

Opinion: Are researchers to blame for nutrition misinformation?

April 25 2019, by Mercedes Carnethon



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The search for "scientific truth" is never direct. Rather, hills, curves and even the occasional U-turn describe the journey.

I experienced this firsthand as an author of a report published recently in [the Journal of The American Medical Association](#) studying the diets of nearly 30,000 individuals. We found evidence of higher rates of heart disease among adults who ate more [eggs](#).

The resulting avalanche of stories in the press oversimplified the results and concluded in some cases—with bold headlines as click bait—that eating omelets too often could be to blame for heart disease.

The vast [commentary](#) on our recent publication, has highlighted the [robust](#) and contradictory literature describing eggs as an important part of a [healthy diet](#), the [health](#) benefits of eggs, and even [six reasons](#) why eggs are "the healthiest food on the planet."

Just this week, another significant report based on over 400,000 adults [reported](#) a lower risk of heart disease among adults who consumed eggs.

These seemingly contradictory findings beg the question of whether people should change their behaviors after every new health finding.

Not quite yet. These findings and lay reports are subject to nuances missed by summaries of scientific reports. The health equivalent of the adage in crime reporting that "if it bleeds it leads," is that unexpected or controversial findings receive more attention than findings in support of the status quo.

An example of this is the debate surrounding the obesity paradox—the observation that adults who are obese have a lower risk of dying than adults who are normal weight. Given the high burden of obesity in our society, the public wants to believe it. I contributed to this debate several years ago with the finding of an obesity paradox in persons with [diabetes](#)

What the fine print in my [papers](#) and [others'](#) shows, is that the paradox does not extend to the severely obese and that it doesn't take into account the implications for quality of life present in living with obesity. Instead, what many hear based on the headlines is that it is OK to be obese.

Organizations such as the [National Association to Advance Fat Acceptance](#) embrace these findings and promote part of the message—to the detriment of public health.

As a researcher and author of works describing how our behaviors influence our health, I agree that despite our best efforts as scientists, studies have flaws.

When I teach research methods to medical and graduate students, I share a cartoon that depicts a spinning wheel of health behaviors next to a spinning wheel of health outcomes. It has the caption, "Today's Random Medical News." This rings true for both lay and professional consumers of health information.

I teach clinicians and scientists that describing relationships between health exposures and outcomes is just the first step in identifying the causes of health and disease. While scientists have pre-determined hypotheses—or educated guesses—about what we will see, we also know there are limitations to our studies. Those limitations are particularly evident when it comes to relying on people to report their behaviors accurately.

Grateful that the public's appetite for health information remains strong, I am in equal parts concerned because the answers are rarely as simple as "do this and not that." The nuances are obscured. Leaping to adopt behavior changes from [observational studies](#) is rarely justified.

A prominent example is the finding from observational studies that women who used [hormone replacement therapy](#) had better health

outcomes than those who did not. The Women's Health Initiative experimental study (where [hormone therapy](#) was randomly given to one set of women and not another) told the opposite story. Women who used hormone replacement actually had higher mortality.

Given the confusion about [research methods](#), not surprisingly, mistrust of the scientific establishment is high, with 35 percent of adults in a [2017 report](#) indicating that they have no trust in science. We have seen the health consequences of this mistrust in the rise of [anti-vaccinators](#) and the dangerous reemergence of preventable epidemics of measles and chicken pox.

To be sure, these feelings of mistrust are justified by inconsistent conclusions across studies and failure to acknowledge how the nuances of study designs can influence the conclusions.

Blame does not lie solely with journalists in their quest to simplify and disseminate findings for their audiences. Rather, as scientists, we may be to blame for allowing the spread of oversimplified information and not taking proactive steps to combat the problem.

As I peel my boiled egg and consider how to restore the confidence of the public and promote public health, I contend that movements towards open access science—journals and data that allow anyone to see the data collected and the full reports in scientific journals—can help.

Actively encouraging scientists to engage in public forums to demystify science and make research easier to understand will also possibly help many see that our findings should be taken with a grain of salt.

Provided by Northwestern University

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