Scientific communication
Learning from the COVID-19 ‘Infodemic’

The COVID-19 pandemic has taken place in an age of rapid digital communication. Scientific voices can become lost in the noise. Worse, some were not accessible to the general public in the first place. On 7th December 2020, Project ECHO held a Global Series webinar: “COVID-19 global learning collaborative - science and the response to the COVID-19 ‘infodemic’”. The goal of the webinar was to discuss the importance of clear communication of science in response to the COVID-19 pandemic. We spoke to four of the expert contributors to dig further into their thoughts on the most important and interesting topics raised during the webinar.

What are the dangers of misinformation?
Throughout the webinar, there was discussion around the ‘infodemic’ of misinformation during the COVID-19 pandemic. It was argued that an infodemic could cause preventable deaths during the pandemic – and that finding solutions for the infodemic could save more lives than developing a new treatment of COVID-19.

Dr Soumya Swaminathan, Chief Scientist at the World Health Organization, explained why she believed this to be the case: “Misinformation can severely and adversely affect public acceptance of treatments and vaccines. Accurate and trustworthy communication is an important factor in increasing public trust, which will then increase the uptake of effective treatment and vaccines.”

“In many countries, people are reluctant to take vaccines despite their availability. Reaching people with accurate information through trusted channels is critical for increasing vaccine acceptance.”

Dr Soumya Swaminathan

“Accurate and trustworthy communication is an important factor in increasing public trust, which will then increase the uptake of effective treatment and vaccines.”

Is there a problem with scientific communication?
Dr Devi Sridhar is a British-American public health researcher who holds the Chair of Global Public Health at the University of Edinburgh. We asked her whether she thought policymakers are effectively communicating research behind health policies to the public.

According to Dr Sridhar, “I think given the fast pace of COVID-19 policy, it’s been hard for them to communicate the evidence base behind decisions. This is why it has come to independent scientists to explain alongside governments what is happening and why.”

During the webinar, Dr Swaminathan briefly alluded to “scientists and public health experts not always being the best communicators”. She went on to expand on some of the common pitfalls and barriers faced by researchers and organisations who wish to convey complex scientific concepts.

“Communicating complex concepts in lay language, using formats that people can access, is a skill that must be learned; many professionals in science and public health have not been trained to do this. It is also important to have credible and popular leaders convey these messages.”

—is Dr Devi Sridhar

“This pandemic has exposed people to a vast array of new concepts and unfamiliar scientific terminology, including an incredible amount of information overall. Building scientific literacy is a longer-term solution. We must train young scientists how to communicate to the public and make sure they are active and visible at the science-policy interface.”

How can researchers better engage the public?
A seismic shift has occurred in how science is communicated to public health policy makers during the pandemic. When we asked Dr Devi Sridhar which strategies she has found effective for breaking down complex data and research accurately and accessibly for time-pressured government officials and organizations her answer was clear: “I think reading complex scientific papers, digesting them, and then trying to communicate simple and clear messages that people can understand easily. It has to be accessible, in plain language and logical.”

Dr Siouxsie Wiles, a microbiologist and associate professor at the University of Auckland, has taken the interesting route of working with a cartoonist. Dr Wiles described working with cartoonist Toby Morris to share scientific knowledge with the public as “the most incredible collaboration of my working life”.

“Given the fast pace of COVID-19 policy, it’s been hard for policymakers to communicate the evidence base behind decisions.”

“Accurate and trustworthy communication has been impeded by a barrage of misinformation.

Dr Siouxsie Wiles

“If we really want to engage the public, then it seems obvious that we need credible and popular leaders conveying these messages.”

Dr Siouxsie Wiles
Have loved about working with Toby artists, and performers. That is what I audiences, like writers, illustrators, should collaborate with people who interdisciplinary approach to medical communication. Information through a visual medium. Their collaboration has highlighted the importance of an thinkers like him understand.” transforms it into something that visual to explain the science to him and he communicator. So, it’s been my job communicate effectively? Dr Siouxsie Wiles revealed in the webinar that she, “felt a moral obligation to communicate” her research. However, she added that “currently the dissemination of research is not valued in academia, which privileges the publication of papers in peer-reviewed journals that are only accessible to a narrow audience.”

“Toby Morris. He is a visual thinker and communicator. So, it’s been my job to explain the science to him and he transforms it into something that visual thinkers like him understand.”

According to Dr Inglis, “The number of manuscripts posted to medRxiv increased ten-fold from January to May in 2020 and around 70% were pandemic-related, so managing this volume has been challenging. Both servers have always placed submission requirements on authors. On medRxiv, these include the need for studies to have ethical approval or a waiver and the registration of clinical trials.”

“We have a multistep screening process for each manuscript, involving scrutiny by a scientifically trained in-house team and working scientists we call affiliates. Screening is not peer review and does not judge the quality or importance of the work described: the aim is to eliminate non-science, opinion or hypothesis not accompanied by data, and claims about medicines or clinical procedures that would cause public alarm.”

According to Dr Inglis, “The aim is to eliminate non-science, opinion or hypothesis not accompanied by data, and claims about medicines or clinical procedures that would cause public alarm.”

“ ”I think what many researchers may underestimate is just how transformative the results and impact of our research can be, when we work with people with very different skills and approaches. That the research or work becomes more than the sum of its parts.”

How can we screen for misinformation? Dr John Inglis co-founded and manages bioRxiv, the largest source of preprints of research papers in the life sciences, and medRxiv, a preprint server for health sciences that launched six months before the pandemic began. Together, medRxiv and bioRxiv have posted more than 14,500 pandemic-related preprints. We asked him how bioRxiv and medRxiv had responded to the challenges of the infodemic.

According to Dr Inglis, “The number of manuscripts posted to medRxiv declined 20-40% of submissions in 2020, as they did not meet requirements.”

Is there a moral imperative to communicate effectively? Dr Siouxsie Wiles revealed in the webinar that she, “felt a moral obligation to communicate” her research. However, she added that “currently the dissemination of research is not valued in academia, which privileges the publication of papers in peer-reviewed journals that are only accessible to a narrow audience.” We asked her why she thought this is currently the case.

“I think this is largely down to what is considered success in academia, and that is publication of papers in high impact journals and being awarded prestigious grants. And you can’t have one without the other, because the majority of funding bodies make decisions on who to award a grant not just on the idea but on the applicant’s track record – their publications.”

At the institutions I’ve worked at, academics need to be publishing and getting grants to get pay rises and promotions. So even if your research doesn’t need funding, people are still pressured into applying for it. That makes sense when you understand that the institutions rely on the overheads they charge the funders to function.”

“All of this acts as a disincentive to communicating beyond just writing papers, because communicating more broadly takes time – both to learn the necessary skills and to do the communication. Many times in my career I’ve been told by senior people that I’m wasting my time communicating to the general public and should focus on writing papers and grants. I think they probably meant well and were just looking out for me.”

“But I’d much rather we change what we value and how we measure success. Because ultimately, relying on such a narrow definition is bad for research and for our communities.”

You can watch the full “ECHO COVID 19 GLOBAL CONVERSATIONS” webinar and hear more from all of the researchers here: https://www.youtube.com/watch?v=7mWDr4L6F-0.

ProjectECHO

W https://hsc.unm.edu/echo/