

## Fake health news in the new regime of truth and (mis)information

*Fake news* sobre saúde no novo regime de verdade e informações (in)corretas

*Fake news* sobre salud en el nuevo régimen de verdad y (des)información

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### Abstract

The phenomenon of fake news in public health worldwide reflects significant changes in the regime of health information, particularly in the West. It reveals a transition from a scenario in which the medical community arguably dominated the flow of health information – grounded in the biomedical model – to a more crowded, competitive and chaotic scenario. The digital revolution has upended the old regime by transforming the large-scale production, distribution and consumption of health information. Consequently, misinformation and disinformation have become widespread, as the public is able to obtain information about health issues from an array of sources and platforms, and rogue actors flood the internet with factually incorrect information, hearsay and conspiracy theories.

**Keywords:** Health news; Health information; Regime of truth; Anti-vaccination; Fake news.

### Resumo

O fenômeno de *fake news* na saúde pública mundial reflete mudanças significativas no regime de informações sobre saúde, particularmente no Oeste. Esse fenômeno revela uma transição de um cenário em que a comunidade médica possivelmente dominava o fluxo de informação sobre saúde – com base no modelo biomédico – para um cenário mais sobrecarregado, competitivo e caótico. A revolução digital inverteu o regime antigo através da transformação da produção, distribuição e consumo de informações sobre saúde em larga escala. Consequentemente, informações incorretas e desinformação se tornaram generalizadas, já que o público é capaz de obter informações sobre assuntos de saúde de todo um conjunto de fontes e plataformas, e atores desonestos inundam a internet com informação factualmente incorreta, boatos e teorias de conspiração.

**Palavras-chave:** Notícias sobre saúde; Informações sobre saúde; Regime de verdade; Anti-vacinação; *Fake news*.

## Resumen

El fenómeno de *fake news* en la salud pública mundial refleja importantes cambios en el régimen de información sobre salud, principalmente en Occidente. Revela una transición de una situación de presumible dominio de la comunidad médica del flujo de información sobre salud – basada en un modelo biomédico, a otro escenario más saturado, competitivo y caótico. La revolución digital ha invertido el antiguo régimen transformando en gran escala la producción, distribución y consumo de la información sobre salud. Consecuentemente, ha habido una generalización de desinformación y datos falsos debido a la capacidad del público de adquirir conocimientos sobre asuntos de salud de diversas fuentes y plataformas. Y así actores deshonestos inundan Internet con información factualmente incorrecta, rumores y teorías conspiratorias.

**Palabras clave:** Noticias sobre salud; Información sobre salud; Régimen de verdad; Anti-vacunación; *Fake news*.

## The old regime of health information

For much of the past century, the medical community in the West lived under the assumption that its knowledge was dominant. Those were the days when medical doctors could legitimately argue that they were reliable, respected sources of information on a range of matters — from public health to the latest medical procedures and scientific breakthroughs. They were notably powerful and prestigious, and almost single-handedly decided what was accepted as public health information in society. Health journalism largely reported information produced and disseminated by medical and public health organizations, research teams, and government agencies. Health news predominantly carried the stamp of approval of medical associations. Governments and journalists received and analyzed data from the same sources: medical schools, laboratories, pharmaceutical corporations, research organizations and non-profit associations. They represented the old regime of health truth<sup>1</sup>, with a clear top-down structures and a stable system of legitimate producers and disseminators of news and education.

But that was then — the time of information scarcity. Barriers to entering the health information marketplace meant that only few had access, namely news organizations, medical associations and health institutions, and they represented the biomedical model grounded in core scientific principles. Because access was difficult for everyone else, only these organizations were able to produce and disseminate information on a large scale. The supply side of health information was cordoned off to the vast majority of the population. Those who had access and power were able to determine almost single-handedly what was considered authorized, truthful health information. An array of established powers such as health ministries, universities and the news media shared similar views about what constituted ‘legitimate’ information, at least in large swaths of the Western world.

No doubt, health information that challenged the biomedical model circulated, too. Currents of information about a range of health issues, ailments and treatments have always existed. In fact, they existed before the emergence of the biomedical model in modern society. They continued to originate from a wide diversity of sources — from health traditions and practitioners that differ from the biomedical model to endless versions of quackery and cure-alls. This information was cited to support massive expenditures in care and treatments long dismissed as mere witchcraft or pseudoscience by the public health establishment. However, non-biomedical information generally was relegated to specific pockets of society and small-scale media.

