

# COVID-19 State of Vaccine Confidence Insights Report

Report 12 | July 26, 2021 | Date Range: June 21, 2021 – July 12, 2021



## Summary

**Findings.** Consumer concerns about the safety of COVID-19 vaccines were amplified by multiple, overlapping and widely circulating misinformation narratives. As a result, some consumers questioned the transparency of the government in reporting and addressing adverse events following COVID-19 vaccination. The Delta variant of the virus that causes COVID-19 continues to drive concerns about vaccine effectiveness, especially among those who are already vaccinated. However, those who remain unvaccinated are generally less likely to perceive the Delta variant as a threat, and vaccine intentions do not appear to be affected.

**Ways to take action.** Federal, state, and local partners should continue to work together to increase transparency around 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. Messages leveraging available data on vaccine safety and effectiveness should be disseminated, especially in relation to the Delta variant and circulating misinformation narratives. Public health agencies should partner with trusted messengers and healthcare personnel to further amplify these messages. Research efforts should be supported to further evaluate the effect of reported adverse events, side effects, and vaccine effectiveness on vaccination intent and motivation.



## Contents

- [2 Aims and Methods](#)
- [3 Consumer concerns about the safety of COVID-19 vaccines were fueled by overlapping misinformation narratives.](#)
- [4 Vaccinated consumers are concerned about vaccine effectiveness against the Delta variant while unvaccinated consumers remain mostly unconcerned about the variant's spread.](#)
- [5 Some consumers claim a COVID-19 treatment is being suppressed to unnecessarily promote vaccination.](#)
- [5 Consumers need answers about the safety and effectiveness of Johnson & Johnson's Janssen COVID-19 Vaccine.](#)
- [6 Some consumers are angered by the announcement of new "door-to-door" vaccination outreach efforts.](#)
- [7 Update on Special COVID-19 State of Vaccine Confidence Insights Report on the Authorization & Recommendation of the Pfizer-BioNTech COVID-19 Vaccine for Adolescents Aged 12 through 15 Years](#)
- [8 Continuing and Evolving Themes](#)
- [9 Appendix: Inputs and Sources](#)

**Centers for Disease Control & Prevention,  
COVID-19 Response, Vaccine Task Force**  
Vaccine Confidence & Demand Team, Insights Unit





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 that influence COVID-19 vaccine hesitancy and uptake. These are characterized by level and type of threat to vaccine confidence, degree of spread, and directionality. 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 be comprehensive of 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



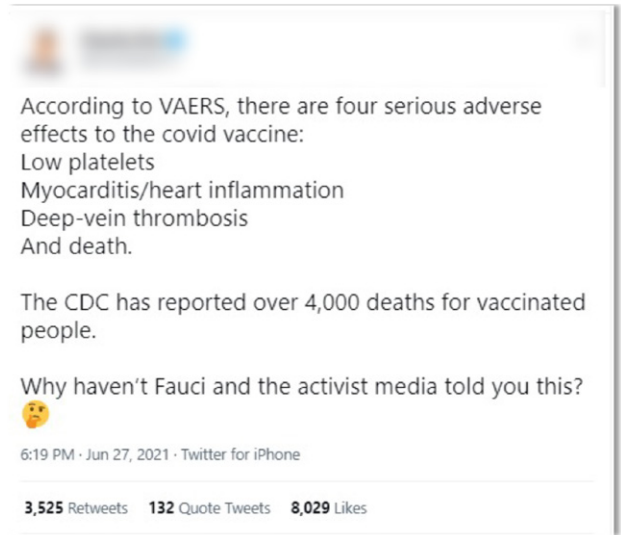
### Consumer concerns about the safety of COVID-19 vaccines were fueled by overlapping misinformation narratives.

Throughout the reporting period, vocal vaccine deniers circulated and amplified several misinformation narratives focused on discrediting the safety of COVID-19 vaccines. Major circulating false narratives included:

- False claims that Pfizer-BioNTech COVID-19 Vaccine contained graphene oxide, a supposedly poisonous ingredient, which can cause damage to immune systems, pneumonia, and vascular injury.<sup>1,2,3</sup>
- False claims that mRNA COVID-19 vaccines are “cytotoxic” and cause the body to produce spike proteins, which collect within organs causing damage, particularly to the ovaries.<sup>4,5,6</sup>
- COVID-19 vaccination disrupts menstrual cycles and has caused increased miscarriage rates.<sup>7,8</sup>
- A retracted journal article from *Vaccines* that falsely reported that for every three COVID-19 deaths prevented by vaccination, two injuries were caused. These claims continued to circulate despite the article being retracted.<sup>9,10,11</sup>

