

Tim Caufield

Don't let the algorithms push the information at you. Find trusted sources, cancer societies, research institutions, and seek out the scientific consensus on the topic from those institutions. The other thing to recognize is there's very little medical miracles out there. You know, someone's suggesting that they have some magical cure, that should be a major red flag. Always fall back on the body of evidence that tells us about how to live a healthy lifestyle.

LuAnn Heinen

That's Timothy Caulfield, professor in the Faculty of Law and the School of Public Health at the University of Alberta.

Today, we're talking about the challenges of navigating health information in an environment where commercial interests, social media, search engines, and influencers all compete for attention and dollars.

I'm LuAnn Heinen, and this is the Business Group on Health podcast, conversations with experts on the most relevant health and well-being issues facing employers.

Even in a chaotic information environment full of spin, overload, and distortion, there are navigation strategies to cut through the noise. We discuss how to spot "scienceploitation", how mistrust can proliferate, and how misinformation impacts our relationships with the medical community.

Welcome, Tim. Thanks for being here.

Tim Caufield

Thanks for having me on.

LuAnn Heinen

I have to say, we've been recording this podcast for over four years, and you're the first professor, actually the first guest of any kind we've had with their own TV show.

Tim Caufield

Now, this translation is important. You got to come at it from every direction. Am I right? And increasingly so, increasingly so.

LuAnn Heinen

We talk about challenges we're facing in the current health information landscape. Not so long ago, when you had a medical question, you'd ask your doctor. Today, it's easier and faster to look online. Maybe more concerning is how many people seem to rely on social media influencers now, when making significant health and well-being decisions, like whether to use nutritional supplements or inject peptides. Love your thoughts on that and how it relates to a new term you coined. First time I've heard it, scienceploitation.

Tim Caufield

Yeah, scienceploitation is, I think, a phenomenon that is increasing in its influence over how we think about health, how we think about science, how we think about the things we're supposed to do to be healthy. What I mean by scienceploitation, and we've actually done a number of studies on this phenomenon, what I mean by it is the use of real science, so the language of real science, to sell bunk, to push misinformation, to give the nonsense a veneer of legitimacy. We're seeing this absolutely everywhere right now, especially online, no surprise. Unfortunately, the research tells us it's an effective strategy. It works. So yes, scienceploitation, the use of science-y language to push bunk.

LuAnn Heinen

We got to talk about what's enabling scienceploitation.

Tim Caufield

I think it is multifactorial, obviously. We can point our fingers a little bit at the scientific community itself. I'm a researcher. I've been very fortunate to work with large, very hard science communities. And we're under a lot of pressure to hype our work, to portray it in a way that is going to allow us to get grants, that's

going to allow us to publish in the most prestigious peer-reviewed journals, that's going to allow us and our institutions to get press coverage. There's a hype pipeline. While it may not be lies, it definitely exaggerates the potential near-future application of an area of science. One of my favorite examples of it is stem cells. We've done a lot of research on this. Billions of dollars have been spent on stem cell research and the reality is there's very little that has good clinical data to support it to use yet. It's a very exciting area of research. But think of all the clinics out there pushing stem cells and they're leveraging the hype that came from the legitimate science in order to push stuff that is completely unproven. We just did a big study on stem cell supplements, which is complete nonsense, you know, complete nonsense. It's either implied there's stem cells in the jar of supplements that you're buying, which there is no scientific plausibility there, or that these supplements are somehow going to help your stem cells. No explanation of why that's good. That's a really good example of science hype driving an unproven industry.

Lots of other factors at play like emerging trends, like the longevity industry. You have influencers that want to make their pitch sound legitimate. They rely on the language from real science. My other favorite example, by the way, and I think this is a really good example, is microbiome. If we got in a time machine and we went back seven years, say, or eight years, I think a lot of people wouldn't even be sure what a microbiome is, you know. Now the word microbiome is on shampoo bottles. It's absolutely everywhere. A really good example of scienceploitation.

LuAnn Heinen

Back to the enabling factors, the Kaiser Family Foundation says that, again kind of points a little bit to traditional healthcare, is that people who go to social media are seeking community and immediacy. So there are those draws, in addition to what influences the science exploiters to put it out there. There's people who aren't finding what they need in the current medical system. They feel let down. They feel disengaged, lack of connection. It's a very paternalistic system in this country. Maybe not in Canada.

Tim Caufield

All that is absolutely true. For sure, the failings of the current system create opportunities for the grifters. Sometimes the grifters will even highlight the failings. For example, for decades, women have been exploited by the wellness industry and we know research consistently shows that research on women is underrepresented. Women are treated differently by the healthcare system. There aren't enough representatives within the healthcare system that can champion women's causes, and the same is true with people of color. These are legitimate concerns with the healthcare system that are exploited by those pushing products that are unproven.

