

# Alberta Doctors' Digest

## Our age of quackery

It's commonly said that we live in the Information Age, with ready access to each other and to everything else, in a digital world that is endlessly connected and nearly instantaneous. While there are undoubted marvels galore in our nexuses (and our unbounded appetite for such connections), we face a torrent of unsupported facts, factoids and outright lies – our era might better be called the Age of Misinformation.

Health care has certainly not been immune to misinformation. There has, to be sure, been a push to establish truth-based-on-science, and in particular, the scientific method. Medical students are quick to offer that the lodestone for new knowledge must include appropriately blinded, randomized trials comparing this and that. Trouble is, somewhere near half the published trials, even in our best journals, don't hold up, are limited in scope, or don't apply to much of what we recognize as health care.

In particular, our acceptance of truth-through-science has done little to curb or diminish the fraudulent practices known as quackery, which trumpet questionable diagnoses, using improbable diagnostics and untested or frankly refuted arguments to support nonsensical practices.

Quackery has a long heritage. The term comes from the Dutch *kwakzalver* or “hawker of salve” and bundles the notion of fraudulent practices with aggressive hype or over-promotion. In a recent beautifully illustrated text, *Quackery: a brief history of the worst ways to cure everything*, American internist Dr. Lydia Kang and co-author Nate Pedersen chronicle a staggering compendium of cure-alls from antiquity through recent history.

It's a challenge to categorize this panoply of nostrums, elixirs and practices that must be considered a testament to ingenuity, and, most often, greed. We'll find, accordingly, a variety of poisons (arsenic, mercury, strychnine), surgical procedures (cauterization, bloodletting, pexy procedures to tack up misplaced organs), attempts to fill or withdraw things from every orifice, as well as manipulations through diet, electrical and magnetic fields, and so on. Quackery adds a potpourri of concoctions (think eye of newt, owl's liver, goat testicles, secret formulas) that have been heralded as cures for the ill or tonics for the masses.

Yesteryears' most risky or toxic fads may have fallen away, but myriad dubious and often strange therapies persist in health stores and in advertisements that promise most everything. Want laetrile, ozone autohemotherapy or psychic surgery? Search out of country. It likely exists. Grab a plane. Bring money.

Many academic centres have welcomed *alternative* medicine, up front alongside mainstream medicine. Their reasons are various: to cater to consumers, to augment offerings, to add a “holistic” patina to care, or possibly to take advantage of placebo

effects and the “warm fuzzies” touted by alternative practitioners. While some have criticized the incursion of alternative medicine into academia, accusing it of robbing resources from promising, more reasonable therapies, there has been remarkably little pushback and even acceptance from the clinical community.

Beyond hospital, though, unusual therapies flourish, perhaps nowhere more evident than in the continuing torrent of diet books that urge us to eat unusual things in unusual amounts, often adding stuff we’ve never heard of. So it is that we’re advised to eat selenium, to detox with high colonics, or to chew on Amazonian shrubbery – bunkum that competes with foreign inheritance schemes and prank calls about our taxes. The common goal is “filthy lucre.” Quackery depends on our undiscerning selves and our endless gullibility.

We may be victims of our evolutionary origins. Our anxious, tree-dwelling forebears were ever alert for the extraordinary – both good and bad – since bumps in the night or shifting shadows could auger tigers, ghosts or even something edible. Our zeal at finding patterns and imbuing them with import has convinced us of the supernatural as well as our extraordinariness. We don’t so much hear the murmurings of voices in our heads announcing our specialness, so much as we just know it in our marrow.

Author Garrison Keillor has mined this predilection, creating a fictional town, Lake Woebegon, in which all children are above average. This sits well with us and just as we know we’re unique, we believe in totems, in runs of good or bad luck, and in magical thinking.

There are holes in our thinking beyond the heliocentric universes we construct. It’s likely, for instance, that there are thoughts we’re just not capable of thinking, while other thoughts fall victim to biases too numerous to mention. One of these – my favorite! – has been called *confirmation bias* and regards our inclination to accept only evidence that supports what we may believe or want to believe. Add to this our penchant for magical thinking and the legions of us playing Powerball at astronomical odds using an old phone number, someone’s locker combo, or a cat’s birthday become comprehensible if not exactly savvy.

We’re well along in the declension of dumb, dumber, dumbest. In significant numbers, we believe that the end of the world is nigh, that aliens walk among us, that the Loch Ness monster lives and so on. Recent work, though – the Dunning-Kruger effect, named after two Cornell University psychologists – posits that the dumber we are, the more convinced we are of our own brilliance. We are all set, with this, to understand the bloviations of the loud fellow in the elevator or the party blowhard who announces he (or she) knows the way the world operates, treating us to a fusillade of assertions, misguided information and inevitable insults. The Dunning-Kruger effect goes a long way in explaining the death of humility.

It has become fashionable to blame the Internet for our wobbly thinking and, with this in mind, let me paraphrase Theodore Sturgeon: “90% of everything is crap.” If one agrees, our larger effort must look to decipher what is and isn’t so. Tech writer Nicholas Carr reminded us, a decade ago, that we graze the web superficially, seizing on facts and stories that are simple, memorable and often just plain wrong. Beyond the welter of conflicted data which comprise the unalloyed Web, we retreat to social media – think Facebook and Twitter – into communities of like-minded amigos. Insular information bubbles have become primary sources of information.

Little surprise that conspiracy theories abound in a compromised world of memorable fictions. Our false narratives can be self-sustaining and bring to mind the 12 million people who believe that interstellar lizards in business suits rule commerce, a notion perhaps attributable to ex-footballer David Icke, who has long held the Queen of England to be a blood-drinking, shape-shifting alien. Another 20 million or so believe the moon landing was bogus, and a whopping 160 million of us believe various stories about the assassination of former US President John F. Kennedy.

If our rumor mills aren't sufficiently robust, we can look to movie stars and celebrities to give us their versions of things, advising hemorrhoidal cream for puffy eyes, noshing on fresh placenta or clay, kitty litter facials, or as Dr. Oz submits, add coffee beans to our edibles to lose weight without caloric restriction or exercise. Hold the evidence!

This sounds benign enough but it isn't. Consider the growth of anti-vaxxers. No matter that any association with autism has been long discredited, antagonism to proven therapies persists worldwide, and we are facing recrudescing measles, an illness that should have succumbed to vaccination years ago. Pundits say we may have to make vaccination mandatory. Before heading down this path, though, I have to say I have trust issues with our government officials, who have been sending homeopaths to Honduras (Terre San Frontières). Said homeopaths, whose watery offerings contain nothing therapeutic, maintain they're preventing epidemics!

What to do? We can sail along, agreeably welcoming, partaking of, and adding to the nonsense. A better alternative requires that we heed the skeptics among us and learn from them. Dr. Timothy Caulfield, law professor and Canada Research Chair, is one good bet. His bestsellers puncture the drivel inflicted on us by hucksters and movie stars alike. Apart from several websites that I follow, because they doubt the received wisdom of our time, I'm a big fan of Dr. Michael Shermer, founder and editor of *Skeptic* magazine, and contributing editor to *Scientific American*.

Follow the skeptics – nay, become one – and the world will be less entertaining, less whimsical, but it will be more predictable. And remember, thinking on things, to follow the money, and listen for that sound in the distance:

“Quack,” it says, “quack, quack.”

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References available upon request.