Certainly, a different situation has existed in parts of the world where the Western biomedical model never achieved full domination because people in these regions have other beliefs about human health,

illnesses, and cures. Any expert in global public health, whether in infectious diseases or child and maternal health, is very familiar with this situation. The biomedical model promoted by Western governments, the World Health Organization, national Ministries, universities, and civil society organizations clashes with folk and religious traditions as well as the interests of political forces. This resulted in multilayered, complex situations involving accommodation, imposition, tension, and open conflict. The protracted tension between international immunization programs and local leaders and communities (illustrated, for example, by the vicissitudes of the global program for the eradication of poliomyelitis), as well as the long-standing difficulties that HIV/AIDS programs have encountered when populations espouse alternative forms of disease transmission, prevention and care, attest to this condition. Biomedical information competed and coexisted with alternative, complementary and opposite belief systems.

## The new regime

The digital revolution of the past decades, and particularly since the rise of ‘social media’ in the late 2010s, has eroded the foundations of the old regime of health information in the West. Just as with the whole structure of public information, it has undermined the old hierarchies of sources and consumers of health news and information. It brought in a slew of new sources as countless producers can, in principle, reach out to large audiences using digital platforms. Websites, bloggers, Facebook friends, the Twitterati, Instagrammers, and WhatsApp groups produce, relay, share, and discuss information about health issues that is never vetted by so-called legitimate authorities. These sources easily bypass the institutions of the old regime, such as Ministries of Health, hospitals, medical associations and practitioners and journalists. Now they can (mis)inform consumers about illnesses and (magic) cures on a massive scale, with true data, controversial claims, unfounded exaggerations, and falsehoods.

Certainly, the modern health news and information establishment remains important in many ways. It is flatly wrong to think that they are insignificant in the daily transmission of information. Governments continue to produce the bulk of information about the state of public health and the conditions of health services. Pharmaceutical companies wield tremendous power as they continuously generate information about drug and treatment research and development, and churn out extraordinary volumes of advertising, marketing and public relations messages for mass distribution. Some news organizations that feature health news continue to command the attention of large audiences, yet they now function in a more crowded information space. They compete with a vast array of non-biomedical sources that constantly alert and inform consumers about health issues.

So, the old regime has not collapsed, but it does not wield the same power it had up until recently. It is part of a noisier, chaotic information ecology. There are no sources that are unanimously considered to be legitimate that monopolize knowledge and truth about virtually any health issue. The establishment certainly believes it is the only source that can speak authoritatively about health and still holds a big megaphone and commands huge attention. However, there are far more opportunities for the public to ignore it and challenge official information. Biomedical information can easily get lost amid the din of extraordinary volumes of affirmations, rumors, and data about countless health matters. Groups and individual citizens have plenty of opportunity to question, tweak, and misinterpret established biomedical knowledge. They are also able to find sources of information that they believe are more trustworthy, or that fit their own convictions and preferences about healthcare.

In this changing, crowded information environment, organized misinformation efforts have a better chance of finding a receptive public. Much has been said about widely circulating misinformation about health issues, particularly in the form of ‘fake news’ about issues that seem to be at the forefront of public attention, such as childhood vaccines, cancer (causes and treatment), infectious diseases like tuberculosis,

and mosquito-transmitted infectious diseases such as Zika. The true scale of misinformation is unknown and probably impossible to determine with exactitude given the ever-expanding internet and popular social media platforms. Anecdotal and rigorous evidence suggest proliferation of (mis)information in different forms – rumors, pseudoscientific data, and advice. (Mis)information originates everywhere – support groups, influential bloggers, conventional news media (that do not rely on medical establishment sources), friend networks and so on – virtually anywhere where people produce and share ideas.

Belief in false information patently reflect gaps in the public's ability to determine what constitutes truth. This reminds us of the dangers of assuming that specific medical knowledge is powerful, well-respected and believed throughout society and the possibility that certain forms of information can achieve absolute dominance when claims to truth are completely unfounded.

It is also important to underscore that the main problem is not scattered groups, wily fraudsters, and enterprising bloggers who share misinformation of dubious origin and merit that is considered false by medical and public health associations. The real challenge is massive, well-funded misinformation efforts that deliberately publish false news to confuse the public. Rogue actors – including governments and organizations supported by well-funded donors prone to conspiracies and quackery – are responsible for injecting doubt regarding well-established medical science and promoting wild theories and explanations regarding disease causation and treatment. It is not principally ill-informed or careless individuals, or people who believe in non-biomedical health systems, who poison the well of public information. Rather, it is powerful actors with resources to utilize digital platforms, support armies of trolls, and set up bots to deceive the public.

It seems that their primary target are health issues that are of particular importance to large numbers of people, at least in the West, such as immunization, infectious diseases and the main causes of morbidity and mortality. Which individuals are particularly susceptible to these flows of falsehood is hard to determine across health issues. Those who are already particularly interested in a topic and/or predisposed to be skeptical and opposed to biomedical authorities are key targets. That is, the flows target individuals that an extensive body of persuasion research has concluded are particularly prone to influence: those who are already interested in the subject, use a certain platform/news feed, or are less likely to question certain information.

