

Pandemic
ELSI

This presentation is based on the research project, "Archiving the Ethical, Legal, and Social Issues in Pandemic Responses towards Building an Infectious-Disease-Resilient Society" (2021-2025), funded by RISTEX, JST

What makes health information *more* reliable in social media? :

From an analysis of the COVID-19 infodemic in Japan

Koyo Izawa¹, Koji Mikami¹, and Satoshi Kodama¹

1. Kyoto University, Graduate School of Letters

Outline

1. Introduction: Fake news and misinformation on social media during COVID-19 pandemic
2. Key question: What does it mean to call information “reliable”?
3. Case Analysis and Discussion: A case analysis using 3 principles of reliability
4. Conclusion: Visualization of the status of reliability for better understanding of the quality of information

Fake news rapidly increasing

Pope Francis Shocks World, Endorses Donald Trump for President, Releases Statement

TOPICS: Pope Francis Endorses Donald Trump



photo by Jeffery Bruno / CC BY-SA 2.0 / cropped & photo by Gage Skidmore / CC BY-SA 3.0 / cropped

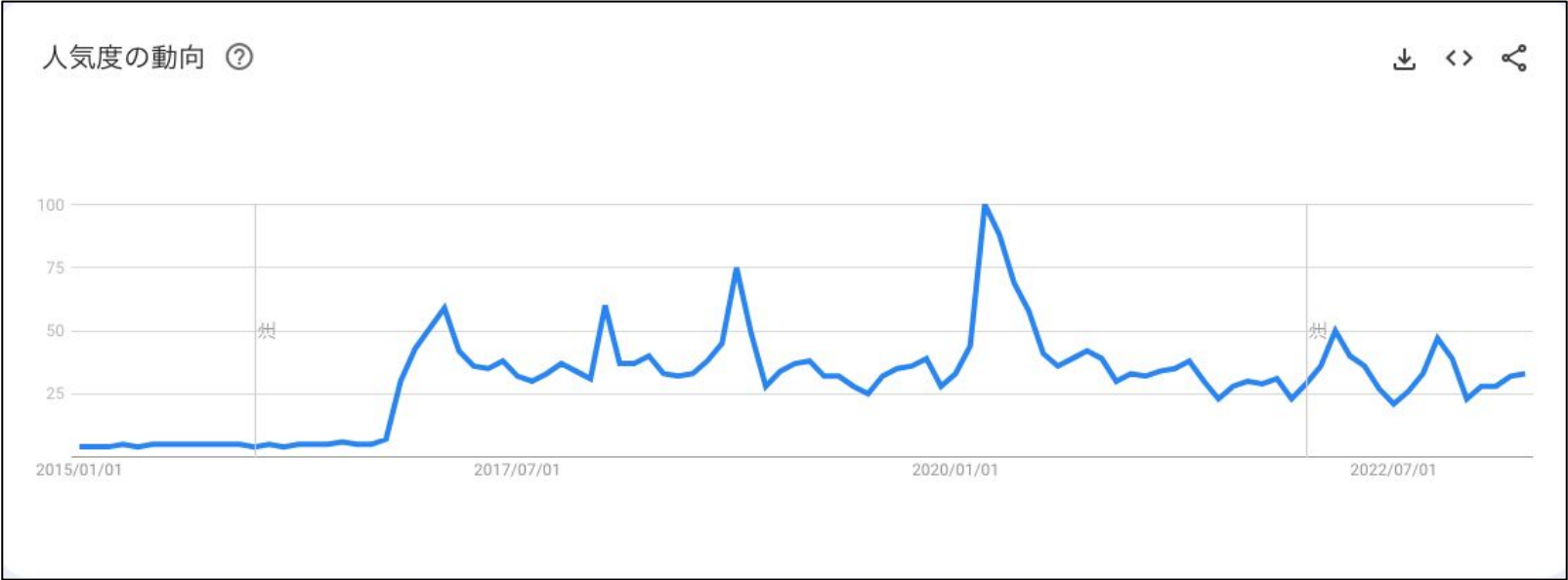
- In 2016, fake news broke during the Trump presidential election that the Pope endorsed Trump.
- This led to a lot of discussions about fake news.

