

# Rapid COVID-19 State of Vaccine Confidence Insights Report

June 8 – 24, 2021 | *Cases of Myocarditis and Pericarditis following mRNA COVID-19 Vaccination*

Vaccine Confidence and Demand Team, Insights Unit



Following the Advisory Committee on Immunization Practices' (ACIP) meeting on June 23, 2021 about myocarditis and pericarditis following mRNA COVID-19 vaccination, a special insights report was conducted using the same methods and [inputs](#) from [the COVID-19 State of Vaccine Confidence Insights Reports](#).

This report seeks to better understand the perceptions and sentiment of consumers. The report details threats to COVID-19 vaccine confidence, content gaps and information voids, circulating mis- and disinformation, and action steps to take.

The information in this report is a snapshot from June 8, 2021, through June 24, 2021.



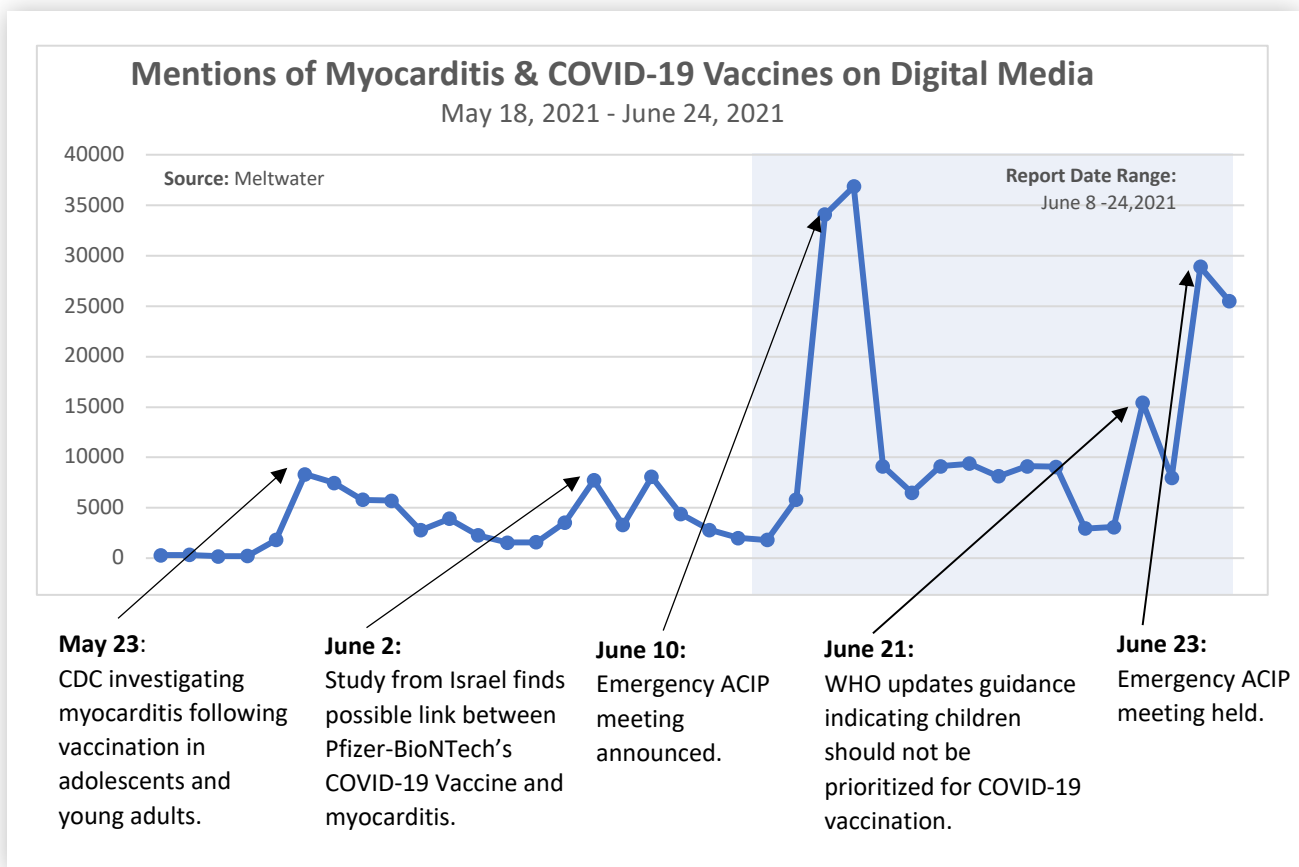
## Contents

- [2 Background](#)
- [3 Perceptions, Concerns, and Threats to Vaccine Confidence](#)
- [4 Content Gaps and Information Voids](#)
- [5 Misinformation and Disinformation Themes](#)
- [6 Ways to Take Action](#)
- [8 Appendix](#)

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

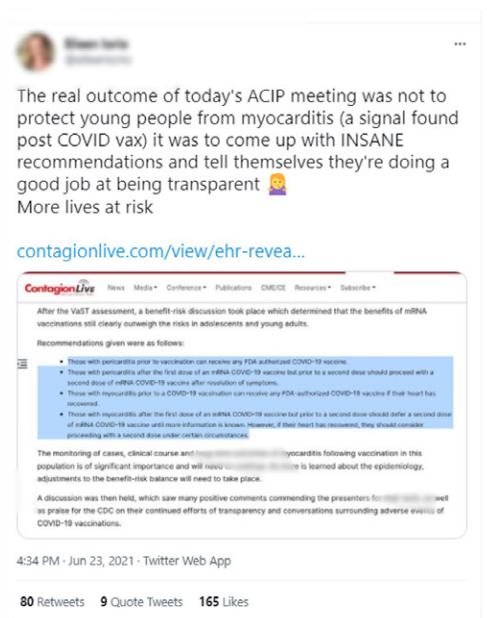
## Background

Concerns about myocarditis following vaccination entered the public conversation in late May 2021 following reported cases among adolescents. These cases emerged in the news soon after the Emergency Use Authorization (EUA) for the Pfizer-BioNTech COVID-19 Vaccine was expanded to include adolescents aged 12 through 15 years old,<sup>1,2</sup> which had been authorized