

## Editor in Chief's Note

### Can Beliefs Be Modified?

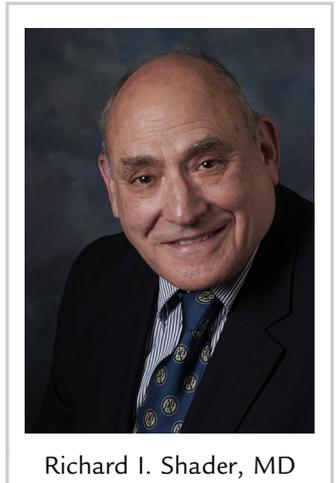


Many of us live in places where criticism, protest, and disagreements over differing beliefs are commonplace. Although particular voices may be heartfelt and their messages legitimate, doable and effective next steps are often missing. Criticism without constructive suggestions for improvement is rarely useful, and protest without acceptable follow-through rarely leads to change. An obvious and pragmatic initial step is the provision of unbiased, patently clear information that serves as the basis for criticism, protest, or disagreement to facilitate open discussion and debate. Unfortunately, facts and documentation do not always reach those who need to hear such information. Furthermore, when challenged with information that is contrary to one's deeply held beliefs or self-image, there are persons who will dig in their heels and make unbending efforts to maintain their beliefs.

When beliefs are based exclusively on religious doctrine, we may call such persons “fundamentalists.” Others have fixed beliefs that are rooted in political ideology. Still others may have irreducible ideas that stem from family or tribal belief systems and values or the context in which they grew up. There are others who espouse certain beliefs for self-serving purposes. Some people have fixed and seemingly irrational or false beliefs whose delusional qualities are manifestations of an underlying psychotic disturbance. These categorizations are not mutually exclusive. Regardless of the origin of fixed beliefs, one common thread unites them—confronting such persons with contradictory facts will rarely make them change their mindsets.

By way of illustration, let us consider a current issue, the existence of contradictory and incompatible ideas about climate change. Even though the American Public Health Association declared 2017 as the Year of Climate Change and Health, the Centers for Disease Control and Prevention (CDC) cancelled its long-planned Climate and Health Summit, which was slated for February 14–16, 2017.<sup>1,2</sup> No CDC-backed conference has been rescheduled thus far. Syria and Nicaragua have finally signed on to the Paris climate accords, a worldwide declaration to study and prevent further climate change. The United States is now the sole nonsignatory to these accords.<sup>3</sup> Our outlier status is consistent with President Donald Trump's 2012 pre-presidential tweet: “The concept of global warming was created by and for the Chinese in order to make U.S. manufacturing non-competitive.”<sup>4</sup> This is even more paradoxical because in May 2017, the then–Secretary of State, Rex Tillerson, signed, on behalf of the United States, the Fairbanks Declaration at the meeting of the members of the Arctic Council; this declaration stresses the need for mitigation strategies to reduce greenhouse gasses and short-term climate pollutants.<sup>5</sup>

Climate-change deniers appear to me to fall into three subsets: (1) some who hold forth on this position purely for political reasons; (2) some who are misinformed or do not trust the accumulating body of scientific information; and (3) some who interpret this information in a way that is opposite to the worldwide consensus. An example of the latter would be persons who say that there is no evidence of a warming trend because in their area they had a colder-than-usual winter. They do not accept the evidence linking Arctic warming to extreme winter weather,<sup>6</sup> nor do they accept the explanation that melting icebergs create temporary pockets of cold and cold wind streams while eventually leading to warming trends, rising water levels, and increased evaporation.



Richard I. Shader, MD

What appear to be false beliefs may sometimes develop in uninformed people because of exposure to a narrow range of informational sources that seek to inculcate unconventional or distorted ideas. Simply saying to such a person that they are wrong will do no good. Why should they believe you? One way to try to modify such beliefs is get to know the other person by first finding common ground that you can share. Once a sense of trust has developed, it may then be possible to introduce and discuss different facts that may at least encourage rethinking. Resist the idea that you have to defeat the other person. I have sometimes used a variation of the following as a lead in: "I know you are not alone in seeing things that way. Why don't we just agree to disagree on that point? Rather than argue, I'd like us to learn more about each other by discussing something we can agree about."

Another topic that seems to create strongly opposing views is vaccination. Both vaccination hesitancy and climate change are in the top 10 of the World Health Organization's major health threats for 2019.<sup>7</sup> There are a growing number of nonvaccinated children around the world. Of particular concern are children not vaccinated against measles despite its high degree of morbidity and contagion. There is also worry that polio may return. An as-yet unanswered question is how to change vaccine hesitancy into vaccine acceptance.<sup>8</sup> In order to combat the increasing number of measles outbreaks, some countries and some states and provinces require vaccination by law.

