How do we know what we know?

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Given the choice between evidence and relationships, physicians and patients will choose relationships. As clinicians, we are constantly balancing information in the medical literature against our experiences and the patients we see. And the truth is, patients are balancing them too.

I work at a hospital where there are often senior trainees moonlighting as internal medicine staff on weekends. Several years ago, a patient with syncope was assessed by a senior physician and she was set up to get a pacemaker. Over the weekend the locum cardiology fellow reversed the plan, citing evidence suggesting we could discharge her home instead. On Monday, I discussed the case with the senior physician. He told me about a couple of cases from early in his career where his patients with similar stories had gone home and died. Ultimately, he said it was my call whether the patient would get a pacemaker since I was the most responsible physician. She got a pacemaker and, to my knowledge, is doing just fine.

Tension between experience and studies

Physicians didn't always have evidence-based medicine (EBM) to help them. Evidence-based medicine only became ubiquitous in the 1990s, but it was integral to my training not so long after that. Like many family physicians, I couldn't imagine my practice without it. I rank the evidence—from double-blind, placebo-controlled randomized trials at the highest end, to case reports at the lowest end—and I always breathe a little sigh of relief when my treatment plan aligns neatly with some weirdly named randomized controlled trial. I feel like an objective, "correct" scientist. But then sometimes I think about the case my colleague can't forget—the time when the woman he discharged died—and I change my plan.

There is often a tension between our clinical experiences and the studies. Coronavirus disease 2019 (COVID-19), in particular, has changed how we think about that tension—in fact, it has completely changed how we think about how we know anything.[1] There was a moment in April of 2020 when I was scrolling through Twitter looking for treatments for COVID-19. I remember imagining myself testifying in a malpractice suit: Doctor, do you routinely use social media posts to guide your management of acutely unwell patients? Before COVID-19, I would have laughed at the suggestion, but today I'm not so sure. The events of the past 2 years have challenged what we know, how we decide what we know, and how we communicate that information to each other and the wider public.

Relationships matter

As I wrote this, the fourth wave of COVID was well under way. Canadian cases rose and hospitals filled—except this time, the pandemic hit the unvaccinated hardest. In private fora, in the hallways of institutions, and in public, physicians are expressing their increasing frustration with those who refuse vaccination. It makes no sense to those of us who feel that we are objectively looking at the evidence. But it turns out that telling people about the studies and the data won't actually change their minds—they are more likely to believe misinformation.[2] On the other hand, experiences from the H1N1 pandemic, during which vaccination was offered, showed that a trusting relationship with a doctor recommending vaccination was helpful.[3] That's because relationships matter. The person delivering the advice is crucial when the action doesn't seem like the obvious choice.

We might believe ourselves to be immune to the influence of relationships over data, but we're not. We listen to each other, particularly to other physicians in our network—in other words, to those we trust. And in the same way that we can leverage a patient's trust to change behaviour, pharmaceutical companies leverage our trust in our specialist colleagues by sponsoring dinners, at which the specialist gives a paid talk about a new drug, and treating the family physicians to a very nice meal. These events are designed to affect our prescribing habits[4] and might even lead to poorer-quality prescribing overall.[5]

Did you just say to yourself, "Yeah, well, that might influence others, but I'm different"? It turns out you're not. Our bias is to tell ourselves a story of objectivity[6] even if we aren't objective, and to act in our own self-interest. We want to believe we are different, but physicians behave like everybody else: we respond to relationships.

Imperfect responses to facts

But back to how we know things about COVID-19. The dizzying speed with which information and guidance are changing, and the fact that local epidemiology informs public health responses mean that we are very far from a static, one-size-fits-all national approach. For the public, sifting out the latest and best information is difficult and time-consuming. Patients can't just read

something and consider it a fact; like physicians, they are forced to revisit the same topic over and over again, constantly adjusting their behaviour to match new recommendations. It's exhausting, as every physician who has had to look up something for the 1000th time can attest. Imagine, then, the appeal of conspiracy theories and misinformation. They always present a simple, correct answer: don't trust the scientists; don't listen to the talking heads; don't get a vaccine; don't wear a mask.

We are hard-wired to respond to information in less than perfect ways. Which facts are presented, how they are packaged, and who does the telling really matter.

Before COVID-19, medical facts changed every few years.[7] At that rate, we were barely keeping up. The COVID-19 pandemic has upset that precarious balance. It has presented a rate of change beyond our ability to stay abreast of new information. We have been operating at the edge of science, sometimes without science, and every new case is an n of 1 study. Even at its best, EBM as we use it is flawed and doesn't take into account much of the nuance of clinical practice.[8] Anyone who's ever followed their gut on an algorithm, or listened to the senior colleague who lost a patient, has acknowledged this, even if tacitly. So we shouldn't be surprised that patients are vaccine hesitant, or if they doubt what they hear about COVID-19.

No matter how frustrating it might be, we have to keep talking to our patients. We also need to fill the public conversation with good information to drown out the conspiracies. That's uncomfortable, especially because we don't always know the answer, or the answer changes by our next visit. And since we know as well as we possibly can that washing hands, masking, physical distancing, and vaccination save lives, then we should be saying that as loudly and as often as we need to. Like our patients, we are doing the best we can with what we've got: perhaps this is the definition of EBM in the age of COVID-19.

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Competing interests
None declared

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