These narratives entered a digital landscape primed with concerns about the safety of COVID-19 vaccines as consumer fears about myocarditis and pericarditis following vaccination remained at top of mind for many.<sup>12,13,14,15</sup> Consumer fears about vaccine safety were then further fueled by FDA adding a warning on July 12, 2021, about cases of Guillain-Barré syndrome occurring following vaccination with Johnson & Johnson’s Janssen COVID-19 Vaccine.<sup>16,17,18</sup> Consumers sought answers online for information about these safety concerns with online searches for “spike protein,” “graphene oxide,” and “covid vaccine miscarriage” increasing throughout the reporting period<sup>a</sup> and searches for “guillain barre” increasing significantly from June 2021 to July 2021.<sup>b</sup>

With the large volume of misinformation narratives circulating, vocal vaccine deniers, and some consumers questioned the transparency of the government in reporting and addressing adverse events following COVID-19 vaccination.<sup>19,20,21,22</sup> In addition to lack of trust in the government, recent polls and studies confirm that among those who remain unvaccinated the most common cited reasons are concerns about the safety of vaccines and their side effects.<sup>23,24</sup>



### Ways to act:

- Continue to disseminate messages about the safety of COVID-19 vaccines, highlighting the number of people who were vaccinated without adverse events and promoting awareness of the multiple layers of safety monitoring systems in place. Amplify messages about what [Vaccine Adverse Event Reporting System \(VAERS\)](#) is, how all the safety monitoring systems work, and how reported adverse events are investigated.
- Expand available online content to debunk widely circulating myths and misinformation, and ensure that web content is optimized for search engines.
- Partner with healthcare personnel, especially women’s health providers, to address misinformation clearly and transparently about COVID-19 vaccines, fertility, and reproductive health.
- Support research to better understand consumer perception of vaccine safety, how they seek information about vaccine safety, and who are trusted sources for vaccine safety information.

<sup>a</sup>[Google Trends](#)

<sup>b</sup>[SEMrush](#)



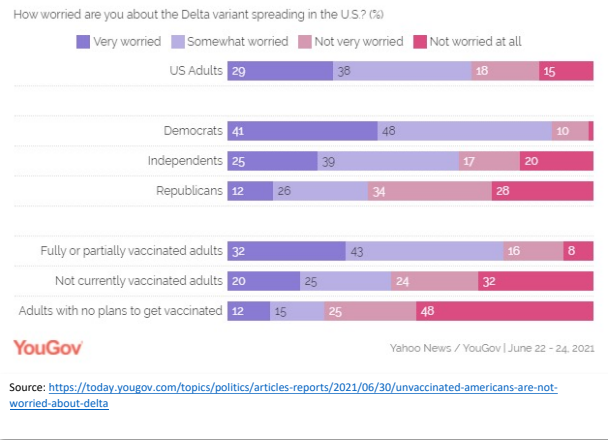
## Vaccinated consumers are concerned about vaccine effectiveness against the Delta variant while unvaccinated consumers remain mostly unconcerned about the variant’s spread.

News coverage of the Delta variant of the virus that causes COVID-19 continued to increase from the [last report](#). Coverage ranged from the Delta variant becoming the most common cause of COVID-19 cases in the United States<sup>25</sup> to conflicting reports about whether additional doses would be needed as a result.<sup>26,27,28,29</sup> Despite [a joint statement from CDC and FDA clarifying that additional doses are not recommended at this time for fully vaccinated individuals](#), some vaccinated consumers continued to question whether an additional dose will be needed to better protect themselves against emerging variants, including Delta.<sup>30,31</sup> Several vaccinated consumers also expressed frustration online that unvaccinated consumers are posing a threat to the return to pre-pandemic life and the health and safety of people who are unable to be vaccinated, such as children under 12 years old.<sup>32,33,34</sup> At the same time, several consumers called for mitigation measures, such as mask mandates, to return, even for the fully vaccinated to help slow the spread of the Delta variant<sup>35,36</sup>

