

Allergy and Asthma Misinformation in Popular Culture: Responding to the Marketing of Unproven Therapies

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Part of the AllerGen webinar series: Knowledge Translation for Research Success

Timothy Caulfield delivered a webinar in AllerGen's Knowledge Translation (KT) for Research Success series on April 11, 2017, in which he discussed misinformation on treating and diagnosing allergy and asthma, related services offered by complementary and alternative medicine (CAM) practitioners, and the ways researchers can respond to this misinformation. The main messages from this webinar and a hyperlinked index to the presentation are provided below.

THE PROBLEM

CAM capitalizes on allergy and asthma:

Professor Caulfield's research team has systematically studied the self-representation of complementary and alternative medicine (CAM) providers, and found that allergy and asthma services figure significantly in the business models of these practitioners.

One of his team's studies found that over 35% of chiropractors claimed, in their online advertising, that they can treat allergy. Another study found that allergy treatments and allergy testing were two of the most common services advertised by naturopaths in Alberta and British Columbia.

His team's study of online representations of allergy and asthma diagnosis and treatment by the four most popular types of CAM practitioners

in Canada—chiropractors, naturopaths, homeopaths and acupuncturists—found that over 80% of naturopaths and 70% of acupuncturists advertised diagnosis or treatment for allergy and sensitivity, while almost 40% of chiropractors advertised treatment for asthma.

Dubious claims: Almost all of the treatments offered by these CAM providers—such as chiropractic adjustment, ionic foot baths, vitamin or mineral injections, and Bowen Therapy—are of highly questionable scientific validity, notes Prof. Caulfield, and “treatments” that are completely devoid of evidentiary support, like homeopathy, detoxification, and colon hydrotherapy, are frequently presented as efficacious on their websites.

THE ENABLING CONTEXT

Public trust: Increasing public recourse to CAM is related to a corresponding erosion of public trust in medical science and science-based practitioners. One factor behind this erosion is the frequent negative portrayal of the scientific process in popular culture, in what has been called a “war on science.” A common expression of this distrust is the perception that “scientists are in bed with industry.”

The relativity of knowledge: The science-based health community has tolerated the

circulation of “alternative facts” for decades, inadvertently lending credibility to the claims of CAM practitioners. The community has done this by neglecting to overtly and consistently contest the idea that all knowledge is relative, or the idea that what the science says, e.g., about Reiki, is “disrespectful” because others hold a different but equally relevant perspective. Tolerance for such relativism enables the spread of bunk and the erosion of critical thinking; in effect, it allows alternative facts to flourish in the health sphere.

“Quackademics:” Canadian Universities also present non-evidence-based approaches to health in a problematic manner, unwittingly lending them a degree of baseless legitimacy. While research on CAM can be valuable, as CAM represents a social phenomenon that demands study, the problem arises when universities present CAM concepts and practices in an *uncritical* manner, as if they were efficacious and science-based.

Homeopaths, naturopaths and other CAM providers leverage this implicit academic legitimization to market their products. This legitimization also helps to explain why studies find, for example, that just over 17% of Canadians agree with the incorrect statement

that alternative treatments can replace vaccinations. When universities are apparently legitimizing CAM, such positions seem more plausible.

Echo chamber: Social media plays an important role in the perpetuation of health misinformation. Research by Prof. Caulfield’s team has shown that social media allows people to spread health-related bunk rapidly around the world. Social media can act as a kind of echo chamber, observes Prof. Caulfield, where people connect with like-minded individuals and build momentum for their ideas without challenge from skeptical or alternative perspectives, including scientific ones.

THE RESPONSE

Truth in advertising: Canadian authorities need to more aggressively enforce truth in advertising when it comes to CAM, as has been done in other jurisdictions. In the United States, for example, the Federal Trade Commission requires that all marketing for homeopathy include the entirely accurate statement that “this does not work.” Canada should take the same approach, advises Prof. Caulfield.

Trusted voices: Professional colleges and regulators, as well as other “trusted voices” such as Health Canada and the tri-council agencies, need to be more outspoken about the lack of scientific evidence behind the claims of CAM practitioners.

Better science literacy: Evidence suggests that by promoting not just science literacy, but by promoting a better understanding of the scientific process, one can change people’s minds about the trustworthiness of scientific evidence. People often perceive science as a collection of facts, where if one of the facts is proven wrong, the whole foundation of science is brought into question. This belies a lack of understanding about science, which is a process and a way of seeing the world rather

than an inventory of facts. The scientific community needs to better educate the public about the scientific process.

Creative communication strategies: The evidence-based health community needs to use narratives and storytelling to communicate good science. It needs to leverage the techniques of popular culture, which employs stories and anecdotes. As part of this, universities must better support science communication.

A weight of evidence approach: The health community needs to push media to avoid false balance, and to focus instead on what the weight of evidence says on any topic. Evidence suggests that exposure to false balance—*i.e.*, the presentation of a bogus position, like a homeopath’s perspective, as a counter-voice to legitimate scientific evidence—has an adverse impact on people’s critical understanding.

Community action: “Let’s call it bunk when it’s bunk,” implores Prof. Caulfield. “A recent study shows that such denunciations can serve as a public inoculation against misinformation. Enabling people to be critical thinkers is the most powerful action that we, as a scientific community, can undertake.”

RESOURCES

- [Selling falsehoods? A cross-sectional study of Canadian naturopathy, homeopathy, chiropractic and acupuncture clinic website claims relating to allergy and asthma](#) by T. Caulfield *et al.* in *BMJ Open*.
- [Seeking asthma and allergy treatment from a naturopath: A wise decision?](#) A “Sciencing Health” video from the Health Law Institute of Alberta, by T. Caulfield *et al.*
- [It's Not All Relative: Can a devotion to cultural tolerance lead to the triumph of alternative facts?](#) by Alan Jay Levinovitz in *The Chronical of Higher Education*.

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Available for this webinar: [slides \(in PDF\)](#) | [video recording](#)

Timothy Caulfield (BSc, LL.B., LL.M.) is a Canada Research Chair in Health Law and Policy and a Professor in the Faculty of Law and the School of Public Health at the University of Alberta. He is a Fellow of the Trudeau Foundation and the Principal Investigator for a number of large interdisciplinary projects that explore the ethical, legal and health policy issues associated with a range of topics.

He is also the author of [The Cure for Everything: Untangling the Twisted Messages about Health, Fitness and Happiness](#) (Penguin 2012) and [Is Gwyneth Paltrow Wrong About Everything?: When Celebrity Culture and Science Clash](#) (Penguin 2015).