From what I have been able to learn, England and Wales were the first jurisdictions to require vaccination of all children (The Vaccination Act of 1853). In 1871, this law was strengthened as a result of a smallpox outbreak. This was also about the time that individuals and groups began to openly oppose vaccination.<sup>9</sup> It is beyond the scope of this Note to review all of the legal approaches enacted around the world; they range from no requirements to fines and denial of entry into public schools. Some countries have vaccination requirements for entry visas, usually for yellow fever or malaria; the United States has no requirements.<sup>10</sup>

Finland has unique laws and impressive success. Vaccines are available to all citizens at no charge on a voluntary basis.<sup>11</sup> From time to time some vaccines are removed from the overall scheme and are given only to targeted high-risk populations. This was done in 2006 with the antituberculosis vaccine (BCG). An additional change was implemented in 2017.<sup>12</sup> Since that year, students, social workers, and health care workers, all of whom work with vulnerable clients or patients, are required to be immunized or to have demonstrated immunity against measles, chickenpox, whooping cough, and influenza. One assumption is that this requirement sends a positive message about the safety and benefits of vaccination.

The principles involved in trying to help someone opposed to vaccination to modify his or her stance are essentially the same as the ideas expressed earlier. Here are a few specific suggestions: (1) In order to engage the other person, it is essential to recast your view of them: Do not think of them as "antivaxxers" or as ill-informed or unintelligent. Think of them as good but confused or misinformed parents who are trying hard to raise their children in the healthiest possible way; (2) Find out what else they do to promote their children's health; (3) When you do get around to talking about vaccination, ask about their sources of information; (4) Acknowledge that it is understandable that they may be confused by the contradictory information that is out there. You can also acknowledge that, because the early signs of autism typically appear at about the same age that children are getting vaccinated, it is understandable that the two may seem linked in parents' minds; (5) Bring into the discussion that the key popularized anti-vaccination study has been discredited. That report was by Andrew Wakefield and colleagues; Wakefield lost his medical license, and the published paper was retracted.<sup>13</sup> Articles in the *British Medical Journal* point out that the *Lancet* paper contained fraudulent and misrepresented data<sup>14</sup>; and (6) Hopefully, it will then be possible to discuss both the safety and efficacy of approved vaccines.<sup>15–17</sup> This can sometimes be reinforced in small group settings in which peers and family are included. Several authors have challenged studies that disclaim a link between autism and vaccination on the basis that the type of vaccine may not always have been the same (ie, the milk or egg protein differed across vaccine sources—see the Comment section in reference 18). Nonetheless, even in children who were vaccinated, autism was extremely rare.<sup>16,17</sup>

The false beliefs that characterize the delusions of patients suffering from either schizophrenia or delusional disorder generally respond to treatment with antipsychotic agents. Delusional or paranoid thinking that may occur

as a consequence of toxicity from certain drugs (eg, amphetamine-like stimulants) almost always disappears when the offending drug is sufficiently eliminated from the body. When this does not happen, it is likely that an underlying or comorbid psychosis has been exposed or precipitated.

Some of the ideas expressed above also apply when one is working with patients and others who are angry, recalcitrant, or challenging. Confrontational or argumentative responses are rarely beneficial. Therapeutic listening<sup>19</sup> to elicit what is behind their behavior or concerns may suffice to neutralize the situation. Acknowledging the legitimacy of their frustration, grievance, or angry feelings may be helpful. As a next step, offering to see what can be done to improve or mitigate their concerns will naturally be helpful. Sometimes it may be useful to offer an apology (eg, “I am sorry this has happened to you” or “I am sorry you feel this way”) coupled with an offer to see what you can do, if anything, to help or improve the situation.

In summary, in my experience it never pays to antagonize someone who disagrees with you or to back them into a corner. Do not expect facts alone to change anything. Finding common ground that allows that person to feel respected even when they know you do not agree with them is a good place to begin. When you do return to the contested subject, emphasize benefits rather than harms. Know that you will not always be able to bring about a change of mind. Change is most likely to occur with people who are on the fence or are confused about the contradictory facts and opinions to which they have been exposed. Some parents seem to have fixed blinders on when it comes to vaccination, just as some people do about other important topics. You alone may not be able to change their minds. Involving family or peers may be helpful. In the end, issues such as vaccination may require new legislation to ensure that nonvaccinated individuals do not pose a major public health threat.

