

# FAKECT?

## Promoting Digital Health Literacy in an Era of New Media and Misinformation

Public Health Summer Institute 2021  
Thursday June 24<sup>th</sup> & Friday June 25<sup>th</sup>

### Think Piece

#### Introduction: Fake or Fact?

“Good news, Wuhan’s corona virus can be cured by one bowl of freshly boiled garlic water. Old Chinese doctor has proven it’s efficacy. Many patients have also proven this to be effective. Eight (8) cloves of chopped garlics add seven (7) cups of water and bring to boil. Eat and drink the boiled garlic water, overnight improvement and healing. Glad to share this.” Facebook. January 2020.

<https://www.facebook.com/HuvadhoRealAsippe/photos/good-news-wuhans-corona-virus-can-be-cured-by-one-bowl-of-freshly-boiled-garlic-/2303705469927709/>



While misinformation has always been a part of many societies, along with people willing to buy the promises of snake oil or love potions, recent years have seen a proliferation of misinformation, disinformation and fake news. The World Health Organization’s Director General coined the term “infodemic” to highlight the additional battle raging alongside the COVID-19 pandemic. This proliferation of information is fuelled by digital and social media and seems an unstoppable force.

An Infodemic is defined as

... an overabundance of information – some accurate and some not – that occurs during an epidemic. It spreads between humans in a similar manner to an epidemic, via digital and physical information systems. It makes it hard for people to find trustworthy sources and reliable guidance when they need it. (WHO, 2021, p. x).

The infodemic has undermined public health’s efforts to stem the pandemic and reduce death and disease. Misinformation results from and contributes to political and social forces that are becoming increasingly divided along opposing ideological lines. Public health usually enjoys a role of trust and has been a trusted and reliable source of information and support. Public health has been beside communities and nations when difficult and important decisions must be made. Yet, in recent years, science as well as public health have become caught in the cross fire. Social and environmental issues, in which public health should be relied upon to support effective leadership, have been hijacked by political and cultural forces. Climate change denial and vaccine hesitancy are only the most recent and urgent of public health challenges that have seen credible and valuable scientific work be sidelined and undermined. Inaccurate information, misinformation, disinformation, and fake news are part of a common vocabulary. We all know what they are but we don’t know how to respond effectively. (Carroll, 2021)

disinformation, and fake news are part of a common vocabulary. We all know what they are but we don’t know how to respond effectively. (Carroll, 2021)

**The trouble with the current infodemic is that both accurate and inaccurate information can be widely shared and discerning which is which can be very difficult.**

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As people face the fear and realities of COVID-19 the challenges created by the information associated with the infodemic result in hindrances to the capacity of public health to act in the best interests of the public. Certain sectors of the public are refusing to believe scientific facts and prefer to rely on information from sources they have deemed trustworthy, this puts themselves and those around them at risk.

The problems of an infodemic are not just restricted to the pandemic. Other public health concerns and broader social issues have been impacted by misinformation, including climate change and environmental health. Further, the foundations of democracy have been affected by the infodemic as polarized parties attempt to hijack political processes around the world. The source of news has shifted, from the trusted television journalist with the nightly news, to online and digital platforms. People can construct their own news media,

*"A lie is three times around the world before truth has finished tying up its shoelaces."*

Irish saying

As a result and as research has shown, this fake news will spread wider and faster than more traditionally mainstream news networks are able to. Science is seen as untrustworthy, conspiracy theories spread lightening fast and corrections can not keep up the pace. Vaccine hesitancy is only one symptom of a much larger problem. (Carroll, 2021)

picking and choosing between on lone sources and influencing, or being influenced by, people in their social media networks. So, not only do people have access to an array of news media, but the news media reflects their own personal opinions and ideas. As a

**Inaccurate information** is poorly understood or biased information shared as help.

**Misinformation** is information that is inadvertently false and is shared without intent to harm (Wang et al., 2019).

**Disinformation** is inaccurate information knowingly shared with malicious intent. (Wang et al., 2019).

**Fake news** is fabricated information that mimics legitimate news sites in form but not content or process. (Lazer et al., 2018).

