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The truth is out there, somewhere

The tidal wave of information on the internet concerning the COVID-19 pandemic has resulted in difficulties in discerning truth from fiction. This so-called infodemic, defined by WHO as an “overabundance of information—some accurate and some not—that makes it harder for people to find trustworthy sources and reliable guidance when needed”, has become a major threat to public health. Infection rates will rise if people are confused about restrictions and patients may be harmed if they use unproven treatments or bogus remedies.

An urgent call for action to gauge, map, and develop a means of combating this problem was explored at a WHO-organised conference held across April, June, and July. The meeting, which focused on so-called infodemiology—the science behind managing infodemics—brought together experts from a range of disciplines, including epidemiology, public health, applied mathematics, and data science.

The term infodemiology was first used in 2002, although concern about misinformation in health and the need for fact-checking have long been present. But now, a growing mistrust in science and experts, poor and confusing responses by political and government leaders, and some people’s reliance on social media as their sole source of information have made dealing with infodemics as acute as dealing with COVID-19 itself. While the discipline of infodemiology is in its infancy, some insights are emerging.

The groups generating and spreading egregious information are highly organised political or pseudo-scientific bodies that are experienced at using nefarious techniques to propagate their narratives. These bodies can rapidly change their names and their key messages, moving from one campaign to another, and consciously seek and target vulnerable populations. Conspiracy theories and misinformation proliferate in times of uncertainty and fear. Such circumstances, exemplified by the COVID-19 pandemic, have occurred throughout history and been manipulated by populist politicians, anti-vaccination movements, climate change deniers, and the tobacco industry. Protagonists and propagators of such fake news have been shown to be motivated often by political and financial gain.

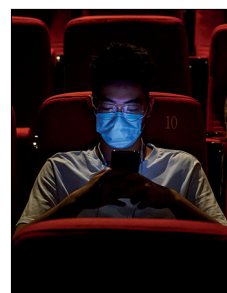
An analysis mapping Facebook interactions between nearly 100 million people with various viewpoints about

vaccinations showed that individuals cluster into specific, dynamic, interconnected groups. Although small, the anti-vaccination group (4.2 million people) was highly connected with those who were undecided about the importance of vaccinations (74.1 million people). The pro-vaccination group (6.9 million individuals) was isolated and had little interaction with those who were both undecided and anti-vaccination. These observations show that health campaigners who wish to change people’s minds ought to focus attention on those who remain open to both good and bad information.

Dealing with the infodemic relating to COVID-19 will need a combined global effort involving health organisations, governments, media outlets, and individuals. WHO has built myth-busting teams of internet-savvy communicators to stamp out disinformation related to COVID-19. The US Centers for Disease Control and Prevention has employed a global team of behavioural scientists and communicators to tackle infodemics as they relate to vaccine acceptance in low-income and middle-income countries. Social media platforms say they have increased efforts to remove disinformation and lead users to more trustworthy sources. However, Facebook, for example, is “rife with bogus cures and conspiracy theories that remain on the platform long enough to put millions of people at risk”, according to activists.

At *The Lancet*, the COVID-19 pandemic has given us salutary lessons about dealing with an infodemic. We are mindful that our readership now extends beyond the health and scientific communities. With this comes a responsibility to explain that different content types carry different weights of evidence, and how peer review and editorial input contribute to building scientific knowledge.

The problem of infodemics and the importance of infodemiology are escalating, and not just related to COVID-19. There is collective responsibility to produce clear, simple, honest messages, but individual digital and health literacy must also be strengthened. Behaviour change is needed, appreciating the importance of emotion, trust, credibility, and self-efficacy. The key to infodemics is not to produce even more information, but to address the environmental and social factors that make spreading misinformation easy. ■ *The Lancet*



Kevin Fayer/Safety Images

For more on the **WHO-organised conference** see *J Med Internet Res* 2020; 22: e19659 and https://www.who.int/docs/default-source/epi-win/infodemic-management/infodemiology-scientific-conference-booklet.pdf?sfvrsn=179de76a_4

For more on **network mapping approaches to epidemiology presented at the WHO conference** see <https://www.youtube.com/watch?v=e2m5nH7Xzgs?>

For more on the **analysis of Facebook interactions about vaccinations** see *Nature* 2020; 582: 230–33

For more on **COVID-19 misinformation and Facebook** see https://avaazimages.avaaz.org/facebook_coronavirus_misinformation.pdf