WTOE 5 NEWS (2016) "Pope Francis Shocks World, Endorses Donald Trump for President, Releases Statement"

URL: <https://web.archive.org/web/20161115024211/http://wtoe5news.com/us-election/pope-francis-shocks-world-endorses-donald-trump-for-president-releases-statement/>

1. Introduction: Fake news and misinformation on social media during COVID-19 pandemic

Google Trend: “fake news”



Infodemic

- With the outbreak of COVID-19, there is also a flood of misinformation about Covid-19. The WHO calls such situations "infodemics" and calls for caution.
- In April of 2020, the Oxford English Dictionary included the word "infodemic."

infodemic, *n.* 

View as: [Outline](#) | [Full entry](#) Quotat

Pronunciation:  **Brit.**  [/ˌɪnfə\(ʊ\)ˈdɛmɪk/](#), **U.S.**  [/ˌɪnfəˈdɛmɪk/](#),  [/ˌɪnfouˈdɛmɪk/](#)

Origin: Formed within English, by compounding. **Etymons:** [INFO-](#) *comb. form*, [EPIDEMIC](#) *n.*

Etymology: < [INFO-](#) *comb. form* + *-demic* (in [EPIDEMIC](#) *n.*).

A proliferation of diverse, often unsubstantiated information relating to a crisis, controversy, or event, which disseminates rapidly and uncontrollably through news, online, and social media, and is regarded as intensifying public speculation or anxiety.

Coined by David J. Rothkopf to describe the explosion of information (and misinformation) associated with the SARS epidemic of 2003 (cf. [SARS](#) *n.*).

WHO “Managing the COVID-19 infodemic: Promoting healthy behaviours and mitigating the harm from misinformation and disinformation” URL: <https://www.who.int/news/item/23-09-2020-managing-the-covid-19-infodemic-promoting-healthy-behaviours-and-mitigating-the-harm-from-misinformation-and-disinformation>

Oxford English Dictionary “New words list April 2020” URL: <https://public.oed.com/updates/new-words-list-april-2020/>

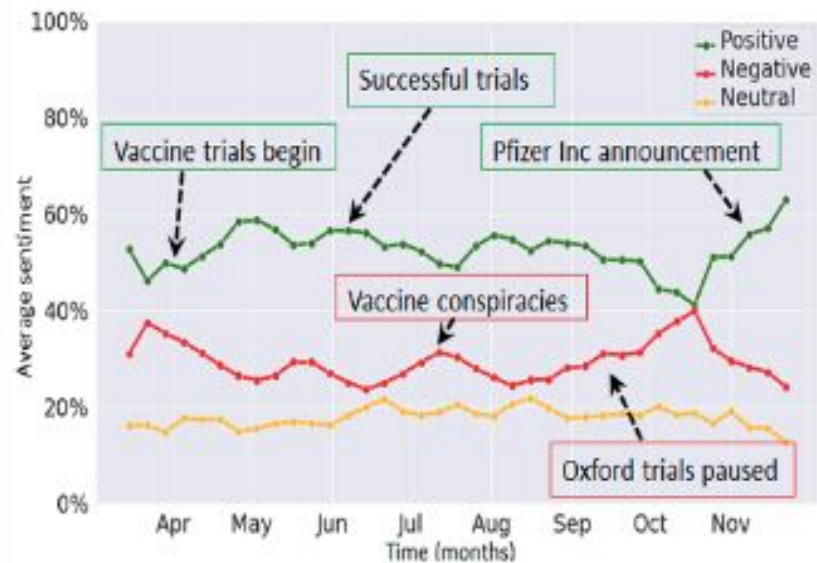
Misinformation can be an actual health risk

- In Japan, an ex-prime minister spread misinformation that encouraged vaccine avoidance.



“WHO says vaccinated people are 3 times more likely to be hospitalized than those who are not vaccinated.”

1. Introduction: Fake news and misinformation on social media during COVID-19 pandemic



(A) The United Kingdom

Some studies report that the spread of misinformation seems to be related to our attitudes toward vaccines.

Hussain, Amir, Ahsen Tahir, Zain Hussain, Zakariya Sheikh, Mandar Gogate, Kia Dashtipour, Azhar Ali, and Aziz Sheikh (2021) "Artificial Intelligence-Enabled Analysis of Public Attitudes on Facebook and Twitter Toward COVID-19 Vaccines in the United Kingdom and the United States: Observational Study." *Journal of Medical Internet Research* 23 (4): e26627.

