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Responding to false or misleading media communications about HPV vaccines

Scientists have traditionally responded to vaccination opposition by providing reassuring safety and efficacy evidence from clinical trials and post-licensure surveillance systems. However, it is equally critical for scientists to communicate effectively the scientific evidence and the public health benefits of implemented vaccine programs. This is most challenging when the media focus on adverse events, whether real or perceived, and when non-scientific information about vaccination is presented as fact. Such attention has often been handled effectively (e.g. Australia, Canada, and UK). In some countries however, media coverage has negatively influenced public perception and HPV vaccine uptake because of the lack of a rapid, organized scientific response. Such a case arose in 2013 in Japan regarding the HPV vaccine.¹ The situation there was compounded by the national government's decision to suspend its recommendation of the vaccine. Not surprisingly, HPV vaccine coverage plummeted despite substantial safety evidence (figure 1).

A particular concern in media reporting of vaccination issues is the issue of 'false balance', which is the equal presentation of scientifically unequal claims

Given the potential for adverse public health impacts, advocacy by scientists and health care providers is vitally important to maintain public con-

fidence in vaccination and to support program resilience. We believe that scientists have a moral duty to participate in public life by sharing their knowledge when false or misleading media coverage threatens public health. This moral duty exists because: **1)** misinformation can directly cause harm (e.g. by preventing the potentially life-saving benefits of vaccination from being achieved); and **2)** scientists are able to explain the scientific evidence that can counter false and misleading claims. To increase our effectiveness in communicating such knowledge, it is essential to understand the fundamental differences between scientific and journalistic modes of communication.

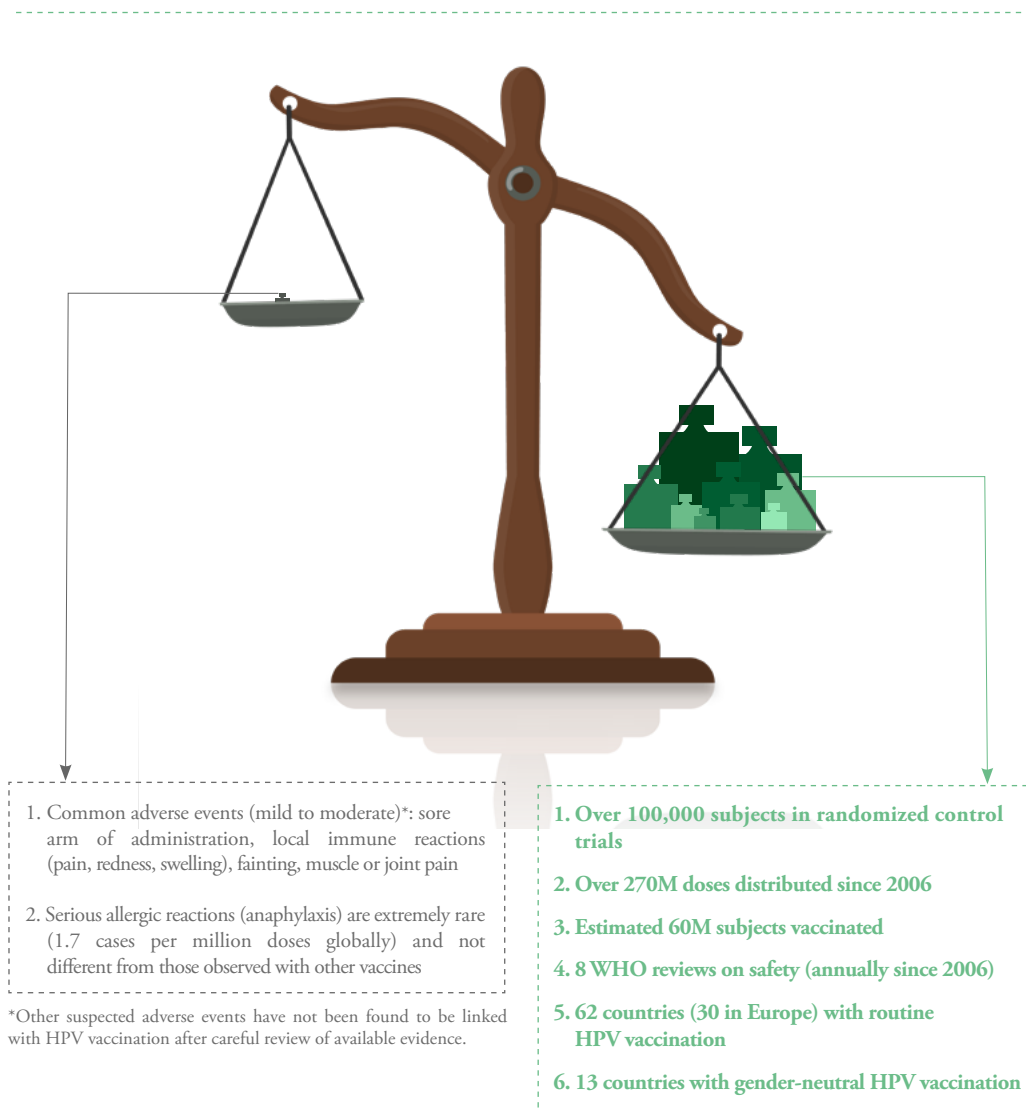
Science aims to build knowledge by reason, experimentation, creation, aggregation, and analysis of data. Scientific communications tend to be concise, conservative in reaching conclusions, and written in technical language relatively inaccessible to those outside the field. Journalism aims to inform and to entertain non-expert audiences. Stories told from individual perspectives, and with high emotional content, are much more easily understood and remembered by the public than a data heavy, peer-reviewed medical journal article that provides facts couched in scientific dense language. Consequently, the story of a single adverse event can carry more weight in the public imagination than safety data generated by a study of millions of vaccinated people.

