

CORONAVIRUS MISINFORMATION:

Quantifying sources and themes in the COVID-19 'infodemic'

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Executive summary

The World Health Organization has stated that a parallel **“infodemic” of misinformation is undermining efforts to combat the ongoing COVID-19 pandemic**. This study identifies the most prominent misinformation topics that appeared in traditional and online media in the early phase of the pandemic, from January 1 up to May 26, 2020.

The results come from a sample of 38 million articles published in English-language media around the world, making this **the first fully comprehensive study of COVID misinformation in the media yet carried out**.

One major finding is that media mentions of President Trump within the context of different misinformation topics made up 37% of the overall “misinformation conversation,” much more than any other single topic. The study concludes that **Donald Trump was likely the largest driver of the COVID-19 misinformation “infodemic.”**

In contrast **only 16% of media mentions of misinformation were explicitly “fact-checking” in nature**, suggesting that a substantial quantity of misinformation reaches media consumers without being challenged or accompanied by factually accurate information.

These findings are of significant concern because **if people are misled by unscientific and unsubstantiated claims about the disease, they may attempt harmful cures** or be less likely to observe official guidance and thus risk spreading the virus.

How the study worked — methodology

The study was performed using Cision Media’s Next Generation Communications Cloud platform, which aggregates content from 7 million-plus sources around the world. This database was queried with an English-language search string for misinformation topics in the context of COVID-19, using an iterative cycle of different keywords.

The study evaluated over **38 million pieces** of content published by English-language, **traditional media** worldwide between **January 1 and May 26, 2020**.

It analyzed engagement with **traditional media** stories on social channels.

The study identified over **1.1 million news articles** (2.9% of the whole COVID-19 conversation) that disseminated, amplified or reported on misinformation related to the pandemic.

What the study found

The study identified five categories of misinformation:

- **Misinformation/conspiracies sub-topics:** We identified 11 key sub-topics within this conversation, which are shown in more detail below.
- **Trump mentions:** This topic comprised all mentions of US President Donald Trump within the total misinformation conversation, as a way to quantify the prominence of Trump within the overall COVID “infodemic.”
- **Infodemic coverage:** This topic included articles that mentioned the general term “infodemic” (or related keywords such as “misinformation” or “hoax” combined with mentions of COVID-19) without mentioning a specific additional topic.
- **Fact-checking:** This topic includes articles that explicitly mentioned conspiracies, misinformation or factual inaccuracies in a way that aimed to correct misinformation with the audience.
- **Trump-only mentions:** This topic represents the volume and frequency of articles that mentioned President Trump in the context of misinformation but did not mention a specific other topic at the same time.

The table below shows the quantity of coverage in each category. (Note that subject overlaps result in overall a frequency total of more than 100%.)

Misinformation Topic	Volume	Frequency
Identifiable Misinformation Threads/Conspiracies	522,472	46.6%
Trump Mentions	423,921	37.9%
Infodemic Coverage	261,102	23.4%
Fact Checking	183,717	16.4%
Trump-Only	115,216	10.3%

