
100
YEARS OF
HEALTH
LITERACY

Today's Snake Oil Salesmen Are on Instagram

HEALTH MISINFORMATION IN 2025 AND BEYOND

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Over the five years since the pandemic, trust in our public health systems has waned. The beginning of the pandemic brought a lot of challenges- diagnostic testing didn't exist, we knew very little about how the virus spread, and treating severe COVID-19 infections was a learning curve. As a result the CDC, and state and local health departments, had to quickly change recommendations as we learned more about the virus. These changing recommendations caused confusion and fear, and the public started looking elsewhere for answers. Social media sites became the place they turned to.

The advance of the internet age and social media has changed how we communicate and how we get information. Prior to widespread internet access, individuals primarily got their health information from a health care provider, or consulted family members or friends. Health information impacting their community would

MISINFORMATION
information that is false, partially inaccurate, or misleading; often shared unintentionally.

DISINFORMATION
a claim that is false and spread intentionally; shared by someone who knows the information is false, potentially to gain influence or make a profit.

Because the intentions of those sharing information online are not always clear, this brief will focus on misinformation generally.

have been delivered by the local newspaper or the evening news. Today, the majority of Americans look for health information online.[1]

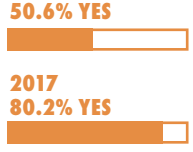
The challenge with today's online world is the large amount of inaccurate health information from non-credible sources, and the speed at which this information can travel. **Information, whether published online, in print, or shared verbally, that is incorrect or misleading, is called misinformation.** Misinformation can be shared unintentionally, as an honest mistake, a rumor, due to conflicting reports, or when someone doesn't have the whole story.[2,3] The internet, and social media sites in particular, which allow users to generate and share their own content with little to no oversight, is ripe with misinformation of all forms. Of particular concern for the public health field, however, is the recent increase in health misinformation on social media sites such as Instagram, X (formerly Twitter), Facebook, Tiktok, and YouTube.

Misinformation is not a new phenomenon, and has existed since at least the invention of the printing press, if not before then. In fact, the term "fake news" can be traced as far back as 1925, when an article in Harper's Magazine cautioned of newswires allowing misinformation to disseminate "rapidly." The author, who worked for The Associated Press, warned "the swift transmission of news is in itself a source of unprecedented danger."[4]

Health misinformation has similarly been around since the late 19th century, if not earlier. The original "snake oil salesman," Clark Stanley, appeared at the 1893 World Exposition in Chicago where he bottled "Stanley's Snake Oil" in front of a crowd after killing a live rattlesnake and boiling it. He sold his so-called snake oil as a cure for joint pain and rheumatism. The claim was based off the real anti-inflammatory effects of the oil from Chinese water snakes. Stanley's rattlesnake oil, however, likely had no real health benefit. Stanley continued selling his snake oil until 1917 when federal investigators seized a shipment and analyzed its contents to find it contained mineral oil, beef fat, red pepper, turpentine, and no snake oil at all.[5]

Today's snake oil salesmen can be found on Instagram and other social media sites. The global wellness industry is now worth an estimated $6.3 trillion, four times larger than the global pharmaceutical industry.[6] Influencer marketing, where individuals market products directly to their social media followers is estimated to be a $14 billion industry.[7] While many health and wellness influences aim to share helpful advice and personal experiences, some also promote wellness trends or dietary supplements that may lack scientific backing or regulatory oversight. In some cases this can lead to the spread of incomplete or inaccurate health information, whether intentional or not.[8,9,10] Some individuals may even use misleading or exaggerated claims to sell a product or earn commission.[11] And although misinformation is not exclusive to influencer marketing, its growth has made it harder for consumers to distinguish between credible health advice and content designed to drive sales or engagement. The result is an online wellness industry that is not unlike the early 20th century marketplace where Stanley's snake oil and other dubious "cure-alls" were widely available with little oversight.

In the past 12 months, have you looked for health or medical information for yourself while using the Internet?[28]



This modern-day version, however, is supercharged by the speed and scale of digital communication. Studies have found that false or misleading claims spread faster than factual ones. In addition, information (and misinformation) that elicits fear, disgust, surprise or other strong emotions spreads faster than information that elicits more neutral or positive emotions.[12,13,14]

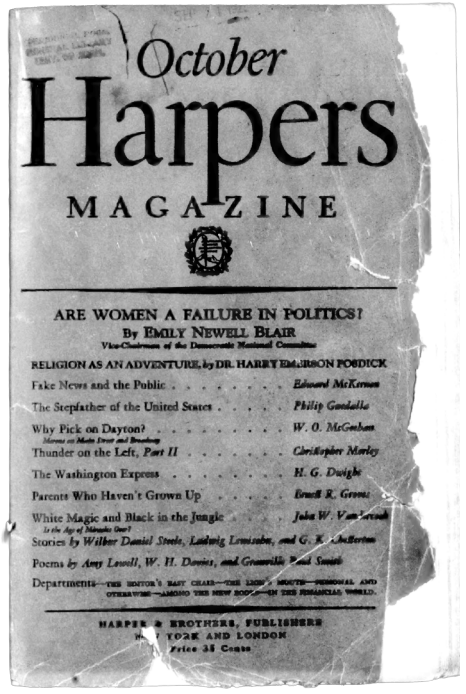
The health misinformation circulating on social media tends to focus on a few themes: vaccinations, nutrition and diets, noncommunicable diseases, especially cancer, as well as infectious diseases such as Zika, Ebola, and of course COVID-19.[15] The challenge with health misinformation in particular, is the risk that social media users who are exposed to health misinformation may delay seeking effective treatment for health issues, or forgo effective prevention or treatment all together.[16] While the true extent of this problem is difficult to measure, there are reports of

patients forgoing effective cancer treatments for unproven remedies,[17,18] women stopping their hormonal contraception due to fear of unsubstantiated risks,[19] parents forgoing effective vaccines for their children,[20,21] and during the COVID-19 pandemic, of patients taking unproven and potentially harmful drugs (ivermectin) rather than seeking effective treatment for a COVID-19 infection.[16,17]

Additionally, many of the health claims circulating on social media are focused on individual choices rather than collective action. They range from the seemingly harmless—"eliminate food dyes from your diet," "add this supplement to your routine," "avoid this ingredient"—to the dangerously misleading: "as long as you eat healthy and exercise, your immune system will fight infections without vaccines," or "I don't need fluoride in my drinking water, I have access to dental care." The common thread is a belief that the self-sufficient person can manage their health all on their own, that they don't need a healthy community to thrive.