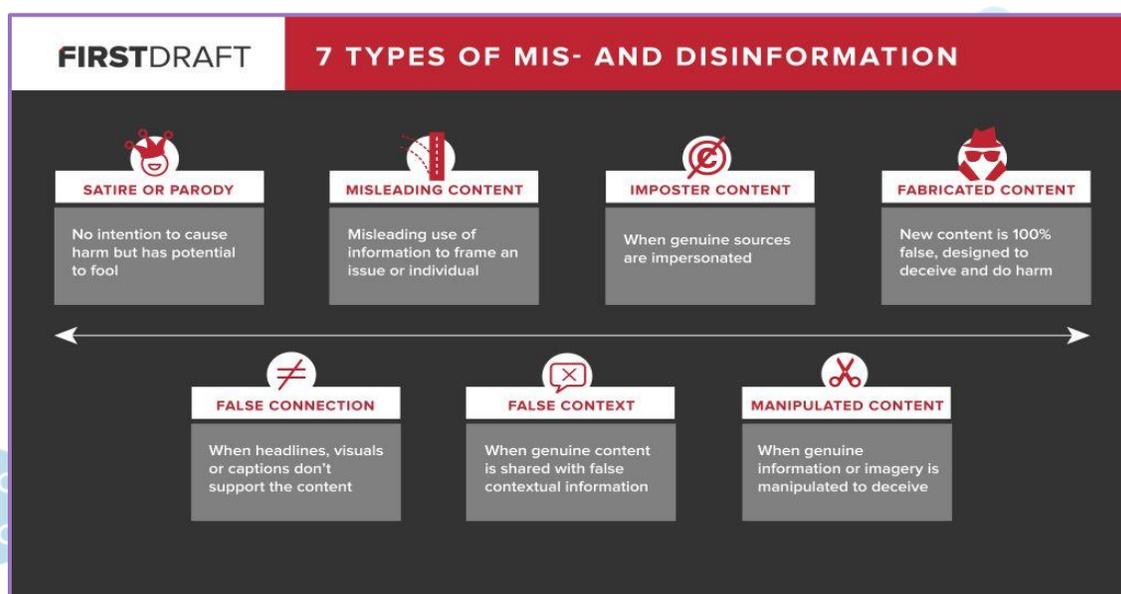


Figure 1: Claire Wardle, [firstdraftnews.org/](http://firstdraftnews.org/)

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The resulting complex and multilayered problems seem insurmountable. What can public health and allied professionals do to combat such overwhelming odds?

### Digital (or eHealth) health literacy, defined as:

*“the ability to seek, find, understand, and appraise health information from electronic sources and apply the knowledge gained to addressing or solving a health problem”*  
(Norman & Skinner, 2006),

The 2021 Public Health Summer Institute is tackling this Gordian Knot of interrelated problems. Starting by taking the path we know – evidence-based knowledge – we will begin by understanding the latest research on misinformation and its impact on a range of public health and broader societal issues. We will also review the ways and means through which such information passes. We will explore the specificity of misinformation and untangle the different ways in which it can flourish. For example, vaccine hesitancy may not be due to misinformation alone; historical and traumatic experiences with health care, distrust of large global corporations, and rejection of particular political ideologies seen as promoting a scientific viewpoint can all influence how a person hears,

understands, and responds to information. This greater appreciation of digital divides – beyond the binary of who has access to the net and who doesn’t – enables us to begin to strategize how to respond to the infodemics that plague so much of the work facing public health.

We will find a way forward in returning to our roots. We know reducing inequities makes a difference to people’s health. How long have we fought the preponderance of less than truthful advertising associated with alcohol and smoking, which inordinately target marginalized communities? We know participatory approaches empower people to find a place of understanding and once there, to generate solutions that will work because they are rooted in local knowledge and circumstances. We know empowered citizenry works when effectively mobilized. We know health promotion works when it moves on multiple levels at the same time and in multiple places, not just targeting individual behaviour. We know one thing we do know is that we will never be satisfied with easy answers; we will test and build on scientific knowledge (*ironically, this willingness to be honest about how science works is seen as proof that scientists don’t know what they are doing*). Above all, we are willing to challenge unjust and inequitable powers in our society in principled and effective ways. These are our strengths. The survival of the planet needs these strengths.

*“You were put here to determine the fate of humanity. Did you think you were put here for anything less?”*

Chief Avrol Looking Horse.