Richard I. Shader, MD  
Editor-in-Chief

## REFERENCES

1. American Public Health Association. Climate Change [APHA website]. Available at: <https://www.apha.org/topics-and-issues/climate-change>. Accessed April 30, 2019.
2. Union of Concerned Scientists. CDC Cancels Climate Change Conference [UCS website]. Available at: <http://www.ucsusa.org/center-science-and-democracy/attacks-on-science/centers-disease-control-and-prevention-cancels#.WgMhmHZycM>. Accessed April 30, 2019.
3. Friedman L. Syria Joins Paris Climate Accord, Leaving Only U.S. Opposed [New York Times online]. Published November 7, 2017. Available at: <https://www.nytimes.com/2017/11/07/climate/syria-joins-paris-agreement.html>. Accessed May 8, 2019.
4. Trump DJ. *The Concept of Global Warming Was Created by and for the Chinese in Order to Make U.S. Manufacturing Non-competitive* [Twitter Website]; November 6, 2012. Available at: <https://twitter.com/realDonaldTrump/status/265895292191248385>. Accessed April 30, 2019.
5. Koran L. Tillerson Signs Declaration Stressing Climate Change Threat [CNN website]. Available at: <http://www.cnn.com/2017/05/12/politics/tillerson-climate-change-fairbanks-declaration/index.html>. Accessed April 30, 2019.
6. Cohen J, Pfeiffer K, Francis JA. Warm Arctic episodes linked with increased frequency of extreme winter weather in the United States. *Nat Comm*. 2018;9:869.
7. World Health Organization. Ten Threats to Global Health [WHO website]. Available at: <https://www.who.int/emergencies/ten-threats-to-global-health-in-2019>. Accessed April 30, 2019.
8. McClure CC, Cataldi JR, O'Leary St. Vaccine hesitancy: where we are and where we are going. *Clin Ther*. 2017;39:1550–1562.
9. Ross DL. Leicester and the Anti-Vaccination Movement 1853-1889 [University of Leicester website]. Available at: <https://www.le.ac.uk/lahs/downloads/RossPagesfromvolumeXLIIIsm-7.pdf>. Accessed April 30, 2019.
10. World Health Organization. List of Countries, Territories and Areas [WHO website]. Available at: <https://www.who.int/ith/2016-ith-county-list.pdf>. Accessed April 30, 2019.
11. Rapola S. National immunization program in Finland. *Int J Circumpolar Health*. 2007;66:382–389.
12. Kempainen T. *Vaccination Requirements to the Healthcare Sector in Finland* [Bird & Bird Online]; May 2, 2018. Available at: <https://www.twobirds.com/en/news/articles/2018/finland/vaccination-requirements-to-the-health-care-sector-in-finland>. Accessed April 30, 2019.

13. Wakefield AJ, Murch SH, Anthony A, et al. Ileal-lymphoid-nodular hyperplasia, non-specific colitis, and pervasive developmental disorder in children. *Lancet*. 1998;351:637–641.
14. Godlee F. The fraud behind the MMR scare. *Br Med J*. 2011;342:d22.
15. Rowhani-Rahbar A, Fireman B, Lewis E, et al. Effect of age on the risk of fever and seizures following immunization with measles-containing vaccines in children. *J Am Med Assoc Pediatr*. 2013;167:1111–1117.
16. Klein NP, Fireman B, Yih WK, et al. Measles-mumps-rubella-varicella combination vaccine and the risk of febrile seizures. *Pediatrics*. 2010;126:e1–e8. <https://doi.org/10.1542/peds.2010-0665>. Epub 2010 Jun 29.
17. Madsen KM, Hviid A, Vestergaard M, et al. A population-based study of measles, mumps, and rubella vaccination and autism. *N Engl J Med*. 2002;347:1477–1482.
18. Arumugham V. *Comments: MMR and Autism Study Is Fundamentally Flawed [Ann Intern Med Online]*; March 6, 2019. Available at: <https://annals.org/aim/fullarticle/2727726/measles-mumps-rubella-vaccination-autism-nationwide-cohort-study#article-top>. Accessed April 30, 2019.
19. Shader RI. Seven aphorisms about therapeutic relationships and listening. *J Clin Psychopharmacol*. 2019;39:95–96.

This month's Women's Health and Gender Medicine Update is a special feature which is available as FREE ACCESS content on the journal's website. One of the previous Women's Health and Gender Medicine Updates, entitled "The Opioid Epidemic" was published in **Volume 40, No 2** of Clinical Therapeutics. To view the previous Update, see the articles below:

McGregor AJ. [The Opioid Epidemic: Overcoming Challenges by Using a Sex and Gender Lens](#)

Koons AL, Greenberg MR, Cannon RD, Beauchamp GA. [Women and the Experience of Pain and Opioid Use Disorder: A Literature-based Commentary](#)

Cannon RD, Beauchamp GA, Roth P, Stephens J, et al. [Sex Differences in Prevalence of Emergency Department Patient Substance Use](#)

Madsen TE, McLean S, Zhai W, Linnstaedt S, et al. [Gender Differences in Pain Experience and Treatment after Motor Vehicle Collisions: A Secondary Analysis of the CRASH Injury Study](#)

Surmaitis RM, Amaducci A, Henry K, Jong M, et al. [Perception and Practice Among Emergency Medicine Health Care Providers Regarding Discharging Patients After Opioid Administration](#)