Concern about the spread of the Delta variant appears to be far less common among those who are not vaccinated than it is among those who are already vaccinated. One recent poll found that almost half of adults with no plans to get vaccinated were not worried about the Delta variant and almost one-third of adults not currently vaccinated were also not worried.<sup>37</sup> Throughout the reporting period, vocal vaccine deniers amplified narratives that the Delta variant is less serious<sup>38,39</sup> and, in some cases, not even real.<sup>40,41,42</sup> Other vocal vaccine deniers spread misinformation that those who are vaccinated were at increased risk for severe illness from the Delta variant<sup>43,44</sup> and that vaccinated people caused the emergence of variants of the virus that causes COVID-19.<sup>45,46</sup>

Confusion about the effectiveness of available vaccines against the Delta variant was widespread. Consumers and news outlets online noted data from Israel that suggests vaccines are less effective against the Delta variant than previously believed.<sup>47,48,49,50</sup> Consumers also inquired online if a particular vaccine was more effective against the Delta variant, with several indicating they believed authorized vaccines do not provide any protection against this variant.<sup>51,52</sup> However, concerns about variants were not limited to the Delta variant; the frequency of news coverage and online conversations during this period also increased about the “Delta plus” variant and Lambda variant.<sup>53,54,55,56</sup>

### Half of adults who do not plan to get vaccinated are “not worried at all” about the Delta variant



### Ways to act:

- Disseminate messages about the effectiveness of available COVID-19 vaccines against the Delta variant and other circulating variants in the United States. Continue to amplify messages about the benefits of vaccination, such as reducing the likelihood of severe illness causing hospitalization or death from COVID-19.
- Continue to partner with trusted messengers to amplify messages about the severity of COVID-19 illness and the benefits of vaccination, leveraging recent data that show a majority of people hospitalized for or dying from COVID-19 are not vaccinated.
- Evaluate how potential availability and authorization of additional doses affects intent to vaccinate or re-vaccinate among different consumers.

<sup>4</sup>Meltwater

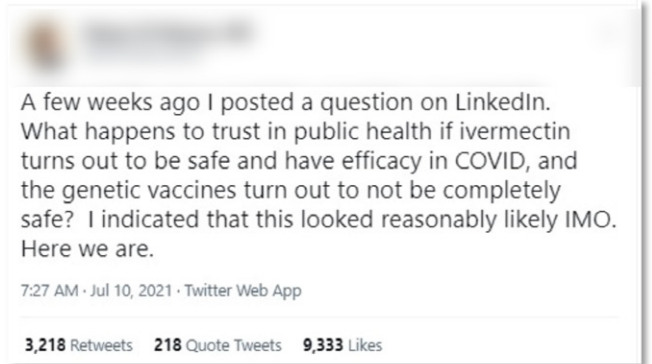


## Emerging Themes



### Some consumers claim a COVID-19 treatment is being suppressed to unnecessarily promote vaccination.

Consumers on social media increasingly claimed that a COVID-19 “cure,” ivermectin, is being “suppressed” by government agencies to promote vaccination.<sup>57,58,59,60,61</sup> This claim was further amplified by a former vaccine developer from a pharmaceutical company who has perpetuated a number of misinformation narratives over the past few months<sup>62</sup> as well as other prominent misinformation outlets and vocal vaccine deniers.<sup>63,64,65</sup> While there has been minimal coverage by mainstream news outlets,<sup>66,67,68</sup> the University of Oxford announced on June 23, 2021, that it had begun investigating ivermectin as a potential treatment for COVID-19.<sup>69</sup> The narrative around ivermectin appears to recycle earlier false claims about the hydroxychloroquine as a treatment.<sup>70</sup>



#### Ways to act:

- Continue to disseminate messages that vaccination is one of the many tools that we are using to help end the COVID-19 pandemic.
- Develop and disseminate content about research efforts for treatments of COVID-19 and what is known about available effective treatments in addition to promoting vaccination.



### Consumers need answers about the safety and effectiveness of Johnson & Johnson’s Janssen COVID-19 Vaccine.

Following the release of results from a recent study suggesting that mixing mRNA and adenovirus-based COVID-19 vaccines provided a good immune response,<sup>71</sup> experts speculated about whether people who have previously received a J&J/Janssen vaccine should receive an additional dose of an mRNA COVID-19 vaccine.<sup>72,73,74</sup> Prompted by the results from this new study and [the Delta variant](#) continuing to spread across the United States, some consumers inquired whether they should receive a dose of mRNA COVID-19 vaccine to improve their level of protection.<sup>75,76</sup> Some consumers also expressed concern about the safety of J&J/Janssen vaccine, with cases of Guillain-Barré syndrome after vaccination gaining news media coverage in early July.<sup>77,78,79,80</sup> On July 12, 2021, the FDA [added a warning](#) about cases of Guillain-Barré syndrome occurring following vaccination with J&J/Janssen vaccine. Additionally, some consumers who received the single-dose J&J/Janssen vaccine expressed frustration about the lack of messaging from health authorities on J&J/Janssen vaccine, compared to the volume of messages about mRNA COVID-19 vaccines.<sup>81,82,83</sup>



#### Ways to act:

- Disseminate messages about J&J/Janssen COVID-19 Vaccine, leveraging available safety and effectiveness data.
- Clarify what research is being done to evaluate additional doses for those who received J&J/Janssen vaccine.



