ways to act:

- Create and share messaging about [a recent MMWR](#) that reported the protection of vaccination is much stronger than recent infection with SARS-CoV-2. Work with trusted messengers to share the information from this report.

## Appendix: Inputs and Sources

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