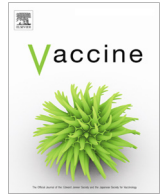




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Commentary

Commentary to: How to respond to vocal vaccine deniers in public

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In spite of the huge positive impact of immunization on fighting infectious diseases and improving health outcomes, acceptance of vaccines cannot be taken for granted. Sadly, vaccine refusal and denial persists. Denying the necessity and safety of recommended vaccines presents a major threat to a healthy society as it subverts community protection against vaccine-preventable diseases [1]. This commentary introduces the new evidence-informed guidance document of the World Health Organization on how to respond to vaccine refusal and denial in public (available online, see link below).

The spreading of vaccine misinformation by vocal vaccine deniers contributes to vaccine hesitancy [2]. Vocal vaccine deniers are at the extreme end of the subgroup of vaccine refusers [3] and actively advocate against vaccination, using science denialism techniques to justify their beliefs i.e. “the employment of rhetorical arguments to give the appearance of legitimate debate where there is none” [4] “an approach that has the ultimate goal of rejecting a proposition on which a scientific consensus exists” [5 p.2]. They reject any pro-vaccine argument and, on principle, do not accept recommended vaccines.

The potential damage a vocal vaccine denier can cause through mass media as an amplifier of myths and misinformation is significant. Furthermore, unprepared or rash responses to vocal vaccine deniers in public fora may undermine the pro-vaccine stance of the audience and shift their beliefs [6]. When engaging in a public discussion with a vocal vaccine denier it is not only necessary to provide scientific evidence, but also to mitigate his or her negative influence on the public audience by responding in a way that appeals to and is understood by the public. This poses a challenge when vocal vaccine deniers refer to alleged or quasi-scientific evidence [7] and play on emotions that appeal to and raise concerns in the audience [8].

While general skills on engaging in a public debate or interview are helpful, they do not provide a strategy for how to address the specific issues and rhetoric techniques used by the vocal vaccine deniers. Given the potential impact of vocal vaccine deniers, the lack of readily available advice in this area and the frequent

requests for support from WHO Member States, a best practice evidence-informed guidance document has been developed by the WHO Regional Office for Europe. The document introduces an algorithm to develop responses to anti-vaccination rhetoric and guides health authority spokespersons in assessing whether to engage in the specific public discussion with the vaccine denier or not. The document is based on public health data, literature reviews in the areas of public health, psychology, communication and vaccinology as well as expert opinion. The document was reviewed and discussed by the members of the *European Technical Advisory Group of Experts on Immunization (ETAGE)* at their annual meeting (2015; Copenhagen, Denmark) and by participants of the *WHO European Regional Meeting of National Immunization Programme Managers* (2015; Antwerp, Belgium), which included the immunization programme managers of the 53 Member States of the WHO European Region, and it was tested and evaluated by national immunization managers of Albania, Bosnia and Herzegovina, Bulgaria, Croatia, Montenegro, Serbia and the former Yugoslav Republic of Macedonia during the *Technical consultation on addressing vaccination opposition* (2016; Belgrade, Serbia).

The guiding principles of the algorithm are: (1) the general public is the target audience, not the vocal vaccine denier and (2) the aim is to correct the misinformation content and to unmask the techniques used by the vocal vaccine denier.

In a public discussion vocal vaccine deniers are not likely to be convinced by any quantity of evidence; on the contrary they are likely to question the science of immunization as a whole. But even if evidence will not change the mind of the vocal vaccine denier, it may still appeal to the general public. By following the first guiding principle the spokesperson should see it as his or her role to inform undecided individuals, equip vaccine advocates with evidence-based arguments and even convince sceptics and not be distracted by any ambition to convince the vaccine denier.

Knowing the common science denialism techniques [5] and the topics most often raised by vocal vaccine deniers, the health authority spokesperson can prepare responses which aim to correct misinformation as well as to unmask the techniques used. The algorithm (see Fig. 1) illustrates this process. Building on the literature reviewed, the core topics of vocal vaccine deniers have been reduced to five: *threat of disease, alternatives to vaccines,*

