Regulating the Unregulable? Legal Responses to Health Misinformation in the Age of Social Media

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Digital transformation has revolutionised healthcare, reshaping how patients access information, how providers deliver care and how companies' market medical products. Yet this same connectivity that drives innovation also accelerates the spread of misleading health content, particularly through social media's boundless reach, presenting unique regulatory challenges for pharmaceutical and medical device companies, and healthcare providers alike. Navigating the patchwork of jurisdictional rules requires careful attention to government regulators, effectively informing healthcare professionals, reaching consumers through compliant marketing and avoiding unfair competitive practices. This article examines how legal frameworks are evolving to address online healthcare communication, with a particular focus on Brazil. A comparative analysis of European Union, United Kingdom and United States models in a nutshell follows,

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exploring key differences in permissiveness and enforcement. The article then confronts the infodemic phenomenon, examining how social media attention-capture mechanisms amplify misinformation and shape health-risk behaviours. Finally, emerging regulatory trends and institutional initiatives are assessed, underscoring the imperative for coordinated strategies between authorities and civil society to combat health misinformation threats to public health.

The digital transformation of healthcare in Brazil: connectivity, innovation and emerging regulatory challenges

The expansion of internet access in Brazil over the past decade has been striking. According to data from the Brazilian internet Steering Committee (CGI.br), internet penetration among households rose from approximately 40 per cent in 2013 to over 80 per cent in 2023, representing a substantial increase in connectivity across all socioeconomic strata and geographic regions. Mobile internet access has been particularly transformative, with smartphone adoption enabling millions of Brazilians, especially in rural and underserved areas, to connect to digital services for the first time. This widespread connectivity has fundamentally changed how the population seeks, receives and shares health-related information, setting the stage for a profound transformation in healthcare delivery.

Building on this digital infrastructure, the digitalisation of healthcare in Brazil has undergone continuous changes, driven mainly by advances in therapeutic care and the consolidation of remote consultations. Expanded access to medicines through electronic prescriptions and the ease of acquisition in virtual environments have also contributed to transforming the way patients and professionals engage with healthcare.

From a legal perspective, Brazilian Federal Law No 14,510/2022 represented a significant milestone by authorising and regulating telehealth nationwide, validating and providing legal certainty to practices that had already been expanding since before the Covid-19 pandemic in 2020. The law established principles such as professional autonomy, informed consent, data protection and validity for medical acts performed remotely, consolidating a more flexible and accessible model of care. In parallel, through the enactment of Resolution No 2,314/2022, the Federal Council of Medicine (Conselho Federal de Medicina or CFM) detailed operational and ethical parameters for the practice of telemedicine.

In the pharmacy and drugstore sector, the incorporation of technologies has also intensified. Pharmacies and drugstores have increasingly invested in digital operations and hybrid sales models, a practice permitted in Brazil

for many years under the National Health Surveillance Agency (Agência Nacional de Vigilância Sanitária or ANVISA) Collegiate Board Resolution (Resolução da Diretoria Colegiada or RDC) No 44/2009 on Good Pharmaceutical Practices. The growth of this market reflects the relevance of the digital sphere. According to the Brazilian Association of Pharmacy and Drugstore Networks (Associação Brasileira das Redes de Farmácias e Drogarias or Abrafarma),[1] by October 2025, the 29 pharmacy and drugstore chains associated with it recorded sales of BRL 114.8bn, an indicator that reveals a significant economic impact and the importance of this sector.

The way pharmaceutical and medical device companies promote their products and interact with healthcare professionals and patients has certainly not been excluded from this trend. Online platforms and social media have become imperative tools for engagement, enabling direct-to-consumer advertising, educational content dissemination, virtual detailing with physicians, patient support programmes and real-time communication channels. These digital strategies allow companies to reach broader audiences, gather valuable insights on market trends and patient needs, and build stronger relationships with stakeholders across the healthcare ecosystem.

This set of transformations illustrates how the digitalisation of healthcare is advancing at an accelerated pace, bringing services and interactions between professionals and patients within just a few clicks. In this context, physicians and other sector agents are increasingly using social media as a tool for communication and promotion, in line with digital behaviour trends.

In response to this reality, three years ago, CFM published CFM Resolution No 2,336/2023 to regulate medical advertising and promotion, on top of rules already existing in the Medical Code of Ethics. The regulation established ethical limits on the use of social media, curbing practices that had been spreading, especially in the aesthetic field. It reinforced prohibitions, for example, on self-promotional and sensationalist conduct, the dissemination of content implying guaranteed results, unfair competition and the propagation of untrue content.