for people 16 years and older since December 11, 2020. Initial reactions and information gaps were reviewed in the [Special COVID-19 State of Vaccine Confidence Insights Reports on Adolescent Vaccination](#). Over the following five weeks, mentions of myocarditis and COVID-19 vaccines on digital media increased by 204% as a result of coverage by national and local news outlets,<sup>3,4</sup> mis- and disinformation blogs,<sup>5,6</sup> and social media chatter. Many of the circulating stories focused on adolescents and young adults being hospitalized or reportedly dying from myocarditis following vaccination.<sup>7,8,9,10,11,12,13</sup> [Views of Centers for Disease Control and Prevention's \(CDC\) webpage on myocarditis and pericarditis](#) following vaccination with an mRNA COVID-19 vaccine grew by over 160% between June 10, 2021, and June 16, 2021 compared to the week prior. At the same time, external web searches related to vaccination and myocarditis also rose.



## Perceptions, Concerns, and Threats to Vaccine Confidence

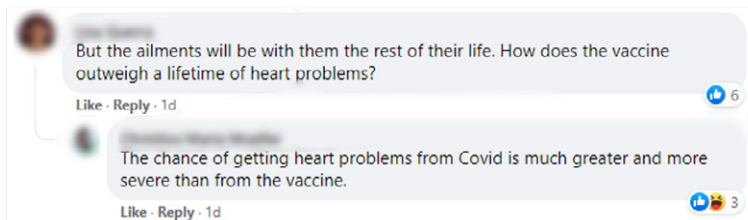
Some news outlets and members of the public criticized CDC and the [Advisory Committee on Immunization Practices \(ACIP\)](#) for waiting to schedule an emergency meeting to discuss the potential connection between myocarditis and COVID-19 vaccination, only to delay it by five days due to a new federal holiday.<sup>14,15,16,17,18</sup> Some consumers felt this perceived lack of urgency around the meeting was because the U.S. government is prioritizing reaching President Biden's vaccination coverage goal over safety.<sup>19</sup>