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Figure 1

HPV vaccine safety balance: the weight of the evidence



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The Global Advisory Committee On Vaccine Safety (GACVS)
considers HPV vaccines to be **extremely safe**.

There is overwhelming international support for HPV vaccination.



World Health Organization: (WHO) Safety update of HPV vaccines
http://www.who.int/vaccine_safety/committee/topics/hpv/June_2017/en/

A particular concern in media reporting of vaccination issues is the issue of 'false balance', which is the equal presentation of scientifically unequal claims.² Journalists tend to seek opposing perspectives on an issue in order to provide, or appear to provide, objectivity and neutrality in reporting. Such reporting can create a false sense of balance, giving readers the impression that two opposing positions have equal credibility or weight, even if the overwhelming consensus of opinion and data supports one side. By giving an equal voice (and thus equal legitimacy) to a non-expert such as an anti-vaccination campaigner or to an adverse case report, even well-intentioned journalists may cause significant erosion of trust in vaccination. They may inadvertently create the impression that there is controversy when in fact there is none. It is challenging to convey the weight of scientific evidence in such a context.

Scientists believe people should be persuaded by data and reason; however people tend to filter messages and arguments through their pre-existing beliefs and experiences, and are more preoccupied by risks than benefits.^{3,4} Anti-vaccine activists' fallacious claims about vaccination harm are refractory to scientific reasoning.⁵ Audiences who hold beliefs that are incongruent with the message will often reject the message, reject the scientific evidence, or reconstruct the message to accord with their own beliefs. Messages most affect those who are undecided or whose beliefs are already consonant with the message. People also have a tendency not to interpret mass media messages as being about them personally, but about society at large. When people do not think a particular issue is relevant to

them personally, then they may process the message superficially, and be more vulnerable to new and contradictory information.³

With these points in mind, the following suggestions may help scientists to craft effective messages to respond to false or misleading HPV vaccine media stories (Box 1). Speaking with the media is a particular skill and not all scientists or practitioners will wish to, or need to, assume this role (see Box 2 for other important advocacy roles). Helpful resources are available online (e.g. <http://sciencemediasavvy.org/dealing-with-the-media/>) and formal media training is invaluable for anyone who will regularly speak to journalists. For more in-depth guidance, we recommend the WHO's guidelines on responding to vaccine deniers⁶ and its HPV vaccine program resources (at <http://www.who.int/immunization/diseases/hpv/resources/en/>). Importantly, though we focus here on traditional media, online and social media have changed the landscape from top-down (expert to public) communications to horizontal dialogues.⁴ It is increasingly necessary to develop effective tools to respond to false and misleading discussions that take place online. ■

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Box 1

Suggestions for publically responding to negative communications in the media

1) Check that you are the right spokesperson

Is it appropriate for you to provide comment (do you have the relevant expertise?)

