



# FAKE NEWS IN HEALTH: HOW DOES IT SPREAD ONLINE?

# DID YOU KNOW THAT LIES SPREAD FASTER THAN THE TRUTH?

The digital age has profoundly disrupted the way we share information, transitioning from the traditional realm of print media to a fast-paced online landscape.

One of the biggest challenges this new ecosystem faces is the rampant spread of fake news, which has become a prevalent concern in our society. This transformation has been supported by the rise of new channels of communication, wherein the line between truth and fiction has become increasingly more blurred, giving fake news unprecedented reach.

The mechanisms behind the spread of fake news within the health industry are complex and multifaceted, and their understanding is a crucial step in countering their rampant diffusion.



# WHEN LIES SPREAD FASTER THAN THE TRUTH

By analyzing the cascading rumors spreading on Twitter, MIT researchers found that *“falsehood diffused significantly farther, faster, deeper, and more broadly than truth in all categories of information”* [1].

As an example, fake news spreads six times faster than true information, and is 70% more likely than true news to be shared on Twitter. Fake news is also more likely to be shared by users because of their novelty, and the strong emotions and intrigue they arouse.

Additionally, one of the most striking findings is that the structure of a cascade is indicative of the type of information it conveys. True information tends to generate horizontal cascades of short duration, wherein the information is disseminated to different people directly via the primary source. Fake news, on the other hand, generates vertical cascades of longer duration, through which information is shared from person to person. These cascades define a more intricate tree-like structure with complex and multiple branches, a dynamic that is indicative of the far-reaching potential of online fake news.

# THE IMPACT OF THE MUTATIONS IN THE INFORMATION ECOSYSTEM

Over the past decades, the traditionally media-controlled information flow has shifted towards the decentralization of information sources of diffusion. Social media platforms have become a common source of health-related fake news, wherein users can easily share misleading information on fake cures, alternative medicines, and other unsubstantiated health-related claims. Another example can be found on forums and discussion groups discussing health-concerned topics, where the lack of curation can lead to the spread of misleading information.

While this disintermediation may grant more expressive freedom, it may also raise concerns about quality and accuracy, as well as the latter’s impact on health safety.



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[1] <https://pubmed.ncbi.nlm.nih.gov/29590045/>

# WHEN ARTIFICIAL INTELLIGENCE EMPOWERS THE SPREAD OF FAKE NEWS

Algorithms, social bots, and deepfakes are only a fraction of the AI-powered technologies that reinforce the dissemination of false news.

- Some **algorithms** are designed to show content that individuals are more likely to engage with. This can lead to the creation of echo chambers, where one only sees content that confirms one's existing beliefs and biases, which in turn, increases one's likelihood to share it. Naturally, this contributes to the spread of fake news among like-minded individuals. Take for instance, the example of vaccine skeptics, who tend to be increasingly exposed to more anti-vax groups.
- **Social bots**, through automated posting and sharing of misleading information, can mimic human behavior, engage with users, and make fake news appear more authentic and credible.
- **Deepfakes** allow for the creation of highly realistic videos, audio, and images that can deceive users into believing fabricated events or statements,

The speed and scale at which AI-powered technologies work make it challenging to navigate the flow of often contradictory and misleading information. It is nevertheless important to note that AI per se is not responsible for the spread of fake news. Instead, the way AI tech is developed and used by individuals or organizations is responsible for the impact on the online information ecosystem.

## HOW PEOPLE FUEL THE SPREAD OF FAKE NEWS

**Driven by emotional reactivity**, people may unknowingly or unintentionally share fake news without verifying its authenticity. Yet, there are also intentional misleading campaigns carried out by individuals or groups with malicious intentions, exploiting people's biases and vulnerabilities to spread falsehood for private gains. Finally, cognitive bias plays a huge role in disseminating fake news. For instance, confirmation bias may lead individuals to seek information that confirms their pre-existing beliefs, making them more susceptible to accepting and sharing fake news that aligns with their views; which brings us back to the echo chambers explained previously.

## THE COVID-19 USE CASE

The unprecedented COVID-19 sanitary crisis is a great example of how technological and human factors together have led to widespread health-related fake news. The information overproduction, easy access to online content, and poor-quality information are amplified during emergencies, especially in a climate of tension, fear, and reduced vigilance. As an illustrative example to refer to, we have all witnessed the way unreliable evidence on health subjects intensifies vaccine hesitancy and encourages the use of unproven treatments. [2]

The mechanisms of online fake news dissemination are undeniably complex and diverse. While this article has shed light on only some of these mechanisms, it is important to understand that the list thereof is not exhaustive, and new dynamics may emerge throughout time. Curbing down the dissemination of fake news requires a holistic approach that addresses both technological and human aspects.

Do not miss our last article "[Fake news in Health:Outbreak 3.0!](#)" Our next article will be focused on the way we can counter fake news with the example of the "Verified" initiative, launched in collaboration with the United Nations and Purpose (a leading social impact agency who joined Capgemini).

If you want to learn more about fake news, you can take the "Verified" free online course on fighting misinformation by clicking on this link: [here](#).

Stay tuned.

[2] <https://www.who.int/europe/news/item/01-09-2022-infodemics-and-misinformation-negatively-affect-people-s-health-behaviours--new-who-review-finds>

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