I think we need to learn from this and we need to improve the system. This actually makes me more angry at the influencers because they're taking a legitimate problem that needs to be addressed, exploiting that to push pseudoscience and to create distrust and to create grievance and to create polarization in a way that is only harmful and exploitive. This is a real reason for why people turn to influencers, the Internet, to unproven therapies.

The Canadian Medical Association did an analysis that every year they do sort of a survey of Canadian citizens and they came to this conclusion too. They found that lack of access to a primary care provider, for example, leads people to Chat GPT and leads people to influencers online to get answers and then once you fall into that rabbit hole, it can be hard to climb out.

LuAnn Heinen

We've talked a little bit about who's most susceptible. You've mentioned maybe women who aren't being served by the current system, people of color. What about other demographics, age, for example?

Tim Caufield

I think we need to be careful to say that women and people of color are more susceptible. But they're certainly targeted, which is really infuriating, especially when there are communities that have justified historical reasons for distrusting institutions and then that distrust is exploited, you know, really maddening. But research also tells us when you're just talking about sort of the embrace of misinformation that, probably not going to surprise you, when younger and older demographics, the research is a little messy here. I want to be careful not to overemphasize how definitive this research is, but it suggests that

those demographics in certain circumstances can be more susceptible to misinformation online. One of the other, perhaps the strongest variable predicting the embrace of misinformation now is political identity. It really is. Research in the United States, the Kaiser Foundation has even done research in this space has found that, for example, political identity is one of the strongest predictors of your beliefs and your uptake of vaccines. It's stronger than race, income, education on and on and on. Now, again, we have to be careful not to overinterpret that data, because a lot is baked in to political identity, including education, income, rural, urban. But nevertheless, we're seeing politics play an increasingly prominent role in the embrace of unproven therapies, not just in the United States, by the way, we're starting to see this happen around the world, including in my own country of Canada. Vaccines, the best example of it, but you're starting to see it more and more with things like the uptake of supplements.

LuAnn Heinen

Would you say that we're in an era of DIY healthcare? I mean, this is everybody running after their own sort of solutions and making their own decisions. Would you characterize it that way?

Tim Caufield

That has been with us for a while. I've been studying the wellness industry really for decades and that ethos has always been there. But I agree with you that it's increasing. The other trend that we're seeing now is this idea of personal responsibility. Dr. Oz, I think he said early in his tenure with the government that it is your patriotic duty, right, to be healthy. That kind of ethos is informing a lot of the policy developments we're seeing around the world. I think it's being exploited by influencers and industry to market these unproven therapies and I think it's really important, I don't think we've said this enough yet, none of this stuff has shown to have any benefit on longevity. I think that that's really important to highlight. Look, we know what a healthy lifestyle looks like and we've known this for decades. In general, it's about not smoking, drinking in moderation or not at all. It's about exercise. That's just doing what you love, moving. It's about a healthy diet, which looks, a whole bunch of different ways. You know, a healthy diet has a lot of variety in it, there's no magic there. It's about sleep. It's about taking your basic preventative strategies. So, yes, that means vaccines. That means wearing a seatbelt. It's about surrounding yourself with people that you love. It's about community.

LuAnn Heinen

Well, so this environment that we're living in, how is this impacting medical providers? I mean, they're losing ground to social influencers. You've talked before about Canadian physicians, a survey of them, what the impact is. Can you share some of that?

Tim Caufield

Yeah, for sure. I think it's having a dramatic impact on both primary care physicians and specialists. I know this from what the data says, but also sort of personally, my wife is a family physician. My son's a doctor. My daughter's in medical school. My sister-in-law's a doctor. My brother-in-law's a doctor, on and on and on. And they tell me, you know, over dinner, the impact it's having, that virtually everyone who comes in has some belief that they've adopted as a result of social media, the result of an influencer, and this isn't just speculation. There was a survey that was done again by the Canadian Medical Association asking physicians about this very thing. The vast majority of physicians say that they have to take time out of their day to dispel patient misinformation. When I say the vast majority, I mean the vast majority. The number was 97% of physicians say they have to do that daily. So yeah, it's having a dramatic impact. That wastes the time of the physician. That is a drain on the resources of the healthcare system more broadly. In addition to that, we know there's some evidence that tells us that misinformation about testing, about unproven therapies can lead to unnecessary treatment, can lead to unnecessary treatment within the healthcare system and unnecessary testing within the healthcare system that again leads to more costs, can lead to iatrogenic injury. It could lead to over-diagnosis, etc., etc.

LuAnn Heinen

But in addition, it loops back to patients don't feel heard. If they feel more strongly influenced by an influencer and their physician isn't buying it, I mean, it has to be a really skilled physician to manage that discussion and to a soft landing, perhaps.