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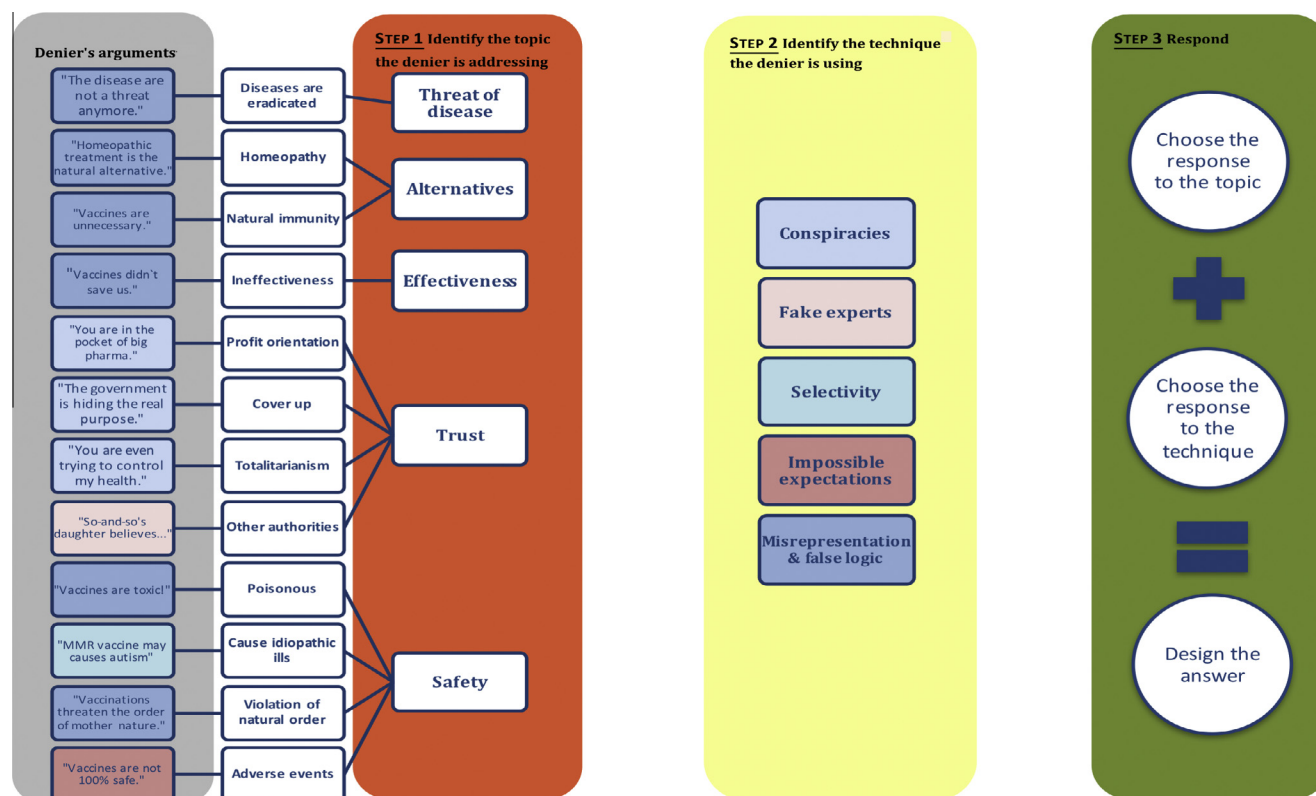


Fig. 1. The algorithm of how to respond to vocal vaccine deniers. The denier's arguments are based on previous work by Kata [7]. The techniques that the denier is using are based on previous work by Diethelm and McKee [5].

effectiveness of vaccines, trust in health authorities and safety of vaccines. The common techniques of vocal vaccine deniers have been identified as: *conspiracies, fake experts, selectivity, impossible expectations and misrepresentation/false logic* [5]. For example, by saying "I am not against vaccination, but I will not recommend it to anyone until it is 100% safe," the vocal vaccine denier is addressing the topic of safety and using the technique *impossible expectations*. By saying "There are a variety of alternatives to vaccines, which are natural and therefore healthy for a natural organism like the human being. We need to focus on these approaches instead of chemical and artificial solutions like vaccines," the denier is addressing the topic of alternatives and using the technique of *false logic*.

Once the spokesperson has identified the topic and the technique, a context-specific and culturally appropriate response can be prepared to correct misinformation and unmask the technique. The document provides key messages for every topic and technique to serve as inspiration. Depending on the culture and context, the response to the example of impossible expectation above may be "Expecting 100% safety is impossible; no medical product or intervention, from aspirin to heart surgery, can ever be guaranteed 100% safe. What we do know for sure is that the risks of these vaccine-preventable diseases far outweigh those of vaccines. In the worst of cases, these diseases kill." The response to the false logic example may be "Mr X is using false logic when he is claiming that something is good because it is a natural product. Sometimes natural things are good – for example the immune system – sometimes they are bad – for example vaccine-preventable diseases. Whether a medical product is natural or not is irrelevant for the evaluation of its effectiveness and safety. I will repeat what is supported by an overwhelming body of scientific evidence: There are no alternatives that are as safe and effective as vaccines in preventing these diseases."

The document also provides basic evidence-informed verbal and non-verbal do's and don'ts on how to behave in a public discussion or interview with a vocal vaccine denier.

The theoretical value of this best practice guidance document will be limited without practical training opportunities. Therefore, the WHO Regional Office for Europe is currently developing workshops that will equip participants with the theoretical "know why" and the practical "know how". We encourage spokespersons of any health authority and scientists alike to read the document and offer further comments and suggestions (available online at <http://www.euro.who.int/en/health-topics/disease-prevention/vaccines-and-immunization/publications/2016/best-practice-guidance-how-to-respond-to-vocal-vaccine-deniers-in-public-2016>). Designing responses to arguments of vocal vaccine deniers is an evolutionary process and a continuous challenge that needs context-specific tailored approaches and feedback on their effectiveness. The scientific community needs to discuss and refine approaches like those outlined in the document in order to clarify and strengthen the local evidence-based voice for vaccination. As the new algorithm is based on theoretical work about science denialism [5,9] and expert opinions further research needs to validate the usage of the proposed topics and techniques of vocal vaccine deniers.

Lastly, the proposed rules and algorithm process and techniques are also likely applicable and adaptable to other public arenas where scientific denialism is central such as anti-fluoride in water campaigners, straight from the cow unpasteurized milk zealots and extollers of natural remedies to cure cancer. In each of these three instances and many similar areas, as with vocal vaccine deniers, the target audience is the general public, the aim is to correct misinformation, support the public in being resilient to the vocal scientific deniers' claims and encourage acceptance of evidence-based preventive and/or therapeutic public health or medical

interventions by the public. There is still much to be learned on how to best address vocal vaccine deniers in public, but this best practice guidance document provides a beginning for health authority spokespersons facing such stressful situations.

Conflict of interest statement

This work was supported by the World Health Organization, Regional Office for Europe, Copenhagen, Denmark. The authors declare no further conflicts of interest.

Author contributions

All authors substantially contributed to the planning and writing of this article. The authors have approved the final article for submission.

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