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The COVID-19 pandemic has disrupted science, but also reinforced the relevance and credibility thereof, reinstating the paramount importance of facts, as well as science literacy and understanding. The global crisis has demanded of science communicators (science journalists, researchers and communication specialists) heightened effort and a different approach. By *Kim Trollip*

COVID-19, the science communication clarifier

Researchers in particular are used to communicating certainties. However, when dealing with a novel coronavirus, we can state current knowledge, but should add a caveat in our messaging that additional dimensions may come into play. Due to the danger of the pandemic, ever-changing and sometimes unverified COVID-19 data have been released. Especially in the early months of the pandemic, academia witnessed a significant increase in the release of pre-print journals in an effort to stem the spread of the virus. Some were critical of this haste to release studies, but others believed it was justified to save lives. Nonetheless, it showed the importance for science communicators, when releasing early data, to state in their key messaging that although it provides guidance, the information provided is subject to change.

Science communicators have a responsibility to fill the vacuum left by uncertainty; correct misinformation and debunk disinformation (falsehoods designed to undermine the validity of science); and provide the public with the accurate information they need to make informed decisions about their health and well-being. Equally important is who is 'handed the microphone' to speak and who we quote in our work. Representation can be a matter of life or death. Although the virus does not discriminate, numerous studies in South Africa and around the world have shown that due to societal inequality, black people and vulnerable communities are hardest hit. The need exists to develop structural actions to support the active participation of scientists from marginalised and vulnerable groups in the research, and also in communicating about their work on COVID-19.

> *When scientists do not participate in science communication, the public narratives are shaped without an informed expert voice [and are] instead determined by interpretation, extrapolation, opinion, and misinformation. This can cause real harm in a public health context, exemplified by the anti-vax movement, which has resulted in lowered herd immunity, leading to largely preventable outbreaks of measles in numerous countries.*
> *– Dr Ciléin Kearns, artist-physician*

Acknowledging some of the more alarming COVID-19-related utterances made by people in positions of authority in South Africa, and elsewhere, the focus of this article is not on the details of the disinformation. Instead it seeks to define the best way to communicate actual research in a clear and concise manner, while positively influencing behaviour. Leading science communicator Luisa Massarani of Brazil says, "Science communication has been at the heart of the debate about [the] coronavirus worldwide; helping to understand the virus and the disease but also behaviours that can minimise its impact. As such, producing and publishing high-quality research in science communication around COVID-19 is imperative and indeed closely aligned with scientific research of the virus itself." Based on such research to date, science communicators have identified challenges and some surprising opportunities.

Top tips for communicating research during a crisis:

- Preparation is everything. Know your audience, identify your goals (e.g. educate, advocate, raise awareness, build trust, influence policy) and jot down your key messages.
- Avoid jargon and acronyms.
- Ensure consistent messaging to all stakeholders.
- Put complex concepts into simpler terms; this helps demonstrate the importance of your work to a wide range of stakeholders.
- State the obvious, because it's not always obvious to most people.
- If called to speak to the media, compose your response in advance and remain concerned, calm and human.
- Be yourself, be ethical and be accountable. An authentic voice engenders trust and buy-in.
- If you have the gift of storytelling, use it. It is a great way to ensure that the public remembers what you have said.
- Do not emphasise results more than is rightful, because a public that has been disappointed once will be sceptical forever.

Ideally, addressing audiences in their mother tongue ensures greater comprehension and trust. Where possible, allow colleagues who speak the relevant language to honour the engagement. If this is not possible, and you are presenting in English, then ensure that you enunciate carefully and speak clearly.

Communication is adequate if it reaches people with the information that they need in a form that they can use. COVID-19 affects core human values and sparks tensions at the science-society interface. This may be seen as a challenge to science communication, but it could also be an opportunity.

Opportunities presented by a health crisis

- COVID-19 has demanded that science communicators reorientate to become more innovative and agile.
- Dialogues are known to engage the public and effect positive change, as they are interactive and empowering. Dialogue is a unique form of conversation with the potential to bring about genuine social change.
- The pandemic has accelerated digital transformation. In a post-COVID-19 world, the digital space is one of the largest – a modern-day 'agora', where these dialogues can take place.
- Social media can provide effective and efficient ways to communicate your research to an extremely broad audience, and creates new opportunities for opening up dialogue, as well as boosting engagement and deliberation.
- Multiple channels for communication means you reach more people; in addition to online communication, consider radio, television and mobile messaging.
- Storytelling helps listeners understand the essence of complex concepts in meaningful or personal ways. Narratives can be presented as the written word, photos, images or video. Incorporating a cultural context integrates social meaning, legitimacy and local context into scientific messaging.
- Creative formats are capable of engaging the public in behavioural change on a mass scale. Visual storytelling, e.g. comic-based risk communication of the COVID-19 pandemic, has been used successfully around the world.
- Laughing soothes nerves when it is not directed *at* something or someone but enjoyed *with* someone. Science communicators should harness the possibilities of satire and humour in communicating the seriousness of the deadly disease, but with some important checks employed.

A final word on representation

During the pandemic, some of the first people to predict disparities in health outcomes with COVID-19 were black experts. It is incumbent upon researchers to make sure we're telling stories through the perspectives of people who are living through them. An alliance of social movements, the C19 People's Coalition, has been actively seeking to ensure that the South African response to COVID-19 is effective, just and equitable. Their communication efforts have been exemplary in terms of ensuring that facts reach the most vulnerable communities. The #PeoplesVaccine campaign has used social media effectively to spread the call for vaccine equity. Science communicators can learn from such campaigns when speaking about their research.

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