2) Be prepared

Understand the background facts and issues under discussion. Check with your jurisdiction's immunisation program before commenting on a breaking story concerning adverse events following immunisation to ensure that you have the relevant scientific and policy information and that key messages are aligned.

3) Identify your audience

Anti-vaccination campaigners are unlikely to be swayed by scientific evidence. Your audience is the general public, some of whom will be undecided and receptive to scientific evidence, and will use the media to gather information on HPV vaccination. The goal generally will be to mitigate the negative impact of the media story on this audience. The message should be tailored for the general public and take into account their likely pre-existing beliefs.

4) Identify the story's angle, and how your scientific expertise supports the story

Ask in what context the information will be published or aired. If the piece is written, then ask whether you can review the text including any quotes attributed to you before publication. (If you are writing a response, then build a compelling story to help your audience better recall your message.)

5) Choose one or two key messages to repeat

The audience will generally recall only a few take-home messages from a media story. Identify the message that is most important to convey. Repeat it during the interview so that the message will more likely be used as a 'sound bite' by the journalist and be remembered by the audience.

6) Correct the content and unmask any fallacious arguments. Do not reiterate your opponent's arguments

Avoid repeating inflammatory questions from journalists or the fallacious arguments because repetition can reinforce the misinformation in the audience's mind, and your words may subsequently be taken out of context. Do not take on anti-vaccination campaigners point for point. You will likely lose your audience and your patience. Instead, focus on what you wish to convey and on providing accurate information about the important role of vaccines.

7) Underline scientific consensus

It is important to convey the weight of the scientific evidence to counter false journalistic balance and the fallacious perception that all media respondents have an equal claim to the truth. You represent not only your own research or clinical practice, but also the scientific consensus on HPV vaccine efficacy and safety.

8) Make the issue relevant to the individual

Emphasize the personal benefits of HPV vaccination and the personal responsibility and value of vaccinating one's children to help audience members become more invested in the message, and more likely to believe that vaccination recommendations apply to them. Concrete examples consistent with scientific evidence can have powerful effects. Inviting parents to consider how they might feel if their child becomes ill with a vaccine-preventable illness can make the issue relevant to the individual.

9) If your work or scientific evidence has been inaccurately reported in the media, write a concise letter to the editor suitable for publication

While the inaccuracy may not be immediately rectified, the editors may pay further attention in the future. If the editor does not take your letter seriously, you may also file a complaint with your country's regulatory media agency (e.g. National NewsMedia Council, Press Complaints Commission).



Box 2

Advocacy for vaccine science: some suggestions

1) Share positive vaccine stories on social media and with individual patients

Health care providers and public health professionals are often parents themselves, and may even have seen first-hand cases of HPV-related diseases. Parents can be reassured by knowing why a health professional chose to vaccinate his or her own children. Telling non-identifying stories about what people suffer when they have HPV-related cancer can present a compelling counterpoint to alleged vaccine injury stories. Vaccination also prevents precancerous cervical lesions, which are much more common than cervical cancer and whose diagnosis and treatment cause substantial emotional and physical suffering, including early delivery and resulting prematurity. Adding personal comments or anecdotes will help the message resonate and encourage further sharing.

2) Respond when someone posts dubious or anti-vaccine material

It can be hard to speak up when you don't want to be seen as argumentative or difficult; yet by merely posting that you disagree and linking to relevant articles, blogs or sites which contain further information can assist those with no or little knowledge of the field to see that the posted information is inaccurate. Your small intervention can provide reassurance about what most other people actually think and do in relation to vaccination.

3) Monitor anti-vaccine and junk science publications in your own field of expertise

Such articles are often published in predatory journals but they can sometimes appear in mainstream journals that like to attract controversy. Call out the scientific issues. Write a concise letter to the editor (suitable for publication) arguing for the retraction of unsound science.

4) Communicate with like-minded scientists

There are many vaccine supportive communities for both professionals and the public online. Examples include The Vaccine Page on Facebook for parents and vaccineinfo.org which provides links to helpful resources for vaccine advocacy and information. Useful resources for countering vaccine misinformation include summaries of current issues in skeptic community blogs (e.g. skepticalraptor.com).

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