

Challenges in promoting HPV vaccine in the era of web 2.0: understanding the tricks and tropes of anti-vaccinologists

The National Geographic magazine cover from March 2015 issue states that there is a war on science: climate changes do not exist, evolution has never happened, moon landing was fake, genetically modified food is evil, and vaccinations can lead to autism.

In order to analyse anti-vaccine communication strategies, we need to review the content of web 2.0 media, such as anti-vaccine websites, blogs, social media, articles as well as rebuttal actions from pro vaccine advocates. We have to agree that the anti-vaccine activists have made very good use of the Internet. Opinions are presented as evidence-based information. Web 2.0 media like websites, blogs, social media and classical communication tools such as paper media articles in journals, television and publication in obscure scientific journals are easy to find on the Internet and frequently come up first following a search on browsers. Tropes used by the anti-vaccination movement (i.e. oft-repeated mottos, phrases, and rebuttals) include:

- “I’m not anti-vaccine, I’m pro-safe vaccines”: denying one opposes vaccination, instead claiming they are for safer vaccines and further research.
- “Vaccines are toxic!”: listing potentially toxic vaccine ingredients, while providing disingenuous explanations of their dangers (a.k.a. the “toxin gambit”).
- “Vaccines should be 100% safe”: because absolute safety cannot be promised, vaccination is therefore flawed and dangerous.
- “You can’t prove vaccines are safe”: demanding vaccine advocates demonstrate vaccines do not lead to harm, rather than anti-vaccine activists having to prove they do.
- “Vaccines didn’t save us”: attributing improvements in health over recent decades to factors other than vaccines (e.g. better sanitation).
- “Vaccines are unnatural”: designating something “natural” to be the better option (e.g. naturally acquiring immunity from diseases rather than from vaccination).
- “Choosing between diseases and vaccine injuries”: framing vaccination choices as restricted between undesirable outcomes (e.g. catching a disease versus serious vaccine side-effects).
- “Galileo was persecuted too”: invoking the names of subjects persecuted by scientific orthodoxy, implying ideas facing close-mindedness will eventually gain acceptance (a.k.a. the “Galileo gambit”).

- “Science was wrong before”: citing prior instances of scientific errors to imply that scientific evidence supporting vaccination is also in error.
- “So many people can’t all be wrong”: implying anti-vaccine claims are true because many people support such ideas.
- “Skeptics believe...”: ascribing false reasons to vaccine supporters, which are then easily attacked.
- “You’re in the pocket of Big Pharma”: claiming those supporting vaccines do so because they are hired by pharmaceutical companies (a.k.a. the “pharma shill gambit”).
- “I don’t believe in coincidences”: rejecting that health problems can occur coincidentally after vaccination.
- “I’m an expert on my own child”: redefining expertise, where parents are the experts on their own children while medical authorities are discounted.

All these anti-vaccine publications, interactions and user-generated content have become ubiquitous. They foster a new post-modern paradigm of healthcare that has shifted from doctors to patients. The legitimacy of science is questioned, and expertise has a new meaning. The techniques used by the anti-vaccination movement are cunning, for not only their protests are camouflaged in unobjectionable rhetoric such as “informed consent”, “health freedom”, and “vaccine safety”, but they also take advantage of the current postmodern medical paradigm. Calls to “do your own research before vaccinating” dovetail with the postmodern characteristics of patient empowerment and shared decision-making, where individuals play a more involved role in their healthcare.

It is likely that anti-vaccine websites can influence whether people vaccinate themselves or their children. The types of rhetoric used by the anti-vaccination movement can be convincing, despite lacking scientific support for their claims. This includes actions such as skewing science, shifting hypotheses, censoring dissent, and attacking criticisms. Health professionals have little time to discuss these raised issues and will frequently skip the issue of vaccination over going in a long discussion explaining the safety and reasons of vaccine further legitimizing those issues. Strong statements from health care professionals remain an important reason why parents decide to vaccinate their kids.

What solutions exist to quell these fears? Some proposals include “immunizing” against misinformation through education using emotional or even harnessing social media in return — such as by creating web-based decision aids about vaccination using real-time Internet tracking to determine public attitudes or launching

social media campaigns. While it is important to attempt such efforts and combat the misinformation that exists, it is doubtful that the anti-vaccination movement can ever be completely quashed. For instance, emotional narratives about vaccine side effects have been found to increase risk perception and uptake intention to a greater extent than statistical information, demonstrating the power of emotional appeals and anecdotes over educational efforts. With many people desperate for answers, invested in their belief systems, and distrustful of authorities, it is unlikely that “the facts” alone will ever sway the truly committed. Some individuals choose to disregard the evidence, and are essentially denialists.

However, the pendulum is swinging. Whereas prior coverage was supportive and largely unquestioning, popular media outlets have begun to lambaste the anti-vaccination movement. Various articles have condemned the movement and its representatives. A PBS Frontline documentary did not portray the movement in a positive light and Robert F. Kennedy Jr.’s error-laden article on vaccines and thimerosal was removed from Salon.com, after acknowledging that keeping posted a corrected version was a disservice to the population. Such coverage is distinct from past reporting in that it largely ignored the journalistic mantra of “balance”, where both sides of the issue are afforded equal time and respect, thus equating the positions. A particularly large blow to the anti-vaccine movement credibility was dealt by investigative journalist Brian Deer, whose series of articles exposed Andrew Wakefield’s research as fraudulent. Australia has forced the Australian vaccination network to change its name to the Australian Vaccination-Skeptics network and was stripped of its fundraising capacity. In Canada, the Canadian alliance to support immunization has ended after the Toronto Star removed an article that was

strongly biased on Gardasil and won its cause since the journal withdrew the article from its archive.

Thus, it is possible that the minds of deeply invested anti-vaccine activists may never be changed. Therefore, it is for both the laypersons with genuine questions or worries about vaccines and the healthcare professionals who work to ease their fears, that keeping abreast of the methods of persuasion discussed here is essential. Recognizing anti-vaccine tactics and tropes is imperative for an awareness of the disingenuous arguments used to cajole, and convert audience gives individuals the tools to think criticize the information they encounter online. It is through such recognition that truly informed choices can then be made.

I will conclude citing Hillary Clinton’s tweeter feed from February 3rd 2015: “The Earth is round, the sky is blue and vaccines work. Let’s protect all our kids. #grandmothersknowbest”.

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