



Purpose

The primary purpose of this study was to identify the presence of cancer misinformation through a surveillance strategy of web scraping using social media and the web sources.

Background

The popularity of social media simultaneously presents new opportunities and problems for the delivery of accurate cancer information. From its onset, social media was viewed to reinforce the in-person messages for medical and public health professionals. However, the growing reliance on social media for information, coupled with elevated distrust in scientists, public health, government organizations, and the pharmaceutical industry has given rise to increase exposure to online cancer-related and science misinformation. The medical and public health community is ill prepared in the counteracting of cancer misinformation in two ways.

First, the pandemic showed the health decision making is not solely about the presenting of facts and evidence but can be linked to larger societal conflicts and conspiracy theories. Second, the recent pandemic illustrated that health professionals were often unprepared to deal with the volume and rapidity of messages put into the information ecosystem by their opposition. As the spread of cancer misinformation through social media and the internet increases, the need for medical and public health messages and risk communication strategies that are intended to migrate the harmful impacts of cancer misinformation and disinformation among populations that experience health disparities is critical.

Methods

- Frames of Misinformation, Extremism, & Conspiracism (FOME) project at Youngstown State University collects posts from a purposive sample of 14 social media platforms and discussion forums known for their hosting of the MEC sector.
- Over 14 million posts have been collected back to April 2018. Approximately 30% of material is health related. Direct references to cancer were found in 115,452 posts.
- Program code can be found at <https://rogersperspectives.com>
- Data processing supported by a faculty grant from the Ohio Supercomputer Center.

Results

- Peaks in the growth of cancer discussion can be found in April 2020 (early pandemic) and after a sharp increase of MEC activity in Summer 2021 (Figure 1).
- Cancer discussions paralleled trends in the MEC sector as a whole and vaccination/antivaccination discourse as a whole (Figure 2).
- How the pandemic changed discussions on cancer (Figure 3).
 - Emphasis on wellness rose with the start of the pandemic and has remained at pandemic levels.
 - Fringe medicinal ideas continue to rise gradually.
 - Cancer occurrence linked to the COVID-19 vaccine. This point declines as vaccine discussions diminish.