Some consumers hoped ACIP's meeting would help them make an informed decision regarding getting themselves or their adolescent vaccinated and to better understand the risk of myocarditis, severity of the cases reported, and the potential long term side effects.<sup>20,21,22,23</sup> However, following the meeting, many consumers expressed frustration indicating that the meeting did not provide the answers they were seeking.<sup>24,25,26</sup> Some consumers had hoped ACIP would provide guidance on either delaying or omitting the second dose to mitigate potential harm as many cases of myocarditis and pericarditis seemed to emerge following the second dose of vaccine.<sup>27,28,29</sup> A few consumers even reported that they had already decided to delay their or their child's second dose.<sup>30</sup> Other consumers felt the committee should have paused the use of mRNA vaccines generally or at least for young people under 30 years old until more is known about the incidence and risk of myocarditis following vaccination.<sup>31,32,33</sup> Some cited the recommendation to pause Johnson & Johnson's Janssen COVID-19 Vaccine after only six cases of thrombosis with thrombocytopenia syndrome (TTS) as justification.<sup>34,35,36</sup> Some consumers noted that myocarditis or pericarditis following vaccination was not an issue for young people alone, despite the focus of the meeting

and news coverage, as people in all age groups reported having had or knowing someone who had experienced a heart-related event following vaccination.<sup>37,38,39</sup> Some healthcare providers expressed a desire for updated recommendations to mitigate the potential for adverse events following vaccination for different age groups and demographics.<sup>40,41</sup>

Despite reassurance from health authorities following the meeting that vaccination was safe and effective, and that cases of myocarditis following vaccination were rare and most were mild,<sup>42,43,44,45</sup> consumer opinions diverged. Some parents and other consumers continued to express that they felt the risk for myocarditis and other adverse events for people under 30 years old far outweighed the benefits.<sup>46,47,48,49</sup> Many also felt that no case of myocarditis is truly mild and expressed concerns about the potential long-term and permanent side effects.<sup>50,51,52</sup> Additionally, some consumers expressed the belief that cases were being underreported, with some even claiming that this was made worse by healthcare professionals claiming heart-related symptoms were unrelated to vaccination.<sup>53,54,55,56</sup> Some felt their opinions and concerns were validated when [the World Health Organization's guidance for vaccination](#) was updated to clarify that children and adolescents who are not at high risk for severe COVID-19 illness should not be prioritized for vaccination at this time.<sup>57,58,59</sup> At the same time, other consumers felt that the risk of severe illness and complications, particularly myocarditis, from COVID-19 was greater than the risk of an adverse event from vaccination.<sup>60,61,62</sup> They also noted that vaccinating people under 30 years old against COVID-19 is important for the United States to reach population immunity.<sup>63,64</sup>



## Content Gaps and Information Voids

Content gaps and information voids emerged around myocarditis following COVID-19 vaccination in late May 2021. Initial content gaps and information voids from May, many of which still exist, can be reviewed in the [Special COVID-19 State of Vaccine Confidence Insights Reports on Adolescent Vaccination](#). Questions from consumers emerged organically on social media and forum platforms in response to news coverage and federal government social media channels, as well as through inquiries to CDC-INFO. The following lists the most frequently asked questions by theme:

### **Questions about myocarditis and pericarditis**

- What are myocarditis and pericarditis? Is one more severe and how is severity determined?
- What are the symptoms of myocarditis or pericarditis?
- What are the long-term effects of myocarditis or pericarditis? Can they cause permanent heart damage?

### **Questions about incidence rates and data**

- What is the background rate of myocarditis among people under 30 years old?
- What is the rate of myocarditis following vaccination for people 30 years and older?
- What is the rate of myocarditis among people who have COVID-19?
- Are people more likely to get myocarditis because of COVID-19 or because of vaccination?
- Has anyone died of myocarditis or pericarditis following vaccination?
- Has myocarditis or pericarditis been observed in clinical trials for other COVID-19 vaccines?
- Why is a pause not recommended given that J&J/Janssen vaccine paused after six cases of TTS?