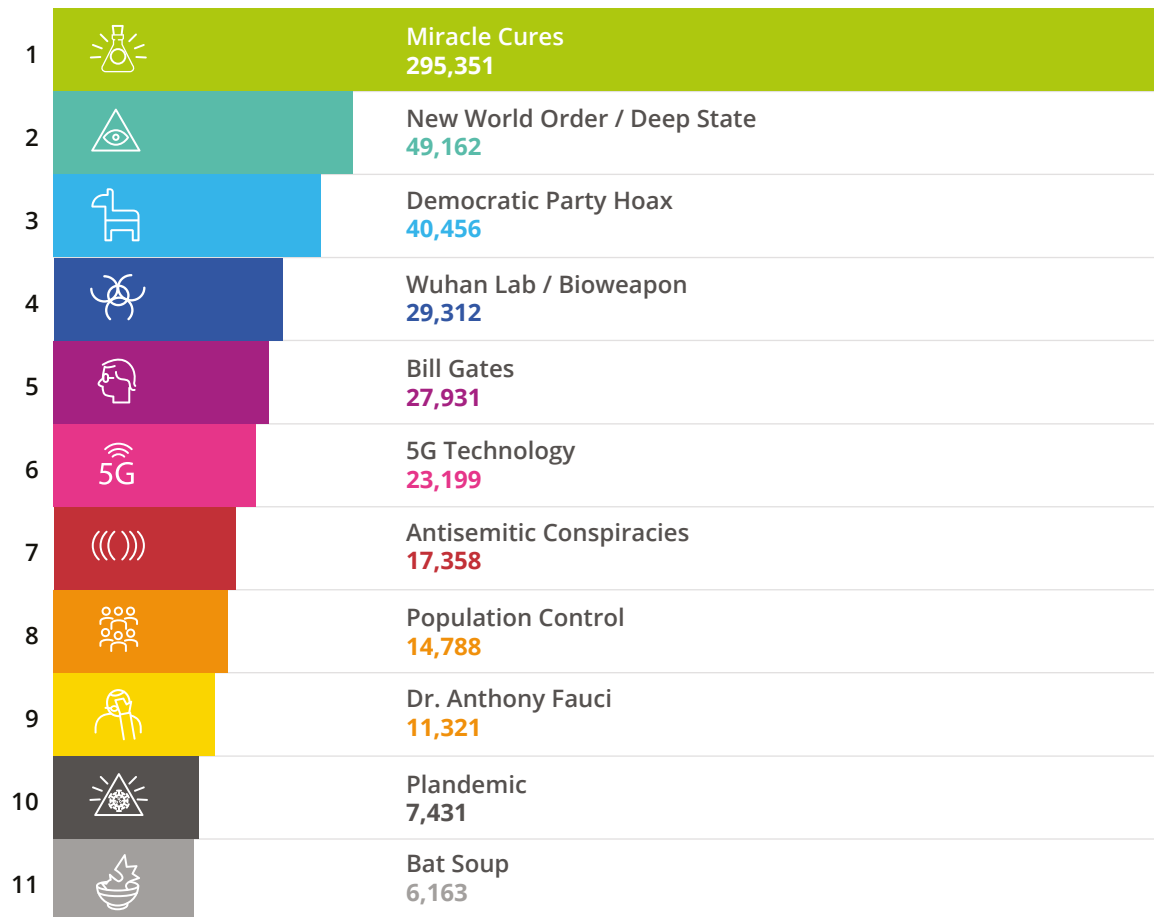
Key takeaways from the results

- It is apparent from the data that **mentions of President Trump within the context of COVID-19 misinformation comprise by far the largest single component of the “infodemic.”** Trump mentions comprised **37.9% of the overall “infodemic.”**
- However, a substantial proportion of other topics was also driven by the president’s comments, so some overlap can be expected. **This strengthens the conclusion that the President of the United States was likely the largest driver of the COVID-19 misinformation “infodemic.”**
- Only 16.4% of the misinformation conversation was “fact-checking” in nature, suggesting that **the majority of COVID misinformation is conveyed by the media without question or correction.**

Conspiracy theories and misinformation about COVID — themes

The study identified 11 different **conspiracy theory themes or misinformation sub-topics** in the COVID-19 “infodemic” and quantified the frequency of their appearance between January 1 and May 26, 2020.

Most prevalent misinformation topics in the COVID ‘infodemic’