However, alongside the advance of these innovations, the expansion of digital access has also opened space for the circulation of content from diverse and not always reliable sources. Unlike professionals subject to the rules of their professional councils, users in general produce and disseminate information without any quality control or technical rigour, increasing public exposure to risks.

As a consequence, recent years have been marked by the rapid growth of a health-related infodemic: a phenomenon characterised by the proliferation

1 Portal Abrafarma www.abrafarma.com.br/ accessed 26 January 2026.

of false cures; exaggerated therapeutic promises; irregular or counterfeit products; and unfounded claims about medicines and medical treatments. Fuelled by algorithmic amplification and the viral dynamics of social media, misleading health content now reaches millions of users within hours, often outpacing the capacity of regulatory authorities and fact-checkers to respond. This environment has proven particularly conducive to the promotion of unregistered supplements, unauthorised weight loss drugs and pseudo-scientific remedies that exploit consumers' anxieties and desires for quick solutions.

This phenomenon poses multifaceted risks to public health. At the individual level, exposure to misleading health content encourages self-medication, delays appropriate medical care and leads patients to abandon evidence-based treatments in favour of unproven alternatives. At the systemic level, the infodemic undermines public health campaigns, erodes trust in regulatory institutions and healthcare professionals, and places additional strain on health systems as preventable complications arise. The challenge is compounded by the global and instantaneous nature of digital communication, which renders traditional enforcement mechanisms, designed for print, broadcast and geographically bounded markets, increasingly inadequate. These dynamics demonstrate that digital advancement, while essential for expanding access and fostering innovation, brings complex challenges that require continuous, coordinated attention from regulatory authorities, healthcare professionals, technology platforms and civil society alike.

Against this backdrop, the digitalisation of healthcare emerges as both a catalyst for modernisation and a source of unprecedented regulatory complexity. While expanded connectivity and technological innovation have transformed patient access and care delivery, they have simultaneously created vulnerabilities that existing legal frameworks struggle to address. The imperative to balance innovation, patient safety and information integrity now stands at the centre of health policy debates worldwide.

Comparative analysis across jurisdictions: regulation of advertising and promotion in the healthcare sector, with a particular focus on Brazil

Advertising and promotion in the healthcare and pharmaceutical sector-particularly with respect to prescription and over-the-counter (OTC), medical devices and health services have gained increasing relevance in regulatory discussions among competent authorities worldwide. This heightened attention reflects growing concerns about consumer protection, the integrity of health information and the potential for misleading claims

to cause tangible harm to patients. In several parts of the world, regulators are confronting similar questions: how do they ensure that promotional content is accurate, balanced and non-deceptive, while preserving space for legitimate commercial communication and therapeutic innovation?

The urgency of this regulatory attention stems from the fundamental transformation of how health information reaches consumers. Digital communication technologies have enabled pharmaceutical and medical device companies, healthcare providers and third-party actors to engage audiences at unprecedented scale and speed. This often bypasses traditional gatekeepers, such as healthcare professionals, peer-reviewed publications and regulated broadcast media.

Traditional regulatory models that are designed for print advertisements, television commercials and in-person detailing now confront an environment defined by social media platforms, influencer marketing, algorithmic content targeting and user-generated health discussions. These dynamics create enforcement challenges that demand new tools, cross-border cooperation and adaptive regulatory frameworks capable of keeping pace with technological change.

Against this background, the following sections present a comparative analysis of pharmaceutical and medical device advertising regulation in Brazil, the European Union, United Kingdom and United States. The analysis examines each jurisdiction's approach to consumer-directed versus professional-directed promotion; the scope of permitted and prohibited content; and the mechanisms for oversight and enforcement, and highlights the convergences and divergences that inform the broader debate on regulating health communications in digital environments.

Overview of Brazilian regulation

In Brazil, the advertisement and promotion of medical products is highly regulated. A comprehensive legal framework applies, encompassing general sanitary health laws, consumer protection laws, internet laws and specific regulations issued by health agencies, as well as codes issued by self-governing advertisement bodies and industry associations. These rules apply irrespective of the mode of advertisement, including social media.