### **Questions about risk**

- If I previously had COVID-19, am I at increased risk for developing myocarditis or pericarditis after vaccination?
- How is the risk-benefit of vaccination being determined given the low incidence rate of COVID-19 in people under 30 years old?
- What ages are at risk for myocarditis following vaccination?
- Are pregnant women at increased risk for developing myocarditis after vaccination?

### **Questions about vaccine safety**

- If I have had myocarditis or another heart-related condition, is it safe to be vaccinated?
- If I have experienced myocarditis or similar side effects after my first dose, should I still get a second dose?

### **Questions about vaccine administration**

- Would lengthening the time between the first and second dose of vaccine reduce the occurrence of myocarditis?
- How long can you wait between the first and second dose of mRNA vaccines?
- Should adolescents or young adults only receive one dose of vaccine?
- Could lower doses of vaccine reduce the occurrence of myocarditis?
- If I received an mRNA vaccine for my first dose and feel unsafe taking the second dose, can I get a dose of J&J/Janssen vaccine?
- When will COVID-19 vaccines not using mRNA technology be available to adolescents?

### **Other questions**

- How are mRNA vaccines causing myocarditis? Is it related to the spike protein?
- Why is this affecting males more than females?

## Misinformation and Disinformation Themes

With the existence of several information gaps regarding myocarditis and COVID-19 vaccines, mis- and disinformation spread online broadly. Some vocal vaccine deniers felt their beliefs that COVID-19 vaccines are unsafe were validated and fueled by a lack of consistent messaging and perceived lack of transparency from federal agencies.<sup>65,66,67</sup> Below are the most central mis- and disinformation themes related to myocarditis following COVID-19 vaccination:

*Myocarditis after vaccination is not rare and hospitals and healthcare professionals do not know how to report adverse events.* Mis- and disinformation outlets promoted stories claiming that hospital personnel were 'clueless' about reporting adverse events following vaccination to the [Vaccine Adverse Event Reporting System \(VAERS\)](#),<sup>68</sup> intensifying concerns that myocarditis cases are largely unreported.<sup>69,70</sup> At the same time, some consumers have claimed that [v-safe](#) is a mechanism for CDC to hide adverse events because, unlike reports to VAERS, reports to v-safe are not publicly available.<sup>71</sup>

*WHO said that it is not safe for kids to be vaccinated.* WHO's updated guidance that children and adolescents who are not at risk for severe COVID-19 should not be prioritized for vaccination at this time was misrepresented by vocal vaccine deniers who claimed the agency said they did not recommend vaccination for children and adolescents.<sup>72,73,74</sup> While this claim has been fact checked as false,<sup>75</sup> it was a common comment on social media promoted by those who do not plan to vaccinate their children or believe that benefits of vaccination outweigh the risks of COVID-19.

*Pharmaceutical profits are prioritized over the safety of COVID-19 vaccines.* Claims made by a former pharmaceutical vice president recirculated<sup>76,77</sup> alongside an interview by an inventor of mRNA vaccine technology claiming that the vaccines are not safe and that companies knew that side effects like myocarditis would occur.<sup>78</sup> This furthered long-held beliefs<sup>79</sup> for some that CDC, along with pharmaceutical companies, has a financial interest in keeping mRNA vaccines available.<sup>80</sup>

*An athlete's collapse on the field was from myocarditis caused by vaccination.* Despite this claim being fact checked as false,<sup>81</sup> rumors circulated that that the collapse of a professional soccer player on the field was caused by recent vaccination.<sup>82,83</sup> This connected to previous concerns expressed by parents about adolescent athletes being at increased risk for myocarditis following vaccination due to their physical activity levels.<sup>84</sup>

## Ways to Take Action

### Fill content gaps and information voids.

- Create clear, consistent messaging about vaccine developments and communicate often about what is known and unknown about myocarditis and pericarditis after vaccination.
- Expand web content related to cases of myocarditis and pericarditis following COVID-19 vaccination to include information about signs and symptoms and when to seek medical care and better explain what myocarditis and pericarditis are, how serious they are, and what is known about who might be at increased risk for experiencing these adverse events.
- Leverage available safety data to expand frequently asked questions content about myocarditis and pericarditis following vaccination, especially addressing concerns related to the incidence rate of myocarditis and pericarditis, comparing the risk to myocarditis as a complication of COVID-19. From this content, develop and disseminate messages specifically designed for social media platforms.
- Develop content in a variety of styles, including easy to use graphics, videos, and social media content, to answer questions and fill information gaps.