Tim Caufield

Yeah, I think this is a really important point. Again, studies show, back up exactly what you say. Now, for my own personal research, I've gone to every kind of alternative wellness practitioner that you can think of. I really have, all over the world, both for my documentaries, but also for the research and the writing I do. This is going to sound like an overstatement, but I mean this. Almost without exception, those experiences have been fantastic. You spend an hour with this practitioner, whether you're getting cupping or you're talking to a naturopath or you get an acupuncture, whatever it is, an hour where the individual is focusing on you, they're listening to you and you feel heard. I can say again, almost without exception, my experiences with the conventional healthcare system have been terrible. It's been terrible and I come from a family of physicians. So I totally get it. I think we need to learn from that reality. We need to really appreciate what's driving this interest in these unproven therapies.

LuAnn Heinen

Oh gosh, that really rings true. Yeah, I feel like we talk a lot about patient experience and the way I feel it's manifested as being pinged for surveys after every single encounter.

Tim Caufield

Yeah, that's right. What's fascinating in my most recent book, I talk about this a little bit, is how that kind of consumer culture is having perhaps an adverse impact on the quality of care, because it's all becoming about the review, the review of the institution, the review of the doctor. As you probably know this, there is no correlation between a high review of your physician and your actual clinical outcome. So does this cause physicians to and institutions to worry too much about that sort of superficial experience and that immediate superficial experience, as opposed to building a really good relationship that allows physicians to have deep, meaningful conversations with their patients and institutions also to focus on quality and not sort of the superficial experience either. I think that's a really interesting dynamic too.

LuAnn Heinen

Well, let's turn to who do we trust. There's Pew data that says 40% of Americans and half of adults under 50 get health and wellness information from social media accounts, especially Instagram, probably also TikTok. And people over 65 are least likely to use social media and a minority of adults who use social media for health, a small minority also follow up with their doctor, according to Kaiser, or consult another online source like WebMD.

Tim Caufield

It's fascinating because there's a deep paradox here, isn't there? Research in Canada has highlighted this too. For sure, a huge portion of the population, they're listening to, they're going to online influencers. By the way, some research puts it higher, as high as 70%. I think it's somewhere between, let's say 40 and 60% of people are accessing these influencers. A very large percentage of them are also saying that they are using that advice to either purchase something or to change something in their life. For some topics like nutrition, the numbers are even higher. There's interesting research from Dublin to highlight that, and for the younger demographic, which is almost universally online, the numbers are even more dramatic. The bottom line is people are accessing these influencers. But here's the paradox highlighted in the Pew data, but also in data from Canada, if you ask them, they say, do you trust these people? And they go, eh, not really, kind of. But we know, despite that, that the influencers are having an impact. So there's a paradox. The other paradox is studies are consistently showing that scientists, healthcare providers, nurses, etc., remain among the most trusted voices. Yes, it's declining, especially among some demographics, but they're still very trusted. Despite that, despite the high trust, the influencers are influencing.

LuAnn Heinen

Why are we so attracted to incorrect and inflammatory information?

Tim Caufield

Well, there's really interesting data on exactly this. First of all, the algorithms, the algorithms, the algorithms that create our information environment, they thrive on rage, on fear, on hate, on grievance. I know that sounds dark. That sounds really dark. But the research really consistently tells us that this is the case. And this is because it plays to our cognitive biases. It plays to our negativity bias, for example. Research consistently shows that if something is scary or rage-inducing, you're more likely to remember it.

The other thing I think is really important, I love this statistic which has actually been replicated using other methods, but there was a study that came out about two years ago that found that 75% of the content that is shared online, they were looking at Meta content, from Facebook and Instagram, but 75% of the content online shared without clicking through. Think about that. Our information environment is largely built based on our emotional response to the content. It's shared without clicking through. In other words, people see a headline, a meme, and they share it. I think that is a really telling bit of data. As I said, it's been recently replicated, exact same number, 75% of people, it was the survey data, but still, I love that the numbers were exactly the same. 75% of people admit that they share without clicking through. This, again, backs up this idea that it's that emotional response to the content, and by the way, that is especially true if that content aligns with your political beliefs. So much of the content is a result of our emotional response to it and that is true with influencers too. We know that this is what creates our information environment.

LuAnn Heinen

Well, there's this tension then between necessary self-care, that we have to inform ourselves, and we can't ask our physicians every question. What can we do to take care of ourselves and our families? How can we protect ourselves and our families online though, from falling prey to misinformation? We have to be online and we're going to look for information. So any thoughts you have?