Social Media and the Public Sphere (Balkin 2022)

- Social media have become an important kind of institutions which form the public sphere.
- Social media have three basic functions:
 1. facilitate public participation in the spread of knowledge and information
 2. organize public conversation
 3. curate public opinion
- Social media should become trustworthy organizers and curators of public discourse.

Approaches for challenging misinformation on social media

- Misinformation is challenged on social media through multiple approaches
 - inhibiting the spread of misinformation
 - adding some background information
 - removing misinformation
- On the other hand, not much is done to “reliable information.”
 - The reliability of information has nuances and degrees.

Question: What does it mean to call information “reliable”?

Differences between conventional and social media

Conventional media

- Professional reporters write articles and it is customary to cite sources of information.
- Long format of articles makes it easy to convey information in detail.

Social media

- Posts are often made by amateurs and the sources from which the information is derived are rarely provided.
- Character limits simplify information and make it easy to mislead.



It is more difficult to catch the nuances of reliable information in social media than in traditional media.

Foundational principles of reliability

As a guideline for determining the reliability of health information on social media, the following principles have been proposed.

1. Science-Based

Sources should be consistent with the best scientific evidence available at the time and meet standards for the creation, review, and presentation of scientific content.

2. Objective

Sources should take steps to reduce the influence of financial and other forms of conflict of interest or bias that might compromise or be perceived to compromise the quality of the information they provide.

3. Transparent and Accountable

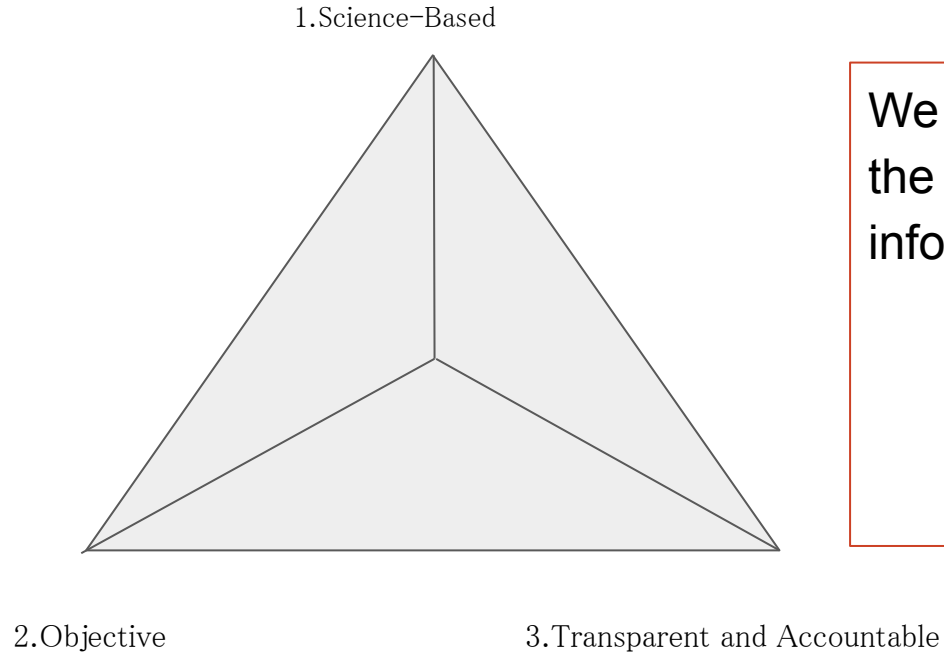
Sources should disclose the limitations of the information they provide, as well as conflicts of interest, content errors, or procedural missteps.

3. Discussion

These principles cannot be answered with a simple yes or no.

- These principles are concepts presentable not by yes/no, but by degree (extent)
- Removing misinformation on social media does not mean information that remains meets the principles. We need to show the degree of reliability with respect to each principle.