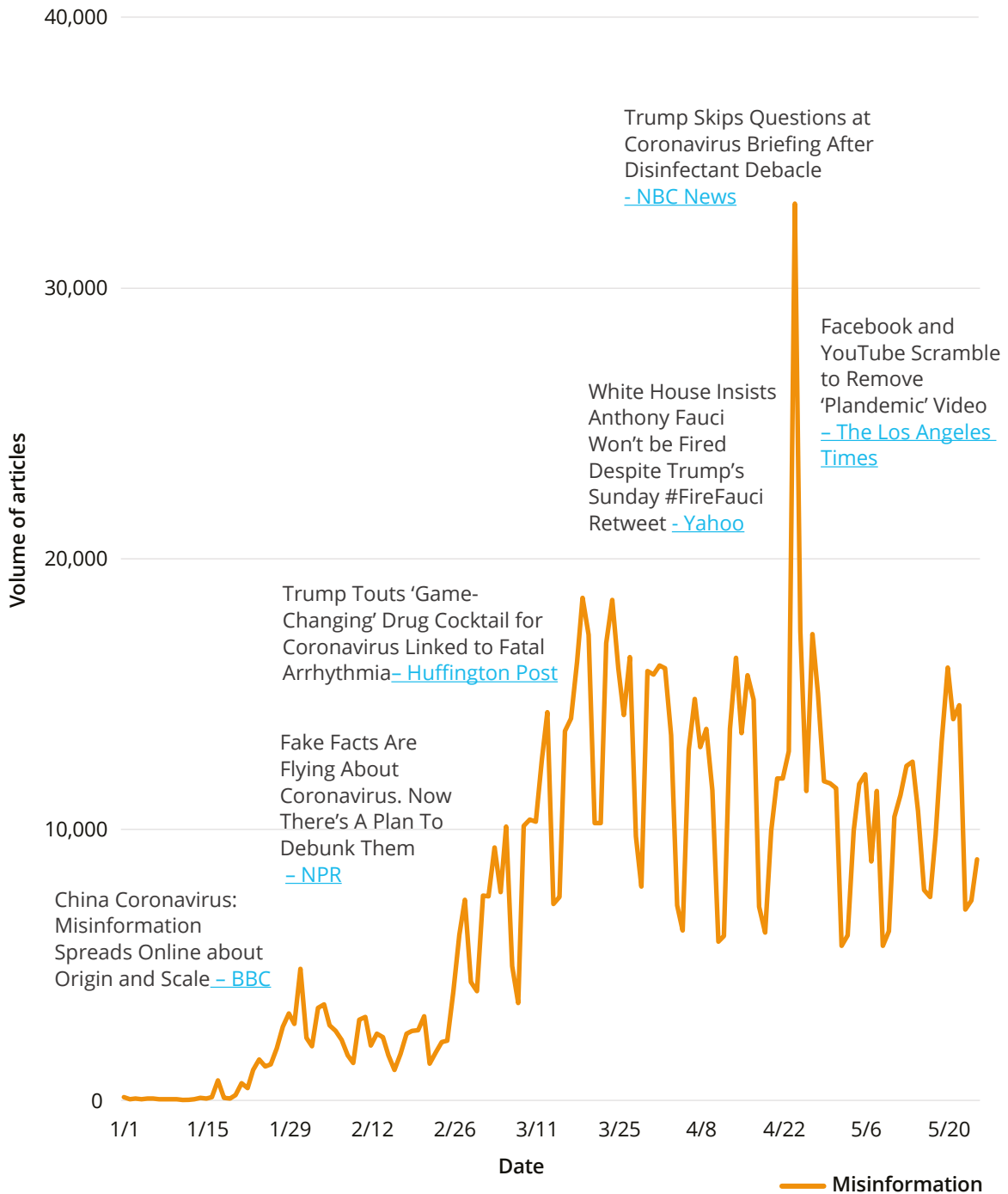


Traditional Media Volume

These conspiracy/misinformation topics confirm the analysis that President Trump was likely the major driver of the “infodemic”:

- Trump drove major spikes in the “miracle cures” misinformation topic, led by his **April 24 musing about the possibility of using disinfectants internally** to cure the coronavirus.
- Trump’s **advocacy of hydroxychloroquine** and admission that he was using the drug also prompted major spikes in the “miracle cures” misinformation topic.

COVID-19 Infodemic



Top 11 COVID conspiracy theories

As shown in the table above, the top 11 COVID conspiracy theories in order of volume were:



1. Miracle Cures

The “miracle cures” sub-topic accounts for more misinformation coverage than the other ten sub-topics combined. It is dominated by a peak on April 24 corresponding with President Trump’s press conference statements about the potential of using bleach or other disinfectants internally as a cure for coronavirus infection. This peak, along with others in the “miracle cures” topic — in particular the president’s promotion of hydroxychloroquine — makes this sub-topic the second-largest contributor to the misinformation conversation after President Trump himself.



2. New World Order/Deep State

Mentions of conspiracies linked to alleged secret “new world orders” or “deep state” government bodies existed throughout the time period and were referenced in passing in conversations that mentioned or listed widespread conspiracies. Indeed, President Trump joked about the US State Department being a “Deep State” Department during a White House COVID press conference in March.



3. Democratic Party Hoax

A conspiracy theory emerged in January that suggested the COVID-19 pandemic was intentional and manufactured to coincide with President Trump’s impeachment trial. The most prominent public advocate of this idea has been Eric Trump, President Trump’s son.



4. Wuhan Lab/Bioweapon

Conspiracy theories surrounding the Wuhan Institute of Virology emerged early in COVID-19 misinformation coverage, including theories that it was a secret bioweapons facility and that it was the origin point for a deliberate or accidental release of SARS-CoV-2.