Tim Caufield

Yeah and there is a really interesting tension here. Another one is this, you want information consumers to be skeptical, but not cynical. Even a conversation like the one we're having today might lead people to not trust anything online. Not to trust any information that they're seeing and we don't want that to happen because there is reliable information out there. But having said that, we know that the information, especially in the health space, online is terrible. Some really quick numbers here, 60%, this is a study from Australia, 60% of the data about fitness, videos, etc., problematic. Our own research has found that anywhere between 50 and 70% of the books about cancer online, problematic. Studies have found as much as 80% of cancer cure content online, problematic. I could go on and on and on. When people enter this space and they're looking for health information, they should recognize that much of this is problematic. If someone is trying to sell a supplement, that is a major red flag for bunk. If someone is using overly sciency language, that is a major red flag for bunk. If someone is trying to create distrust in science and the healthcare system, major red flag for bunk. So watch for those kinds of red flags. The other thing that you want to do is don't let the algorithms push the information at you. Find trusted sources, you know, cancer societies, research institutions, and seek out the scientific consensus on the topic from those institutions. That's the best way to start. The other thing to recognize is there's very little medical miracles out there. Someone's suggesting that they have some magical cure. That should be a major red flag. Always fall back on what the body of evidence tells us about how to live a healthy lifestyle.

LuAnn Heinen

You're not saying that there are no legitimate physicians on social media who are sharing their work and their research?

Tim Caufield

One of the good news stories here is that we're seeing an increasing number of dynamic, diverse voices sharing content in a creative manner that is engaging and accurate. So that's good news. I've been at this for a long time, and there really weren't that many voices online. We're starting to see more and more of those voices, so that's great news. We just did a study on sunscreen misinformation. It was just published very recently and we found that there are credible voices out there talking about sunscreen. But unfortunately, for all the reasons that we've already discussed today, the misinformation gets the most traction. Remember that when you see scary content, that misinformation often gets more traction than the good stuff, so seek out that good stuff.

LuAnn Heinen

Any thoughts about anything employers can do to help their employees and families be more heads up on this. Any recommendations?

Tim Caufield

Yes. When I have the opportunity to speak to the public or to industry on these topics, I say that we all need to play a role. I do think organizations can do more. It's hard to debunk everything, but they can lean into sharing what the scientific consensus says on a particular topic. I know that sounds futile. If you create useful, engaging resources, especially if they're relevant to particular communities, you really can make a difference. The other thing I think that organizations can do is to remind their communities of exactly what they can do to push back against the noise. So yes, think about the body of evidence. Yes, watch for those red flags for bunk. I think organizations can play a really important role here.

LuAnn Heinen

Is there any country or like regulatory statute or anything that can stop it at its source?

Tim Caufield

Well, there are some countries like Finland that have long put a priority on teaching critical thinking and media literacy. It's really hard to study this well, because there are so many variables at play. Finland has a really strong education system, for example. But studies do suggest that really emphasizing media literacy, scientific literacy, critical thinking throughout the education process can make individuals more resilient. This is a generational problem, so I think we need to really think about it in that way. More broadly, this is a multi-pronged approach. There's not going to be one magic wand that we're going to be able to wave to solve this problem. We need to have creative, empathetic debunking happening. We need to pre-bunk topics as they emerge. We need to recognize that this is about, as you highlighted, community. Sometimes it's about political identity that adds a layer of complexity to this. We need to think about nudges. There's been really interesting research around just inviting people to called accuracy nudges, just inviting people to pause before they engage with a topic. Think about that 75% number. People responding to things emotionally. Just pause. If you take a beat, even for a moment, less likely to believe misinformation, less likely to spread misinformation.

And yes, I do think we need some kind of regulatory response too. Now, the good news is, for a very long time, even talking about regulating misinformation was a very political polarizing topic. Where people, oh, you're trying to infringe on freedom of expression. No, not at all. That's changed and it's changed because of AI, people's fear of AI. Now you have almost near bipartisan support in both Canada, the United States, UK, for doing some kind of regulation around AI. This is a regulatory opportunity, I think, to develop smart regulation. I am very much for freedom of expression, by the way. I think what we need is transparency around the algorithms. We need to have smart regulation for these emerging technologies. Let's get to it.

LuAnn Heinen

Thank you. It was wonderful talking with you, and a lot to chew on here.

Tim Caufield

Thank you so much for the opportunity. Really appreciate it.

LuAnn Heinen

I've been speaking with Professor Tim Caulfield, author of *The Certainty Illusion: What You Don't Know and Why It Matters*, along with several other popular books and over 400 academic articles. Despite strong incentives to accumulate attention in this information economy and little downside for misrepresentation, consumers still value accuracy and want science-based evidence to guide health decisions.

I'm LuAnn Heinen, and this podcast is produced by Business Group on Health, with Connected Social Media. If you liked the episode, please rate us and leave a review.