### Disseminate messages focused on the importance of vaccination as an important tool to end the pandemic and the continued focus on vaccine safety.

- Disseminate messages that the integrity and transparency of safety monitoring systems will be maintained. Increased reports of adverse events to safety monitoring systems are expected and will be appropriately investigated.
- Disseminate messages that the U.S. vaccination system will continue to offer safe and effective vaccines to all consumers and will continue to monitor vaccine safety through rigorous vaccine safety monitoring systems.
- Disseminate messages on agency channels highlighting that vaccination will play a key role in ending the COVID-19 pandemic.
- Disseminate messages about how ACIP makes decisions and their role in safety monitoring and the U.S. vaccination system.
- Coordinate messages across all federal agencies to ensure alignment and credibility.
- Leverage #SleeveUp and #WeCanDoThis for consumers to highlight their continued confidence in COVID-19 vaccines and the vaccination system.
- Work with partners to identify trusted messengers and local influencers to amplify vaccination stories.

### Partner with healthcare professionals.

- Provide guidance about how to communicate with patients and parents who are worried about or experiencing myocarditis or pericarditis following vaccination.
- Develop materials and tools for healthcare professionals to share with their patients and parents about the benefits of COVID-19 vaccines, specifically addressing concerns that the risks of an adverse event outweigh the benefit of vaccination and perceived low risk of getting COVID-19.
- Strengthen the capacity of pediatricians, family practitioners, and healthcare professionals to have proactive vaccine conversations with adolescents and their parents—with special attention to those families who might have differing opinions about the benefits of vaccination
- Partner with healthcare professionals to better understand perceptions and opinions about COVID-19 vaccinations for adolescents, particularly if providers are hesitant to administer COVID-19 vaccines or discuss the benefits of vaccines with families.

### Address mis- and disinformation.

- Continue to disseminate messages about VAERS, specifically how the system works, how adverse events are investigated, and how it is different than v-safe.
- Develop and disseminate plain language talking points and suggested social media messages and unbranded assets for social media influencers and the COVID-19 Community Corps.
- Partner with technology companies and notify them of key misinformation to flag or remove. Ensure technology companies promote resources with credible, evidence-based information about COVID-19 vaccines beyond resources from federal agencies and health departments.
- Expand Myths and Facts web content to address new mis- and disinformation themes.
- Empower consumers to have effective, empathetic conversations about vaccines with family and friends online and offline.

## Ways to Take Action (cont.)

### **Support research efforts to better understand how overwhelming digital media coverage of adverse events affects vaccination intent and motivation.**

- Expand current polling mechanisms to include questions about myocarditis and pericarditis following vaccination and the effects of the COVID-19 infodemic and cognitive overload, when there is too much information available for one to process, on their vaccination intent and motivation.
- Identify poll indicators that could be used to better understand how current safety concerns impact people's intent to get vaccinated.
- Expand evaluation efforts to better understand the concerns and opinions of people under 30 years old about myocarditis, pericarditis, and other adverse events following vaccination and how reporting of adverse events affects their intent and motivation to get vaccinated if they have not already.

## Appendix: Inputs and Sources

Type	Input	Cadence	Sources	Tactics for Utilization
<b>Social Media Listening &amp; Media Monitoring</b>	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>
	Crowd tangle	Daily	<ul style="list-style-type: none"> <li>Facebook</li> <li>Instagram</li> </ul>	<ul style="list-style-type: none"> <li>Sentiment analysis</li> <li>Identify information gaps/voids</li> <li>Identify mis/disinformation</li> </ul>
	OADC Channel Comment Analysis	Daily	<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>
<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>
	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>