

Vaccine hesitancy and the challenge of successful scientific communication

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Drawing on personal experiences and public discourse, Dr. Klaus Eyer, an Associate Professor at Aarhus University, explores the challenges of communicating about vaccine science to address vaccine hesitancy

Various hurdles need to be overcome by a vaccine to protect against a disease. It needs to be proven safe and effective in clinical studies. It also needs to be widely accepted and used by the public. This article examines the difficulties of communicating about vaccine science based on personal experiences and public discussions.

Establishing the context of this article

My background is rooted in continental Europe, and my perspective may differ from those with other cultural or personal backgrounds. I have been actively involved in public outreach to promote vaccination, driven by my conviction in scientific evidence that shows current vaccines offer a net benefit to both individuals and communities, despite the challenges they present in terms of safety and efficacy in very rare cases, as I discussed in the previous article for this publication.⁽¹⁾ To offer a broader view, I've included insights from colleagues gathered through discussions in recent years, but we will still only be able to scratch the surface.

Information, trust, and distrust

The societal challenges in overcoming vaccine hesitancy are multifaceted, shaped by historical, religious, cultural, economic, and political factors, on top of individual aspects. Over recent years, I have been approached by numerous individuals from the public seeking my scientific opinion on questionable vaccine information they encountered. Most of the questions originated from information on social media platforms, where misinformation about vaccines is unfortunately widespread and represents a significant public health risk, as it can foster fear and vaccine hesitancy and ultimately reduce vaccination rates.⁽²⁾ This observation is supported by recent scientific observations.⁽³⁾ The misinformation on social media platforms often spreads rapidly. It is especially present in sheltered information bubbles driven by false claims about vaccine safety and efficacy, focusing on correlative evidence or citing individual cases to make generalizable statements. For example, myths linking vaccines to autism, despite the overwhelming scientific evidence over the last 20 years showing otherwise, still circulate, while new

ones, such as the claim that mRNA vaccines alter the host genome and should be classified as gene therapy, have emerged, although there is no scientific evidence or even a plausible hypothesis to support such a claim.

As a scientist, I find it particularly difficult to respond to requests for “definitive proof” or a “final answer,” as such absolutes are contrary to the nature of scientific inquiry. My responses often include phrases like “to the best of our current scientific knowledge and my expert opinion,” which, while accurate, may not fully satisfy those seeking certainty. The nuanced nature of scientific knowledge, which rarely offers absolute certainty, can be difficult to convey in the clear, definitive terms the public may expect – especially when contrasted to less nuanced but stronger voices that can be found on- and offline. Also, some content marked as scientific information might have drifted too far from its original intent, as it is also difficult to simplify and generalize scientific information into a digestible format. The involvement of industry funding, even if it does not affect the content and results (for example, through foundations that have specific rules in place), often leads to a quick dismissal. Lastly, and importantly, many researchers are not experts in communication. We are not, and maybe also should not be, experts in social media and communication although a certain understanding might provide helpful insights.

Often, the outreach itself also leads to disagreements and potential conflict within academia and science, which further reduces credibility and trust in science among the public. The public often lacks a clear understanding of how scientific consensus is formed, a certain level of disagreement is crucial for the advancement of scientific concepts and ideas.

Engaging in public outreach on- and offline is necessary, should stay ‘scientific,’ and should be better recognized

These potential conflicts and the still relatively limited recognition of public outreach often discourage younger, less established researchers. The pressures of academia, such as securing funding, publishing research, and teaching, leave little time for outreach activities. These are often undervalued in terms of career evaluation, which is especially a problem for younger researchers who are in non-tenure or tenure-track positions. There has been some effort and advancement in the last point, but this has not yet been, at least in my opinion, sufficiently acknowledged throughout the scientific community.

I am fully convinced that researchers must play a bigger role in society to tackle vaccination hesitancy efficiently, but support from different actors is needed to make full use of their potential. Supporting researchers in scientific outreach involves a multifaceted approach to bridging the gap between the scientific community and the public in this dialogue. To credit, various initiatives that support researchers who want to engage in this have been started in the last few years. Institutional backing, such as employing outreach coordinators, training courses, and offering recognition and incentives, would further strengthen these initiatives, especially in newer social media formats. Addressing misinformation where it occurs is important, but it requires a comprehensive strategy.

Simply debunking false information may not be as effective, as the original statement may still have more reach and suffer from a lack of audience trust. It could easily get lost in the sea of misinformation. More proactive actions might be needed.

As science and communication today are highly international, addressing these challenges requires a comprehensive approach that includes improving communication, building trust, ensuring equitable access, and fostering cooperation across countries and disciplines. Ultimately, more effective scientific communication in the field of vaccination from companies, academia, health care professionals, and others is needed as the World Health Organization lists vaccine hesitancy – due to myths, misinformation, and mistrust, amongst other reasons – as a growing challenge for immunization programs. However, this improvement of communication must be accompanied by initiatives to rebuild trust to be successful. Indeed, the building of trust remains central and most difficult ⁽³⁾, and there is a role for all of us, as researchers, administrators, public servants, and politicians, to participate.

References

1. Eyer, Vaccine non-responders and severe adverse events, Open Access Government, 2024
2. Rodrigues et al., The Impact of Social Media on Vaccination: A Narrative Review, Journal of Korean Medical Sciences, 2023
3. Ruggeri et al., Behavioural interventions to reduce vaccine hesitancy driven by misinformation on social media, The British Medical Journal, 2024
4. Vuolanto et al., Trust matters: The Addressing Vaccine Hesitancy in Europe Study, Scandinavian Journal of Public Health, 2024

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