The 2021 Public Health Summer Institute, with the support of well placed and well-informed speakers, and a range of interactive learning and experiential sharing, will give us an opportunity to regroup. We can be inspired and mobilized to do what we have always done best – disseminate accurate, up to date, and effective information that supports people to make the best choices for themselves, their families and their communities. We can, and we will, be the change.

Registration for the online 2021 Public Health Summer Institute is now open, tickets for the two day institute can be purchased for \$50 plus Eventbrite fees at: [phsi2021.eventbrite.ca](https://phsi2021.eventbrite.ca)

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### References

- Carroll, S. (2021) Fact or Fake: Promoting Digital Health Literacy in an Era of New Media and Misinformation.
- Lazar et al. (2018) The Science of fake news. *Science*. <https://science.sciencemag.org/content/359/6380/1094/tab-pdf>
- Norman, C. D., & Skinner, H. A. (2006). eHealth Literacy: Essential Skills for Consumer Health in a Networked World. *J Med Internet Res*, 8(2), e9. <https://doi.org/10.2196/jmir.8.2.e9>
- University of Michigan. "Fake News", Lies and Propaganda: How to sort Fact from Fiction. <https://guides.lib.umich.edu/fakenews>

### Further reading

- Abel, T., & McQueen, D. (2020). Critical health literacy and the COVID-19 crisis. *Health Promotion International*, 35(6), 1612–1613. <https://doi.org/10.1093/heapro/daaa040>
- Caxaj, S., Oudshoorn, A., Ford-Gilboe, M., Webster, F., Donelle, L., Forchuk, C., Berman, H., & Smye, V. (2021). Taking a Stand to Remedy the Inadequacies of Action on Health Equity Exposed by COVID-19. *Nursing Leadership (Toronto, Ont.)*, 34(1), 20–29. <https://doi.org/10.12927/cjnl.2021.26458>
- Chong, Y. Y., Cheng, H. Y., Chan, H. Y. L., Chien, W. T., & Wong, S. Y. S. (2020). COVID-19 pandemic, infodemic and the role of eHealth literacy. *International Journal of Nursing Studies*, 108, 103644. <https://doi.org/https://doi.org/10.1016/j.ijnurstu.2020.103644>
- Chrzanowski, J., Sołek, J., Fendler, W., & Jemielniak, D. (2021). Assessing Public Interest Based on Wikipedia's Most Visited Medical Articles During the SARS-CoV-2 Outbreak: Search Trends Analysis. *J Med Internet Res*, 23(4), e26331. <https://doi.org/10.2196/26331>
- Chua, A. Y. K., & Banerjee, S. (2018). Intentions to trust and share online health rumors: An experiment with medical professionals. *Computers in Human Behavior*, 87, 1–9. <https://doi.org/https://doi.org/10.1016/j.chb.2018.05.021>
- Coded Bias (2021). <https://www.imdb.com/title/tt11394170/>
- Crawford, A., & Serhal, E. (2020). Digital Health Equity and COVID-19: The Innovation Curve Cannot Reinforce the Social Gradient of Health. *J Med Internet Res*, 22(6), e19361. <https://doi.org/10.2196/19361>
- Dasgupta, P. (2021). *The Economics of Biodiversity: the Dasgupta Review*. HM Treasury, London, UK.
- Del Vicario, M., Bessi, A., Zollo, F., Petroni, F., Scala, A., Caldarelli, G., Stanley, H. E., & Quattrociocchi, W. (n.d.). *The spreading of misinformation online*. <https://doi.org/10.1073/pnas.1517441113>
- Domenico, G. Di, Sit, J., Ishizaka, A., & Nunan, D. (2021). Fake news, social media and marketing: A systematic review. In *Journal of Business Research* (Vol. 124, pp. 329–341). Elsevier Inc. <https://doi.org/10.1016/j.jbusres.2020.11.037>
- Eysenbach, G. (2009). Infodemiology and Infoveillance: Framework for an Emerging Set of Public Health Informatics Methods to Analyze Search, Communication and Publication Behavior on the Internet. *J Med Internet Res*, 11(1), e11. <https://doi.org/10.2196/jmir.1157>
- Fuchs, C. (2009). The role of income inequality in a multivariate cross-national analysis of the digital divide. *Social Science Computer Review*, 27(1), 41–58.

