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Addressing Anti-Science Attitudes that Impact Global Health: A Call to Action

Anti-science attitudes range from cynical distrust of scientific processes to outright rejections of scientific evidence. Unlike healthy forms of skepticism, anti-science activities seek to discredit the validity of scientific inquiry in general by refusing to critically consider its truth claims and by dismissing any particular mode of evidence posited in support of those claims. Stark examples of contemporary anti-science movements include: disinformation (deliberately false or misleading information) campaigns about vaccines, climate change denialism, and the social media-driven circulation of misinformation (false claims) and conspiracy theories about Covid-19.

Increasingly, experts are examining the damage inflicted upon global health by anti-science attitudes and are devising strategies to counter these unfolding movements. This short guide provides a collection of resources and evidence-based strategies that global health professionals can use to counter anti-science and to communicate with people who believe science-related misinformation.

Countering anti-science will require a multifaceted strategic approach from every level of healthcare and must be a central mission of the CUGH community.

Vaccines

In 2019, the WHO listed vaccine hesitancy among the top 10 threats to global health.[1]

Covid19 Vaccine Communication Handbook
A handbook and wiki from SciBeh.org that tracks behavioural science evidence and advice about COVID-19 vaccine uptake. Available in multiple languages.

The Vaccine Confidence Project

An initiative that builds and monitors vaccine confidence worldwide by increasing knowledge and awareness of vaccines and immunisation, listening for early signals of public distrust, and providing risk analysis and guidance to engage the public early.

First Draft: Vaccine Insights Hub
Online training, workshops, and guidance on how to address emerging health and vaccine misinformation.

Understanding and Communicating about Covid19 Vaccine efficacy, effectiveness, and equity. (PDF)
A recent report from the Societal Experts Action Network (SEAN) on communicating effectively about how vaccines work.

Climate Change

In the Lancet Countdown's 2018 report, twenty-seven leading academic institutions, the UN, and intergovernmental agencies from every continent warned that climate change represents the biggest global health threat of the 21st century.[2]

The Climate Change Empowerment Handbook (PDF)
A handbook of best practice insights from psychological science to activate the public into engaging with the challenge of climate change. Composed by the Australian Psychological Society (APS).

Harvard Chan School of Public Health-Center for Climate, Health, and the Global Environment (C-CHANGE)
Advice for talking to climate skeptics.

George Mason University Climate Change Communication
A handbook explaining why conspiracy theories are so popular, how to identify the traits of conspiratorial thinking, and what are effective response strategies. Available in multiple languages.

Misinformation/COVID19 Infodemic

In the wake of the Covid-19 pandemic, the spread of misleading or inaccurate information throughout the media ecosystem has been linked to negative health outcomes, increased mistrust towards scientific authority, and the exacerbation of extant socio-economic inequalities.[3,4,5]

Tips for countering conspiracy theories and misinformation (PDF)
An informative and shareable infographic on how to talk to conspiracy theorists produced at the SciBeh 2020 Virtual Workshop on "Building an online information environment for policy relevant science"

Tips from Peter Hotez on Combating Anti-Science
A collection of writing, lectures, and resources on the threat of anti-science to global health and how to combat them.

WHO: Public Health Agenda for Managing Infodemics
A global public health research agenda for infodemic management developed by the WHO.

Counter Hate: Don't Spread the Virus
An infographic of suggestions for countering misinformation online produced by the Center for Countering Digital Hate (CCDH).

Poynter
An online database and guide to anti-misinformation activities, regulations and legislation around the world.

Social Science Research Council (SSRC) - MediaWell
A compilation of news and social science scholarship on digital disinformation and misinformation at the intersections between information, science, fear, and public health.

The Forum Network: Building Trust
A curated community of experts and thought leaders from around the world to discuss developing solutions to Covid-19, such as fighting disinformation.

YouGov Cambridge Census
Research promoting collaboration between pollsters and academic experts on the topics of conspiracy theories, populism, globalism, and the pandemic.

Additional Resources for Pro-Science Communication

There have been increasing anti-science movements around the globe since 2010, and scientists must ready themselves to engage.[6]

Communicating Science Effectively Report Brief (PDF)
A consensus study report (2016) by National Academies Press (NAP) that looks at science communication research and application needed to communicate effectively about science with a focus on contentious topics in the public sphere

Based on Science
From the National Academy of Science, Engineering, and Medicine, a project that leverages a community of experts to provide evidence-based information and answers to everyday science and health questions that return high-levels of misinformation in Google search queries.

CUGH Countering Anti-Science Asks:

1) Equip yourself for day-to-day discussions using the resources listed above.
2) Engage with your institutions and request progressive change to health and science curriculum for inclusion of effective communication education and proven methods of countering anti-science.
3) Foster interdisciplinary approaches to counter anti-science attitudes through collaborations between scientists, healthcare providers and communications experts in media and higher education.

These dynamic global health threats deserve a robust response from all members of CUGH around the world. Countering anti-science attitudes will improve health outcomes globally. It will take a strategic and multifaceted approach. Thank you for engaging with us on this urgent matter.