## Some consumers are angered by the announcement of new “door-to-door” vaccination outreach efforts.

As President Biden’s goal of vaccinating 70% of U.S. adults by July 4, 2021, drew closer, news coverage increased about the likelihood of missing this goal.<sup>84,85</sup> On July 6, 2021, the White House announced a tactical shift to increase COVID-19 vaccination by bringing vaccines directly to low vaccination coverage areas.<sup>84</sup> Some consumers reacted negatively to this news, claiming that such direct government action impinges on their liberty and self-determination.<sup>86,87,88,89</sup> Some vocal vaccine deniers and politicians falsely claimed that the federal government would send “strike teams” across the country to coerce or even forcibly vaccinate adults and teens.<sup>90,91,92,93,94</sup> According to a recent poll, lack of trust in the U.S. government remains a major reason why 38% respondents remain unvaccinated.<sup>95</sup>

Despite the White House clarifying that “door-to-door” canvassing is similar to census-taking or a voter registration drive and just one element in a five-part strategy to improve vaccine availability, misinformation outlets and vocal vaccine deniers seized on the phrase “door-to-door.”<sup>96,97,98</sup> Some consumers expressed confusion and dismay online that communities are being identified and questioned whether the federal government was secretly tracking individuals’ vaccination status; others attempted to draw parallels with historical human rights abuses.<sup>99,100,101</sup> Some consumers felt that outreach might be an invasion of medical privacy if individuals are asked about their vaccination status,<sup>102,103</sup> and state-level medical freedom Facebook groups leveraged these fears to further amplify their claims of medical overreach, especially regarding vaccination.<sup>104,105,106</sup>

### Ways to act:

- Partner with trusted messengers within communities to amplify messages about vaccination efforts, share how local health departments are making vaccination more convenient than ever, and promote the benefits of vaccination.
- Support research to better understand localized vaccination behaviors and trust in the United States vaccination program. Perform message testing to better understand message framing needs for reaching specific communities and demographics.



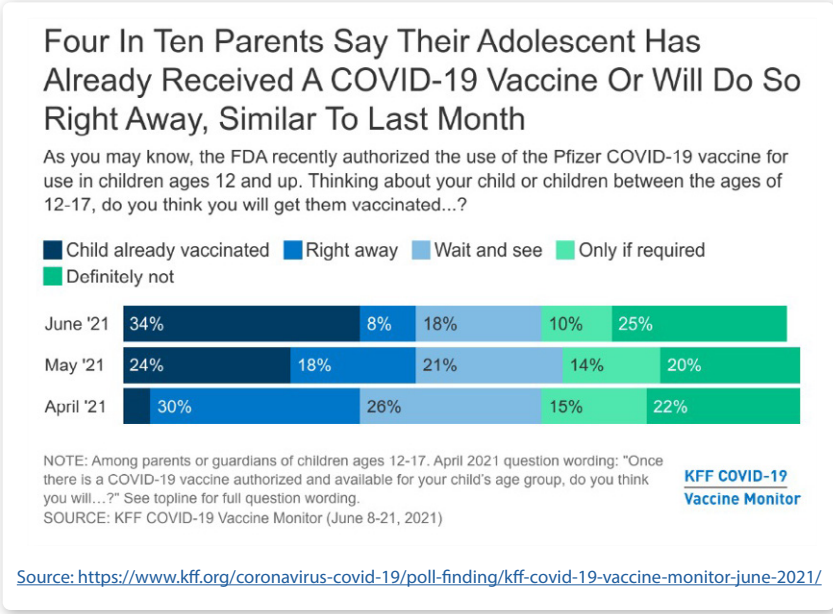
## Update on [Special COVID-19 State of Vaccine Confidence Insights Report on the Authorization & Recommendation of the Pfizer-BioNTech COVID-19 Vaccine for Adolescents Aged 12 through 15 Years](#)