As with other forms of mis/disinformation, social media seems to be a prime target. The reason is clear: that is where huge audiences congregate around the world, every day, every minute. Social media companies do not check the veracity of information, as Facebook has recently admitted. For example, anti-vaxxers are common on the platform, even if the company recently cracked down on misinformation about immunization. As long as money supporting real or false information pours in, social media companies are unlikely to monitor and censor blatant cases of deceit. Political leaders also contribute to spreading falsehoods. Notably, President Trump has disseminated false claims about scientific evidence and health issues, such as healthcare plans, mental health, and the link between vaccines and autism. Legacy television news, filled with ratings-obsessed provocateurs, shares false claims about health issues that tap into existing distrust of health and government authorities. Well-heeled foundations have peddled conspiracies about vaccination programs and spread false information<sup>2</sup>.

The toxic consequences of the new world of health misinformation are indisputable – a significant drop in child immunization, an increase in vaccine-preventable diseases, people in fictional treatments for various conditions (from cancer to cardiovascular diseases), risks and deaths. When people believe in UFOs and mythical creatures, or are convinced that the earth is flat, this rarely leads to deaths. However, fake health news spreads and legitimizes misinformation that worsens health conditions and causes the loss of human lives.

## How do we solve misinformation in a new regime of truths?

Despite dedicated, valuable efforts to combat health misinformation, we do not have guaranteed solutions to solve a growing, massive problem<sup>3</sup>. Traditional approaches to dissemination of biomedical information, such as health education and promotion, while important, are likely to face obstacles. They always had difficulty in reaching a large-scale audience, especially those who are particularly vulnerable to disinformation and strongly oppose the medical establishment.

Additionally, fact-checking claims made are not necessarily persuasive, even if they set the record straight. It is hard to convince people who hold strong beliefs that contradict biomedical knowledge. Although much has been said recently about the merits of fact-checking, evidence is mixed at best about its ability to change attitudes and behaviors. Information tends to be sticky, especially if it is fundamental to individual and collective identities. People do not easily give up on beliefs even after they have been demonstrated to be utter fantasies. Also, providing correct information might work with certain individuals and groups, but it does not necessarily lead to changes in health behaviors.

Therefore, anti-mis/disinformation efforts need to carry out experiments in a new context. Do not assume that certain actions will have positive results. There are no silver bullets. Do not think that simply correcting mistaken beliefs and sharing valid data will have a positive effect. The phenomenon of ‘fake news’ shows that individuals use very different and contradictory ways to determine the veracity of facts and claims<sup>4</sup>. Truth is what people believe, rather than something intrinsic to a given piece of health information.

Questions abound. Should biomedical efforts concentrate on rebutting rumors and superstitions head-on? Should they unmask conspiracies with the hope of changing beliefs? Or contrarily, would those actions actually prime people to reinforce and endorse conspiracies? Should authorities ignore general misinformation and, instead, focus on specific groups of people who might be the likely targets of disinformation and/or uphold fictional beliefs? Which sources are considered credible among disbelievers and opponents of biomedical information? Does ranking health information on social media in terms of the reputation of the sources work?

My recommendation is to be agnostic about easy solutions and implement carefully planned actions for combatting health misinformation. Mixed evidence about the impact of responses and the problem in generalizing from localized samples and experiences should deter unbound optimism<sup>5</sup>. Efforts to correct misinformation constantly face oceans of easily available fictional news that is credible in the mind of certain social groups. Remember, it is not just misinformation peddled by people and organizations on a few digital platforms. Check reviews of medical practitioners on Yelp and Google reviews and you will get a sense of the scale of attacks grounded in absolute misinformation. Therefore, just telling people they are wrong or showering them with correct information will not be sufficient given the strengths of conviction and the scale of disbelief in biomedical truths. We are in a new regime of truth<sup>1</sup> about health; it is not just a few dissident voices reasonably (or not) skeptical of the fundamentals of medical science and institutions. It is a more chaotic, abundant, polyphonic and contested information ecology.

Considering the lessons from past actions for combating health disinformation globally<sup>6,7</sup>, what is needed is a fine-tuned approach that engages with specific communities of beliefs, identifies causes of (mis)information and alternative knowledge, and partners with trusted people and institutions to address the problems. Also, efforts should keep in mind lessons from the tobacco wars: the global health community mobilized to discredit the constant barrage of lies and deception by Big Tobacco, the forerunner of fake news<sup>8</sup>, with a mix of scientific evidence, innovative messaging and policy advocacy. One-shot actions are unlikely to be successful given the multiple forms and the pervasiveness of health misinformation. A broad mobilization of actors — from the medical community to social media corporations to ordinary citizens<sup>9</sup> — is needed to take on fake information, understand why people believe wild claims and health conspiracies, and correct misinformation.

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