5. Bill Gates

Conspiracies connecting Bill Gates to COVID-19 emerged early on in the pandemic, often referring to and inflating pre-existing conspiracy narratives surrounding Gates. Bill Gates’ long-standing interest in vaccinations as a public health measure — and the boost given to COVID vaccine efforts by the Bill & Melinda Gates Foundation — were further taken as evidence of nefarious intent by those spreading misinformation, with an oft-made claim being that Gates planned to equip COVID-19 vaccines with microchips to track and control peoples’ actions



6. 5G Technology

The 5G/COVID-19 conspiracy theory broke into mainstream media coverage on April 5 with widespread reporting of vandalism of 5G towers in the United Kingdom and later other countries. While 5G technology was the sixth most prevalent misinformation topic in traditional media, much of the coverage was fact-checking. This included reportage of how celebrities may have influenced the reach of the conspiracy theory via their own social media channels, and issues regarding the banning of prominent conspiracists from online media for spreading 5G-related misinformation that could incite further criminal damage of cell phone towers.



7. Antisemitic Conspiracies

Misinformation coverage included conversations around how the pandemic and its associated conspiracies were driving anti-Jewish sentiment in the US and Europe. Most media coverage was not supportive of antisemitic conspiracies; however, some outlets did promote longstanding antisemitic conspiracies, such as those associated with George Soros.



8. Population Control

Generic conspiracy theories mentioning COVID-19 as an intentional population control scheme were often combined with other issue areas such as assertions by anti-vaccination activists that a COVID vaccine might be a population control effort.



9. Dr. Anthony Fauci

Mentions of US National Institute of Allergy and Infectious Diseases Director Dr. Anthony Fauci appeared as a misinformation topic early in April, with conspiracists accusing him of exaggerating deaths or being a beneficiary of pharmaceutical efforts to find treatments and a vaccine. Social media shares of these reports were often combined with popular hashtags such as #FireFauci and #FauciFraud.



10. "Plandemic"

The 24-minute "Plandemic" pseudo-documentary became a major topic of conspiracy conversations shortly after being posted to YouTube on May 4. After gaining millions of views through platforms such as YouTube, Twitter and Facebook, the video was widely debunked for making numerous false claims and removed from most video-streaming platforms.



11. Bat Soup

Early conspiracy theories surrounding COVID-19 focused on the claim that the coronavirus was initially caught by humans consuming bats in Wuhan, China. Outlets such as The Guardian reported early that this conspiracy theory was rooted in racism and likely contributed to an increase in anti-Asian sentiment, including death threats to a Chinese celebrity.

Conclusion

To our knowledge, this study is the first to attempt a fully comprehensive analysis of media-generated misinformation during the COVID-19 pandemic. While the misinformation portion comprised only 2.9% of the whole COVID-19 conversation, the 1.1 million articles identified as covering, fact-checking, or repeating misinformation represent a large volume of information that is likely to have significantly affected public perceptions of the pandemic.

It is especially notable that while misinformation and conspiracy theories promulgated by ostensibly grassroots sources, such as anti-vaccination groups, 5G opponents and political extremists, do appear in our analysis in several of the topics, they contributed far less to the overall volume of misinformation than more powerful actors, in particular the US President.

In previous pandemics, such as the HIV/AIDS outbreak, misinformation and its effect on policy was estimated to have led to an additional 300,000 deaths in South Africa alone. If similar or worse outcomes are to be avoided in the present COVID-19 pandemic, greater efforts will need to be made to combat the "infodemic" that is already substantially polluting the wider media discourse.



More information about the study collaborators

Lead author **Dr. Sarah Evanega** and science writer **Mark Lynas** are with the **Cornell Alliance for Science** (AfS) at Cornell University. The Cornell Alliance for Science seeks to promote access to scientific innovation as a means of enhancing food security, improving environmental sustainability and raising the quality of life globally. The AfS is funded partly by the Bill & Melinda Gates Foundation, though no donors had any role in the study.
<https://allianceforscience.cornell.edu/>

Karinne Smolenyak and **Jordan Adams** are media researchers employed by Cision, Inc., a company that performs media analysis and provides other communication services for paying clients across a variety of sectors, including the Bill & Melinda Gates Foundation. This study contains the authors' objective analysis and may not reflect the views or attitudes of Cision or Cision's clients.
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