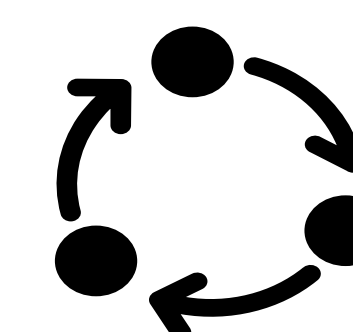


Figure 1. Average Daily Activity

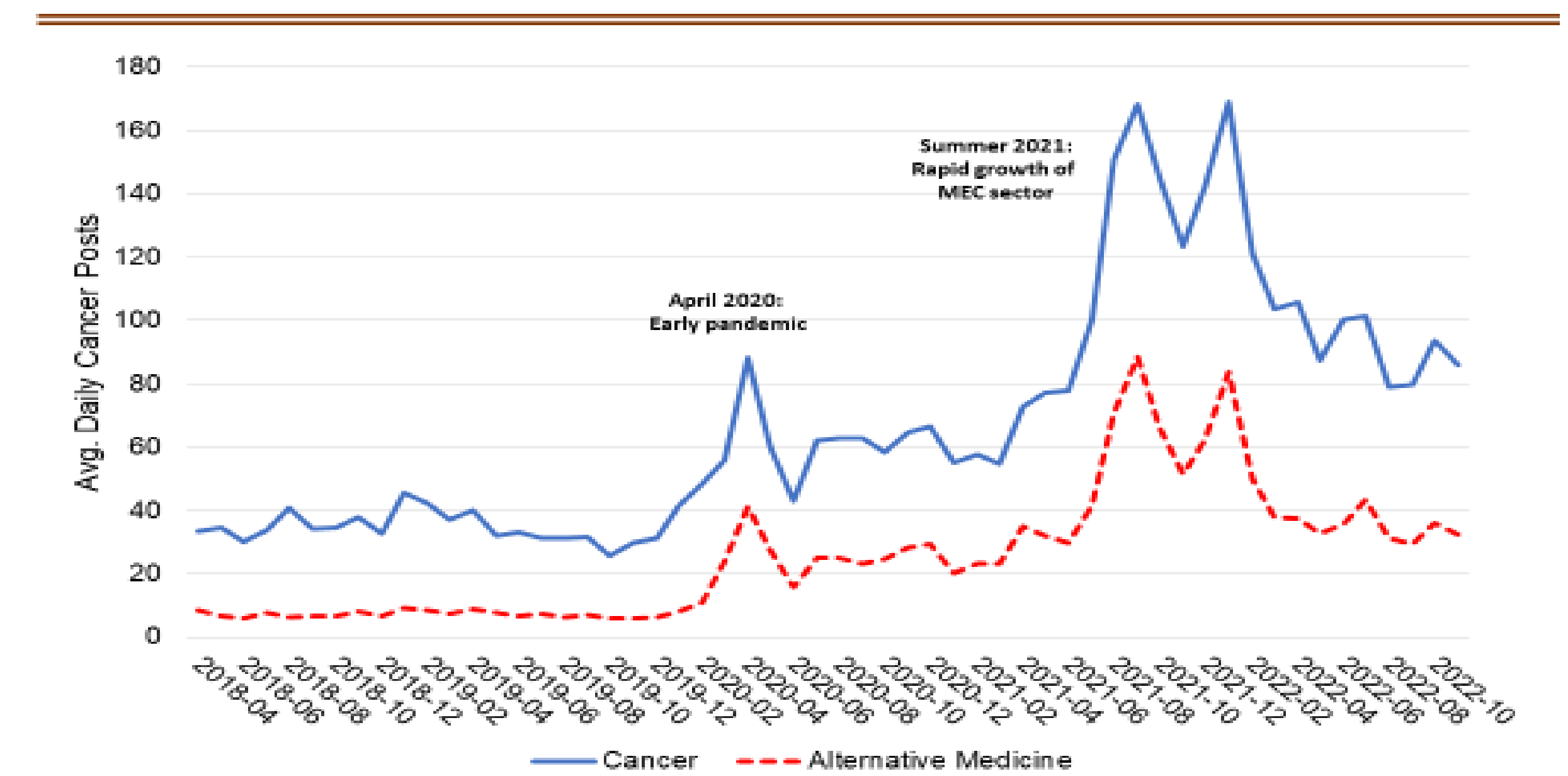
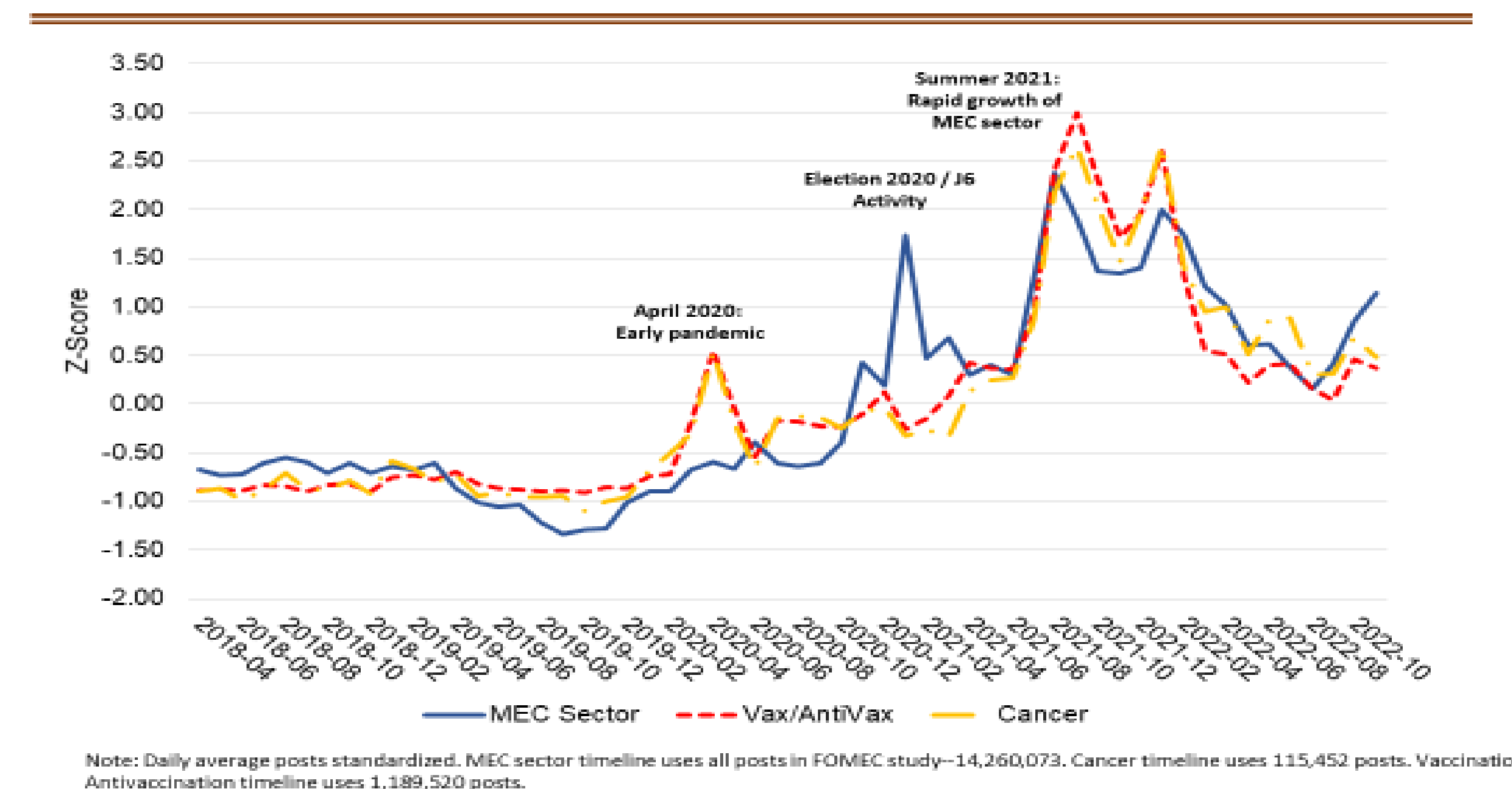
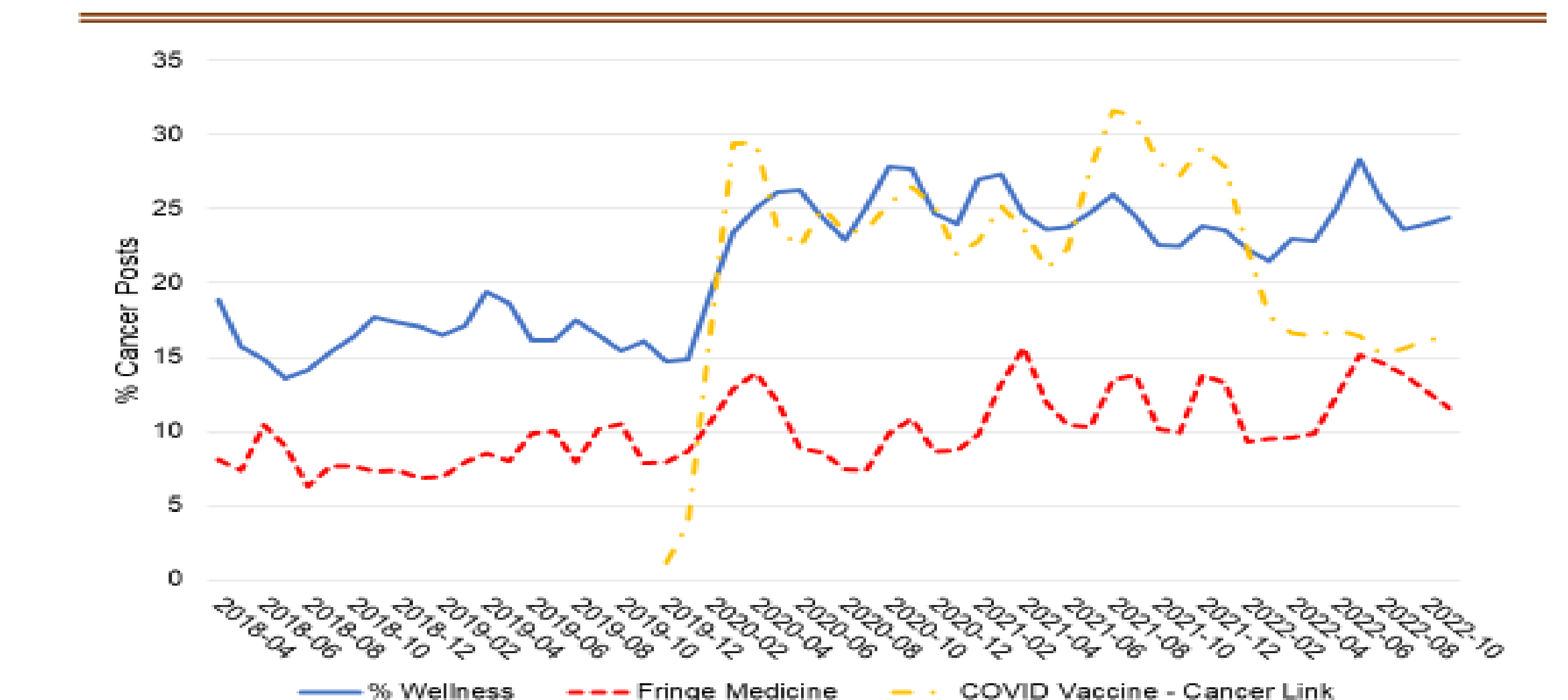


Figure 2. Parallel Trends



Note: Daily average posts standardized. MEC sector timeline uses all posts in FOME study—14,260,073. Cancer timeline uses 115,452 posts. Vaccination/ Antivaccination timeline uses 1,189,520 posts.

Figure 3. Alternative Medicine Discussions in Cancer Posts



Discussion/Conclusion

- FOME forums provide early warning indicators of future conflicts over health care (Rogers & Powe, 2022).
- Attacks on medical expertise associated with the pandemic also permanently changed discussions about cancer treatment.

Reference: Lee Rogers, R., & Powe, N. (2022). COVID-19 information sources and misinformation by faith community. *Inquiry: The Journal of Health Care Organization, Provision, and Financing*, 59, 00469580221081388.