

Pseudoscience, anti-science, and woo: This time it's personal

We all have memories of childhood rituals that seemed normal at the time, but feel more suspect upon adult reflection. For me, Saturday mornings were spent gorging on enormous bowls of sugary cereal while a boxy television framed large men in colorful costumes pretending to hurt one another. Yes, my father was a wrestling fan, and whether he believed it was real or theatrical, he wasn't saying.

Looking back on that passive exposure to spandex and violence, I now realize that there were morals implicit in the story arc of every episode. For example, there were two sets of rules. On one hand, the villains were able to use any means they desired in the attempt for victory. They could claw and scratch, kick below the belt, or hit their opponents with hefty foreign objects hidden perilously in their microscopic trunks. The heroes, on the other hand, had to play by the rules. The message was clear: it's not enough to win, it must be done the right way.

But when it comes to talking about health, it feels like we are back in the squared circle. In one corner, we have the scientific community that promotes the best information as we know it and speaks often with reservation, knowing that theories are by definition limited—ideas waiting for a challenge, able to be disproven. We are naturally cautious and restrained. We listen to patients and scrutinize studies. We are a storied profession seemingly reticent to tell stories.

This is problematic, because in the other corner confident promoters of immunity boosters, cancer-preventing supplements, superfoods, and weight loss miracles aim to inform the public on how doctors order the wrong

thyroid tests, ignore fatigued adrenals, and let yeast run amok in innocent intestines. Coincidentally, these promoters not only know the secrets, they sell the solutions as well (and for a great price if you act now!).

Let's use science *and* stories to appeal to people's hearts as well as their heads.

Such attacks on science are found everywhere. Although we take into account how a study is funded, there are those who reject work supported by industry as proof that doctors are in the pocket of Big Pharma. (I suppose the often useless and potentially harmful products that make up the \$6 billion supplement industry are grown organically in orchards where willing workers harvest them for equitable use.)

Millions of lives around the globe have been saved through mass vaccination, yet the antivaccine movement counters with tales of profits-over-people, conspiracies to control individual freedoms, and children afflicted by autism, autoimmune disease, and other injury blamed on vaccination. These antivaccine campaigns have taken on political weight as a symbol of anti-establishment, resulting in outbreaks of mumps, measles, polio, and other preventable—and eradicable—diseases.

Clearly our efforts have not been as effective as they could be. To truly go to the mat for our patients, our neighbors, and our communities, we need to reassess our self-imposed rules. The old adage "Don't bring stories to an evidence fight" misses the point: to achieve the goals of healthier people and societies, stories are exactly what we need.

Certainly we must continue to

hold ourselves to the highest standard and abide by the scientific process. We need to continue working with our patients, complementing



their values with our scientific information and making the best decisions together. But in our advocacy efforts we must also engage more by using the power of stories to support what science is telling us.

Evolution has wired our brains for stories. Stories help us organize information and tie content together, and help us provide the meaning behind the science. They connect us to each other through shared experiences and common values, and they are how we explain the past and predict the future. It is fair play to mention our wheelchair-bound patients who have polio to vaccine-hesitant parents or to show pictures of lethargic children covered in the red spotted rash of measles. We can talk about how Steve Jobs regretted delaying treatment for his cancer to pursue "alternatives." We can still be measured in what we say, but we must do a better job of showing what we mean.

So let's continue to promote the best health practices that we know. Let's leave behind our notions of what constitutes a fair battle. Let's use science in our content and stories in our style to build bridges and appeal to people's hearts as well as their heads.

And if using our stories helps people make better-informed decisions, then that's a worthwhile fight for us all.

—Eric Cadesky, MD
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