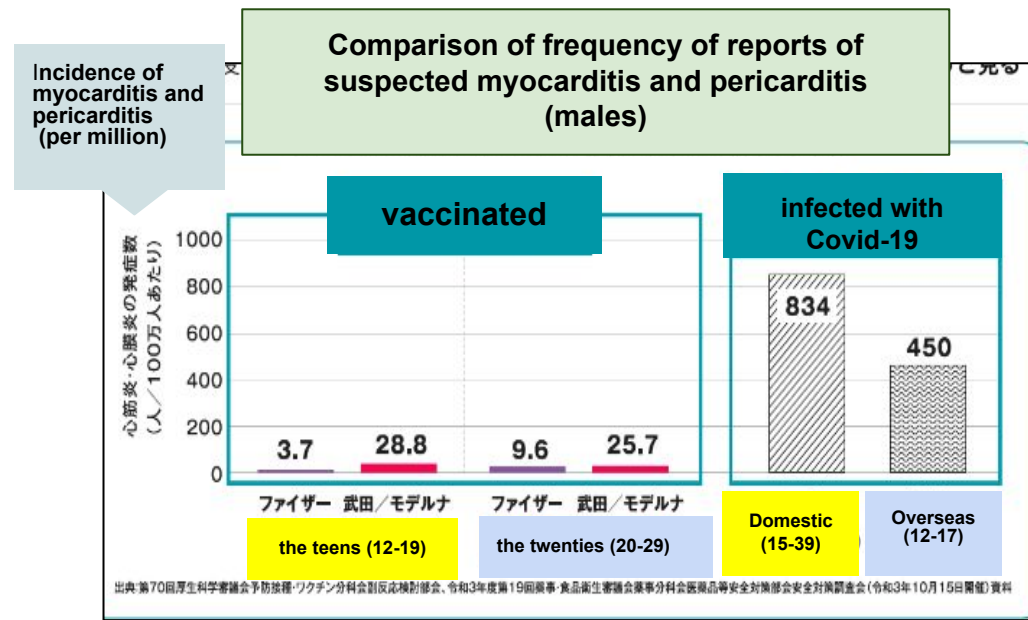
Visualization of foundational principles of reliability



We propose a pictorial representation of the reliability status of particular piece of information.

3. Discussion

An example: MHLW's misleading information on Social Media



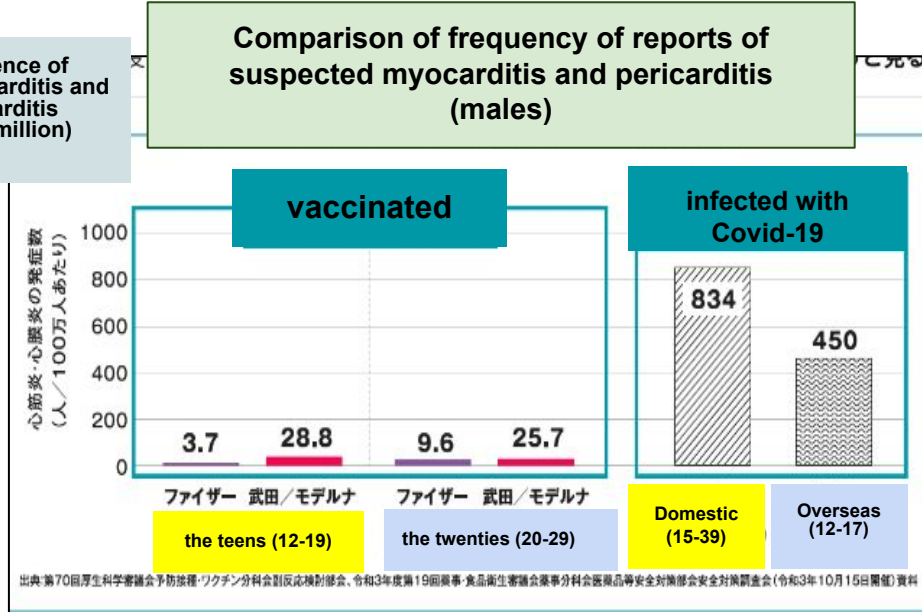
MHWL: “Because the probability of experiencing complications from myocarditis or pericarditis is lower after vaccination than after being infected with Covid-19, the benefits of vaccination outweigh the risk...”

3. Discussion

A case study: MHLW's misleading information on Social Media

Incidence of myocarditis and pericarditis (per million)

Comparison of frequency of reports of suspected myocarditis and pericarditis (males)



According to InFact:

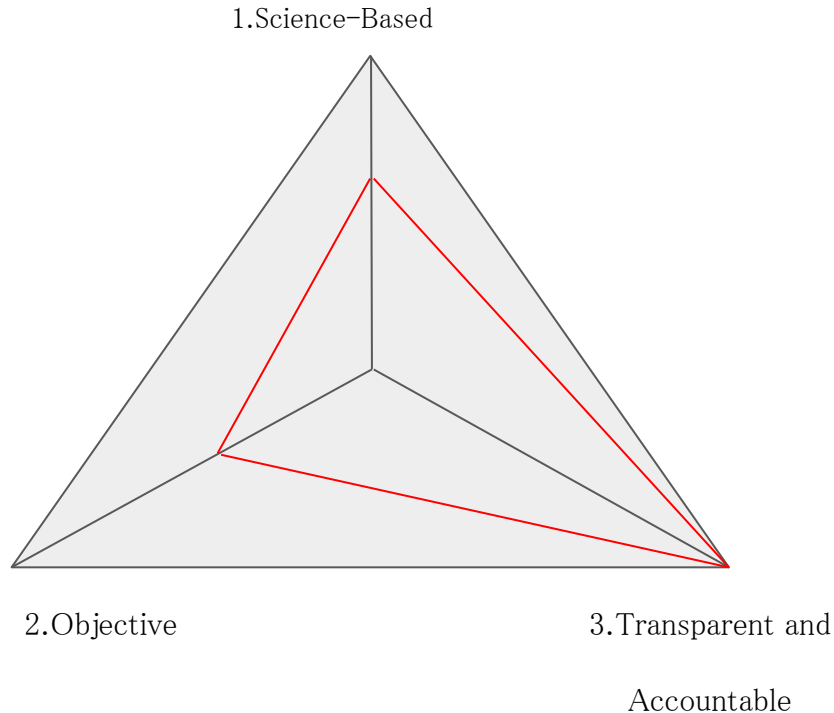
- The number of reported cases in the vaccinated is very low. Unreported cases can be assumed.
- In the figure on the right about the infected, only those who were hospitalized are used.

InFact(2022)「【FactCheck】ワクチン接種時の「心筋炎・心膜炎」の頻度は、新型コロナ感染時よりも低いのか？」

URL:<https://infact.press/2022/03/post-15350/>

3. Discussion

Foundational principles of reliability

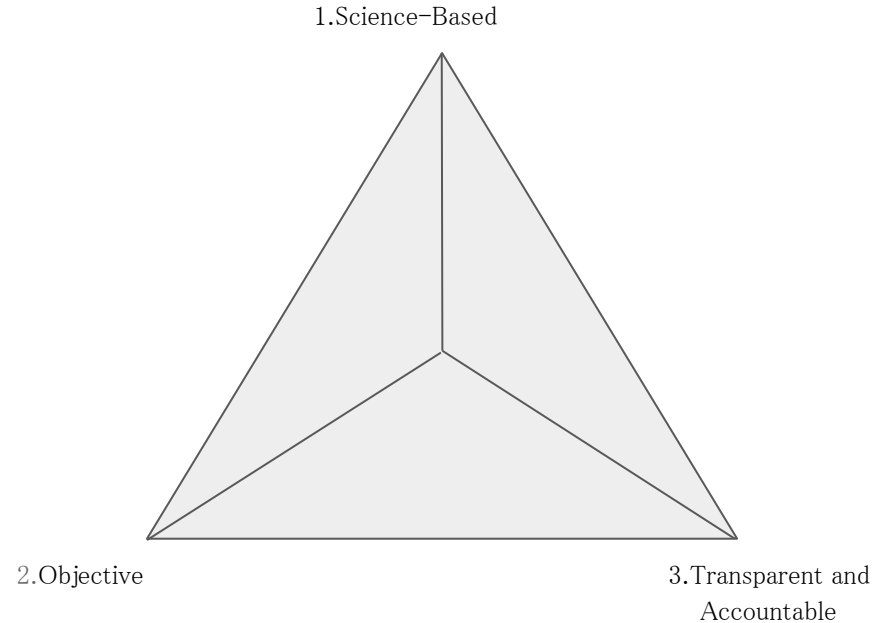


- “Science-based” is low because the number of reported cases were yet too few (although it was expected to increase)
- “Objective” is low because it had an interest in making people follow public health policies.
- “Accountable” is high because the graphs are revised as more cases are reported.

4. Conclusion

To make information on social media more reliable

- Social media companies place a high value on the freedom of expression and have thus far focused on addressing obvious misinformation.
- To measure the reliability of information, parameters such as “science basis, objectivity and transparency,” must be taken into consideration.
- Social media should clarify in what sense the information is considered reliable.



Thank you for listening!

We thank Ms Kyoko Mimura (of RInCA) for her advice.