And even if these viral claims were true, this mindset ignores the reality that many of the underlying causes of poor health outcomes are beyond individual control. These are broad-scale, structural issues that cannot be solved in isolation. Even more treacherous, these claims often erode trust in the very systems that were created to protect us. Unfounded claims about food additives cast doubt on food safety systems. Misinformation about fluoride undermines public water infrastructure. Anti-vaccine rhetoric weakens our biosecurity and pandemic preparedness. There are ways that all of these systems can improve, of course, but the fearmongering and sensationalist claims that circulate on social media seem to support abandoning these systems altogether while shifting all the burden onto individuals.

The combination of influencer marketing, growing distrust in governmental agencies, and viral social media misinformation has put public health professionals in an unprecedented position. The wellness trends circulating on social media today range from misleading claims to outright disinformation. The consequences of these trends span from wasting money on unproven supplements to forgoing effective treatments for preventable or manageable health issues, sometimes at the cost of severe illness or death. At the core of this problem is a growing cultural mindset that individual effort alone is enough to achieve optimal health. But this mentality is fundamentally at odds with public health, which is grounded in community, cooperation, and collective responsibility. We've made a lot of progress over the last 100 years. One thing hasn't changed: Americans have always relied on each other to survive. Thriving in the 21st century will require a renewed commitment to our collective well-being.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FAKE NEWS AND THE PUBLIC

HOW THE PRESS COMBATS RUMOR, THE MARKET RIGGER, AND THE PROPAGANDIST

BY EDWARD McKERNON

Superintendent of the Eastern Division of The Associated Press

HOW CAN YOU IDENTIFY HEALTH MISINFORMATION ONLINE? [22,23]

CHECK FOR CREDENTIALS

Look for verifiable professional affiliations, recognized degrees form accredited institutions (DO, MD, PhD), or licensing information for the person sharing the information.

BE WARY OF QUICK FIXES OR "HACKS"

If the claim seems too good to be true, it likely is. Check credible sources (your doctor, local public health agencies, university websites) to see if there is a consensus.

LOOK OUT FOR EMOTIONAL APPEALS AND POLARIZING LANGUAGE

Misleading health claims will often evoke strong emotional reactions, like fear or outrage, to get attention.

TRACK DOWN THE ORIGINAL SOURCE

Common forms of misinformation use out of context information, cherry-picked statistics, or misleading graphs or visuals. When possible, find the original source of the information to check if key details were omitted or altered.

HOW CAN YOU COMBAT THE SPREAD OF MISINFORMATION ONLINE?

SOCIAL MEDIA PROMPTS

While social media companies have mostly moved away from fact-checking on their platforms, one study showed that a simple prompt warning of the prevalence of "fake news" on social media was effective at reducing the sharing of false news. Another study found that encouraging users to "intervene" by flagging content as misleading or harmful was also effective at reducing the sharing of "false and potentially harmful" content.[24,25]

FOLLOW THE EUROPEAN UNION'S LEAD

The European Union adopted the Digital Services Act and Digital Market Act in 2022, which regulate online platforms such as social media sites. The goal is to prevent harmful online activity and prevent the spread of disinformation.

RAPID FUNDING FOR HEALTH RISK COMMUNICATIONS DURING PUBLIC HEALTH EMERGENCIES

The COVID-19 pandemic was a prime example of how misinformation and disinformation can quickly take over during a challenging health emergency. Public health agencies need help quickly increasing the volume of accurate information during a health emergency.

INVEST IN SPREADING QUALITY HEALTH INFORMATION OFFLINE

Studies show that art – books, movies, paintings, and other media can be an impactful avenue for telling stories and unlearning misinformation and other unhelpful mindsets. Nontraditional messaging, like strategic storytelling, that centers the lived experience of the audience can be key to overcoming preconceived beliefs or biases.[2,26]

WHAT CAN PUBLIC HEALTH DO TO ADDRESSS MISINFORMATION?

Despite the public health backlash following the COVID-19 pandemic, recent surveys have shown that local health departments are still a trusted source of information in their communities.[26]

SHARE CREDIBLE INFORMATION

Public health professionals have to get their message out early and often. Sharing timely information on public health news, outbreaks, and other important info on the same social media channels (as well as traditional media channels) where misinformation spreads rampantly is a good starting point.

PARTNER WITH COMMUNITY MESSENGERS

Public health professionals need a network of trusted messengers – local news, church leaders, or other local community leaders who can reach audiences that traditional public health communications don't reach.

GET TRAINING AND RESOURCES

A number of organizations and online resources are available for public health practitioners to learn how and when to respond to misinformation:

- FrameWorks Institute: frameworksinstitute.org
- Public Health Communications Collaborative: publichealthcollaborative.org
- Johns Hopkins Center for Health Security – Practical Playbook for Addressing Health Misinformation: https://centerforhealthsecurity.org/2024/center-launches-new-practice-oriented-playbook-for-addressing-health-misinformation
- Infodemiology: infodemiology.com

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VIII