As the Delta variant of the virus that causes COVID-19 becomes more prominent in the United States, consumers continue to be divided about the urgency at which to vaccinate adolescents and children, if a COVID-19 vaccine is authorized for children under 12 years old.<sup>107,108,109</sup> Some consumers remain confused about children’s risk of COVID-19, both about the risk of severe illness and how easily children could spread the virus.<sup>110,111,112</sup> Some parents who support vaccination expressed concern over the increasing number of cases among children<sup>113,114</sup> and felt population immunity would not be possible without vaccinating more adolescents and eventually children.<sup>115</sup> Parents of children too young for vaccination specifically asked for more information about when children 11 years old and younger would be able to get vaccinated,<sup>116,117,118</sup> especially as several schools announced they would not be requiring masks for students in the fall.<sup>119,120</sup>

On the other hand, some parents who do not support adolescent and child vaccination amplified messages about adverse events following vaccination among teens,<sup>121,122</sup> with myocarditis and pericarditis following vaccination continuing to be their paramount concerns.<sup>123,124,125</sup> Many of these parents expressed the belief that the risk for side effects or an adverse event following vaccination was greater than the marginal risk of severe illness from COVID-19.<sup>126,127</sup> These comments from parents and vocal vaccine deniers were met with support from some political leaders who feel children are not at risk and do not need to be vaccinated, with many citing the updated World Health Organization (WHO) guidance as justification.<sup>128,129,130</sup> Misinformation also circulated among vocal vaccine deniers that health departments were seeking to vaccinate adolescents without parental consent, furthering distrust in the United States vaccination system for some parents.<sup>131,132,133</sup>

Recent polls also highlighted a divide in attitudes among parents about risk of COVID-19 in adolescents versus younger children. One poll found that even though four in 10 parents said their adolescent received at least one dose of COVID-19 vaccine, five in 10 did not plan to vaccinate their child.<sup>134</sup> However, a different poll found that more than half of those surveyed with children 12 through 17 years old planned to fully vaccinate them, while the majority of those who did not plan to fully vaccinate their child indicated they were waiting on more research about the safety of COVID-19 vaccines.<sup>e</sup>

<sup>e</sup> Harris Poll for CDC



## Continuing and Evolving Themes

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](#).

**Breakthrough cases.** News coverage continues to highlight breakthrough cases of COVID-19 among fully vaccinated people, including among high-profile athletes.<sup>135,136</sup> Severe illness from COVID-19 among fully vaccinated people, resulting in hospitalization or death, received the most prominent coverage.<sup>137,138</sup> This coverage drove concerns for some consumers about the effectiveness of available vaccines,<sup>139,140</sup> asymptomatic spread by vaccinated people,<sup>141,142</sup> and how breakthrough cases are counted.<sup>143,144</sup> Several consumer concerns on this topic were directly linked to the circulating Delta variant of the virus that causes COVID-19.

**People with compromised immune systems.** Several consumers continue to comment online about a lack of guidance and support for immunocompromised people related to COVID-19 vaccination.<sup>145,146,147</sup> At the same time, news coverage highlighted the conflicting information consumers were seeing regarding the need for and timing of a potential third dose for immunocompromised people.<sup>148,149,150</sup>

**Vaccine administration issues.** [CDC-INFO](#) continues to field consumer inquiries about foreign vaccination and mixing vaccine brands. People who received an initial vaccine dose abroad are unsure if they should begin a new vaccination series or whether they are considered fully vaccinated if the vaccine series they received is not authorized in the United States. Other consumers sought guidance on mixing vaccine brands for those who had a reaction to the initial dose or whether they would be considered fully vaccinated if they received two doses of different COVID-19 vaccines.



## Appendix: Inputs and Sources

Type	Input	Cadence	Sources	Tactics for Utilization
<b>Social Media Listening &amp; Media Monitoring</b>	Communication Surveillance Report	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>
	CDC Social Media Channel COVID-19 Comment Analysis	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>	CDC-INFO Metrics	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>
	Vaccine Task Force Media Requests	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>
	Web Metrics	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>	Poll Review	Weekly	<ul style="list-style-type: none"> <li>Harris Poll, PEW research, Gallup Poll, Kaiser Family Foundation</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>
	Literature Review	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>	Tanaq Social Listening +Media Monitoring Report	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>
	CrowdTangle content insights report	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>
	First Draft News Vaccine Misinformation Insights Report	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>
	Project VCTR	Weekly	<ul style="list-style-type: none"> <li><a href="#">Proprietary methods</a></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>
	Virality Project	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>