DirecTalk MUSINGS FROM THE 10TH FLOOR

Eat Lionfish

David Dyjack, DrPH, CIH

Red lionfish are native to reefs in the Indo-Pacific region but have in recent years taken up residence in the Caribbean Sea. While attractive in appearance, beneath that exotic exterior lays a hidden danger: they possess venomous spines. Scuba divers, fishermen, and aquarists recognize that while lionfish wounds are not known to be fatal, they are quite painful. Nor do these fish belong in the Caribbean Sea where they cause great ecological harm. These voracious aquatic predators have recently established residence in a sequence all too familiar in contemporary life: pet owners who discard the fish into the ocean when unable or unwilling to take care of them. In summary, lionfish are dangerous and don't belong in the Caribbean Sea.

I found myself swimming in a sea of environmental health thinkers and doers who had descended en masse upon Johns Hopkins University in March 2018 when a well-dressed, universally known, and renowned environmental health stalwart plunged a venomous spine into my heart. "Your 'people' go back to their health departments after meetings like this and they can't do anything." The individual's cell phone then chirped, an apology followed that the call needed to be taken and the individual walked off. Conversation over.

I'm struck by this perception and how commonly I encounter it. Approximately 80% of the 7,000 or so professionals who belong to NEHA are employed in the public sector. In effect, our current composition is largely governmental. The members I know come with a normal distribution of personalities but by far and away, "can't do anything" does not describe them. Of course, there are limits to advocacy in any organization, public or private, but we need to dislodge this notion that we are a unidimensional profession: good field scientists who are unable or unwilling to muscle our way into spheres where we can tender solutions to society ills. Before I offer up some ideas, let's get a handle on the problem.

Let me be clear, we need to be the first and most influential voice in the room when issues and decisions regarding environmental health are under discussion.

Most people understand science. At the same time, most humans do not develop opinions and make decisions based on science, us included. We are genetically hardwired to respond to emotional appeals and memorable experiences. Data and facts alone generally do not overcome someone's belief developed while in an emotionally charged state. Examples are all around us. Raw milk. Immunizations. Fluoride in drinking water. Climate change. Fire arms. Some of the most educated people I know describe conspiracies when these subjects are raised. Once someone's mind is made up, it is very difficult to get them to budge. This situation is not a matter of more or better packaged information. The problem is that environmental health professionals are trained to talk to other scientists, not to and with the people we serve.

The public prefers to avoid loss over opportunities to gain, even when data suggests a more fruitful approach. In illustration, I know many young professionals who prefer a safe 1% return on their retirement fund to avoid potential loss associated with the stock market, which over time out performs savings accounts by a considerable margin. That is, we have an irrational tendency to prefer low risk, low reward options. Another example might be our collective response to a hypothetical medical procedure where there is a 68% probability of success in procedure 1 versus a 32% probability of failure associated with procedure 2. People will by far select procedure 1 because of the 68% chance of success. Note, the probabilities of success and failure are identical, it is the framing perception of success that is different.

We also do not help ourselves in describing matters regarding complex science. Most people think linearly, that is, we naturally thread cause and effect in sequence. We naturally seek causation. Now consider how you were taught public health science. We test hypotheses, which are counterintuitive.

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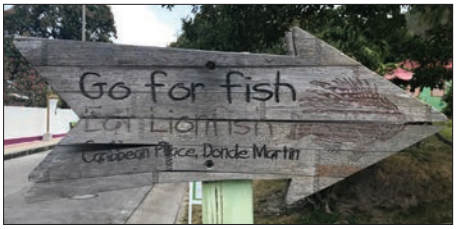
The null hypothesis is framed and reported in probabilities of the negative. "There is a 95% probability that the difference between the test drug and the placebo was not due to chance." People hate uncertainty, so they will likely obsess on the 5%. In summary, our scientific explanation is not helpful to the public but on the other hand, would likely get you published in an appropriate journal. So where do we go with this understanding?

Let me be clear, we need to be the first and most influential voice in the room when issues and decisions regarding environmental health are under discussion. That includes web-based environments. We need to master our authentic empathy skills. We should also convey our messages with reasonable emotion and speak in a manner that reflects the way that the nonscience community thinks—in a linear fashion. This task won't easily be accomplished. It will take practice and perseverance, and will need support from our educators and collective leadership.



Restaurant sign, Providencia, Columbia. Photo courtesy of David Dyjack.

We also need to stress relevant goals that people can achieve. I sense this reason is why climate change has not gained more traction in the general population. Who connected emotionally first? What can the public reasonably do? Elected leaders and influencers should have framed the issues early, normalized the conversation, and demonstrated commitment. Individuals could then be asked in that environment to make minor adjustments to their lifestyle when they can visualize how their sacrifices lead to better health and futures for their children. First out the gate coupled with linearity and emotion.

The environmental scientist I spoke to at Johns Hopkins holds a medical doctorate with a well-established scientific portfolio. Sometime likely in their early professional journey they developed a myopic opinion of our profession that does not accurately reflect the truth. Like the lionfish, this person is attractive to the world at large, and like many invasive species, creates distortions in the environment. They will continue to dismiss us unless we challenge them.

I'd like to start a weekly audio blog, perhaps a 3–5 min interview with environmental health influencers whose staffs have made a positive difference in their communities. Let's tell our story, remain positive, and focus on personal impact. Let's describe how individual lives and businesses have been protected and improved because of our work. Anyone willing to volunteer to share their experience? Send me a message at ddyjack@neha.org.

Eat lionfish, it's what's for dinner.

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