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Gerts, D., Shelley, C. D., Parikh, N., Pitts, T., Watson Ross, C., Fairchild, G., Vaquera Chavez, N. Y., & Daughton, A. R. (2021). "Thought I'd Share First" and Other Conspiracy Theory Tweets from the COVID-19 Infodemic: Exploratory Study. *JMIR Public Health Surveill*, 7(4), e26527. <https://doi.org/10.2196/26527>

Gesser-Edelsburg, A. (2021). Using Narrative Evidence to Convey Health Information on Social Media: The Case of COVID-19. *J Med Internet Res*, 23(3), e24948. <https://doi.org/10.2196/24948>

Griffith, J., Marani, H., & Monkman, H. (2021). COVID-19 Vaccine Hesitancy in Canada: Content Analysis of Tweets Using the Theoretical Domains Framework. *J Med Internet Res*, 23(4), e26874. <https://doi.org/10.2196/26874>

Manovich, L. (2002). *The language of new media*. MIT press.

Martino, F., Brooks, R., Browne, J., Carah, N., Zorbas, C., Corben, K., Saleeba, E., Martin, J., Peeters, A., & Backholer, K. (2021). The Nature and Extent of Online Marketing by Big Food and Big Alcohol During the COVID-19 Pandemic in Australia: Content Analysis Study. *JMIR Public Health Surveill*, 7(3), e25202. <https://doi.org/10.2196/25202>

Nutbeam, D., & Lloyd, J. E. (2021). Understanding and Responding to Health Literacy as a Social Determinant of Health. *Annual Review of Public Health*, 42(1), 159–173. <https://doi.org/10.1146/annurev-publhealth-090419-102529>

Provenzi, L., & Barello, S. (2020). The Science of the Future: Establishing a Citizen-Scientist Collaborative Agenda After Covid-19. *Frontiers in Public Health*, 8, 282. <https://doi.org/10.3389/fpubh.2020.00282>

Rauschenberg, C., Schick, A., Hirjak, D., Seidler, A., Paetzold, I., Apfelbacher, C., Riedel-Heller, S. G., & Reininghaus, U. (2021). Evidence Synthesis of Digital Interventions to Mitigate the Negative Impact of the COVID-19 Pandemic on Public Mental Health: Rapid Meta-review. *J Med Internet Res*, 23(3), e23365. <https://doi.org/10.2196/23365>

Roche, J., Bell, L., Galvão, C., Golumbic, Y. N., Kloetzer, L., Knoblen, N., Laakso, M., Lorke, J., Mannion, G., Massetti, L., Mauchline, A., Pata, K., Ruck, A., Taraba, P., & Winter, S. (2020). Citizen Science, Education, and Learning: Challenges and Opportunities. *Frontiers in Sociology*, 5, 14. <https://doi.org/10.3389/fsoc.2020.613814>

Sørensen, K., Van den Broucke, S., Fullam, J., Doyle, G., Pelikan, J., Slonska, Z., Brand, H., & European, (HLS-EU) Consortium Health Literacy Project. (2012). Health literacy and public health: A systematic review and integration of definitions and models. *BMC Public Health*, 12(1), 80. <https://doi.org/10.1186/1471-2458-12-80>

Swire-Thompson, B., & Lazer, D. (2020). Public Health and Online Misinformation: Challenges and Recommendations. *Annu. Rev. Public Health*, 41, 433–451. <https://doi.org/10.1146/annurev-publhealth>

Trethewey, S. P. (2020). Strategies to combat medical misinformation on social media. In *Postgraduate Medical Journal* (Vol. 96, Issue 1131, pp. 4–6). <https://doi.org/10.1136/postgradmedj-2019-137201>

van Deursen, A. J. A. M., van der Zeeuw, A., de Boer, P., Jansen, G., & van Rompay, T. (2021). Digital inequalities in the Internet of Things: differences in attitudes, material access, skills, and usage. *Information, Communication & Society*, 24(2), 258–276. <https://doi.org/10.1080/1369118X.2019.1646777>

Vosoughi, S., Roy, D., & Aral, S. (2018). The spread of true and false news online. *Science*, 359(6380), 1146–1151. <https://doi.org/10.1126/science.aap9559>

Wang, Y., McKee, M., Torbica, A., & Stuckler, D. (2019). Systematic Literature Review on the Spread of Health-related Misinformation on Social Media. In *Social Science and Medicine* (Vol. 240). Elsevier Ltd. <https://doi.org/10.1016/j.socscimed.2019.112552>