

How Do We Approach Anti-Vaccination Attitudes?

by Christopher A. Swingle, DO

There are many things that, as physicians, we universally take for granted. One does not need a background in medical statistics to understand that seat belts save lives and reduce injuries in car accidents. Nor do you need to have an epidemiology degree to know that tobacco smoking is causative for lung cancer. At some point in your undergraduate classes, you almost certainly heard the story of Edward Jenner, the milkmaids, and the resulting smallpox vaccine. Thanks to Dr. Jonas Salk, a true hero of the 20th Century, the last U.S. polio case was in 1979.¹ The benefits of vaccination clearly outweigh the risks. Therefore measles, mumps, rubella and diphtheria should be nearly unknown today ... right?

Something else that we undoubtedly learned in our medical training is not found in a textbook, but is taught all the same. From the level of nations down to the individual, people do not necessarily share the same values. Between nations, this manifests as diplomatic disputes and war in the worst possible scenario. On the physician-patient level, it is the case of the physician convincing a diabetic who places greater value in the psychological comfort of fast food about the value of diet and exercise. We think that because the medical values we have spent years studying are second nature to us, logically they should be obvious to everybody. They are not.



Christopher A. Swingle, DO, MSMA member since 2008, is an attending physician with West County Radiology at Mercy Hospital St. Louis, specializing in nuclear medicine. He is 2018 president of the St. Louis Metropolitan Medical Society.
 Contact: caswingle_do@yahoo.com
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Anti-Vaccination Movement Is Long-Standing

Even in Edward Jenner's time, there was an anti-vaccination movement.² Sir William Osler got so fed up with the "anti-vaxxers" of 1910 that he dared them to expose themselves to smallpox and promised to personally pay for the resulting funeral expenses. He did not get any takers.³ Historically, anti-vaccination sentiment gains momentum once the worst infectious diseases were no longer visible to the public. Now that there is a whole schedule of vaccinations, many of the most dreaded childhood infectious diseases have lost visibility. From this place of comfort and safety made possible by widespread vaccination, we now have to contend with a resurgent anti-vaccination movement.

Spend a few minutes on social media, or watch the feel-good daytime television shows ubiquitous in patients' hospital rooms. Wouldn't it be nice to have the same reach to millions that charismatic opportunists like Dr. Oz or Jenny McCarthy have? Could a few snarky pro-vaccination Facebook memes go viral and change minds our way for once? Until such time, physicians will have to leverage the physician-patient relationship in a smart and persuasive way.

To know how to intelligently respond, we need to examine where the fabrications are coming from, who

the consumers are, why they give it credence and what can be done to convince them otherwise.

According to a paper by Kata,³ the origin of misinformation typically starts with valid scientific debate on the risks of vaccination. One would hope that debate would be based on honest data presented after a rigorous peer-review. Unfortunately, the fraudulent Lancet paper by Wakefield from 1998 (finally retracted by that journal in 2010 after 12 years of damage had already been done) calls even that assumption into question.⁴ From there, the debate is spun to conform to the anti-vaccination agenda and then reaches the public, typically through social media.

Study Examines Common Traits of Anti-Vaccination Believers

One question that needs to be answered is, “What traits do anti-vaccination believers have in common?” Hornsey et al. tackled this question and found some commonalities while dispelling a few stereotypes.⁵ Surprisingly, there seems to be no real correlation between vaccine attitudes and socioeconomic status or educational level. Much better predictors are a high level of conspiratorial thinking, a low tolerance to infringement on perceived personal freedom, aversion to needles or blood and religious issues. But most importantly, the consumers of misinformation are most commonly concerned parents.

A large part of why people buy into the anti-vaccination mindset is confirmation bias; when presented with evidence opposing existing beliefs, patients and parents will reject the information out of hand. A German study demonstrated that subjects will perceive increased risk to vaccination after only five to ten minutes of time on an anti-vaccination websites.⁶ Additionally, a Canadian study suggested that the odds of parents perceiving vaccines as unsafe rose considerably for those who searched for vaccine safety information on the internet.⁷ Herein lies the problem: From the skeptical point of view, these websites present valid questions. From our point of view they are absurd and dangerous, but providing evidence for an absence of risk is painfully difficult. How can you expect to find common ground in this scenario, much less be persuasive?

Frustratingly, direct pro-vaccination messages may not be simply unhelpful, but can potentially backfire. Nyhan et al. found that not only did none of their four approaches to directly educate concerned parents with CDC-sourced pro-vaccination materials help, but also further reinforced the exaggerated perception of risk.⁸ The adversarial model that worked so well against the tobacco industry is unlikely to be helpful here. Moreover, nobody likes being lectured or talked down to, no matter how misguided their beliefs might be.

Education on the Consequences of Not Vaccinating

Horne et al. tried a different approach; instead of directly taking on vaccine misinformation, experimental parent groups were educated on the consequences of not vaccinating their children. They had success with the group that was shown pictures of children with mumps and rubella, along with a letter from a mother of a measles patient. Disappointingly, a second group that was educated on the nonexistence of a vaccine/autism link remained as unconvinced as ever.⁹

So we have evidence for an approach that potentially works for a select group of patients, but obviously much work remains to be done. On the individual level, I believe it has to come back to the doctor-patient relationship. Patients will continue to trust physicians who listen to their concerns. If we do not have that trust, we cannot reasonably hope to persuade on the real risks and benefits of vaccination. On the societal level, we need communicative physician leaders to engage the issue, not the activist. Rather than confrontationally going after anti-vaccination groups, physicians must clearly articulate a message on the consequences of being unvaccinated.

On a lighter note, if you need a break after reading this, look up ZDoggMD’s clever House of Cards parody, “Magna Cum Measles” on YouTube.¹⁰ While I cannot recommend his hilariously unorthodox approach to a skeptical mother as a “best practice,” it is still a very funny three-minute skit on the subject of vaccination.

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