The Brazilian regulatory architecture governing pharmaceutical and medical device promotion operates on multiple, overlapping levels. At the statutory level, Federal Law No 6,360/1976 establishes the foundational framework for health product advertising, while Federal Law No 9,294/1996 imposes additional restrictions on the promotion of products potentially harmful to health. The Consumer Defence Code (Law No 8,078/1990)

provides overarching consumer protection principles, including prohibitions on misleading and abusive advertising, that apply with full force to digital channels. At the regulatory level, ANVISA's Resolution RDC No 96/2008 sets forth detailed requirements for pharmaceutical promotional content, scientific substantiation and mandatory disclosures.

This official framework is complemented by a robust system of self-regulation and industry governance: the Brazilian Code of Advertising Self-Regulation, administered by the National Council of Advertising Self-Regulation (Conselho Nacional de Autorregulamentação Publicitária or CONAR), addresses pharmaceutical advertising practices and specific guidelines for digital influencer marketing. The most recent version of CONAR's Guide to Marketing and Advertising by Digital Influencers, published in May 2026, establishes comprehensive requirements for transparency and identification of commercial content, mandating that influencers clearly disclose the advertising nature of their posts through hashtags such as '#publicidade' or '#publi', or through platform functionalities that identify paid partnerships. Critically, the 2026 Guidelines emphasise that all participants in the advertising chain, including advertisers, agencies and influencers themselves, bear responsibility for compliance with applicable rules, including specific provisions for restricted product categories such as pharmaceuticals. The Guidelines also address emerging concerns such as the use of artificial intelligence in content creation, virtual influencers and affiliate marketing arrangements. Meanwhile, the codes of conduct of industry associations such as Associação Da Indústria Farmacêutica De Pesquisa (Interfarma) and Associação Brasileira da Indústria de Tecnologia para Saúde (ABIMED) impose additional ethical obligations on member companies regarding interactions with healthcare professionals and promotional activities. Professional councils further regulate how individual practitioners may advertise their services.

Finally, the Brazilian Internet Act (Law No 12,965/2014), while not specifically addressing advertising, establishes the liability framework for internet service providers regarding third-party content. In a landmark ruling in June 2025, subsequently clarified by a motion for clarification (*embargos de declaração*) in June 2026, the Brazilian Supreme Court (STF) significantly altered the interpretation of Article 19 of the Brazilian Internet Act, establishing that digital platforms may be held jointly and severally liable (*responsabilidade solidária*) for damages caused by unlawful third-party content in certain circumstances, particularly where content involves serious crimes and where there is massive circulation of such content. The ruling introduced a 'relative presumption of fault' for platforms in cases involving paid advertisements, boosted content or artificial dissemination

mechanisms, creating a more demanding standard of care. Platforms may avoid liability only by demonstrating diligent and timely action to remove unlawful content, or by showing reasonable doubt as to the illegality of content following qualified analysis. This evolving jurisprudence has profound implications for platforms hosting health-related promotional material, particularly given the prevalence of misleading health advertising.

Promotion of pharmaceuticals

Regulation, control and sanitary oversight of promotion of pharmaceuticals fall within the scope of authority of ANVISA, established by Federal Law No 9,782/1999, which is responsible for setting advertising and promotional limits applicable to medicines and all categories of products subject to the national health surveillance system. The main sub-statutory regulatory framework is RDC No 96/2008, which governs advertising, promotion, information and other practices aimed at the dissemination of information on drugs.

Under Federal Law No 6,360/1976, only OTCs may be advertised to the general public (lay consumers). Among the key provisions of RDC No 96/2008 are the prohibition of unsubstantiated therapeutic claims, the ban on content that encourages indiscriminate use of medicines and restrictions on messages suggesting the absence of risks. The regulation also prohibits indirect advertising, defined as advertising that, even without expressly mentioning a product, uses brands, symbols or references capable of identifying it or indicating the existence of treatments for specific health conditions.

Prescription medicines may only be promoted to healthcare professionals (HCPs). According to ANVISA's Resolution RDC No 96/2008, promotional materials relating to medical products registered with ANVISA must be in strict accordance with the product's registration. Consequently, information on off-label indications or non-registered products is prohibited. Although RDC No 96/2008 primarily governs the industry's relationship with the general public, the distribution of information about unregistered products is expressly prohibited and restricted for both consumers and HCPs.

Industry self-regulation further refines these boundaries. Interfarma's Code of Conduct establishes a carefully delineated framework for communicating scientific information about products or indications not yet registered with ANVISA. Such information may only be shared with HCPs under specific circumstances: upon the healthcare professional's unsolicited request or in the context of medical and scientific events where the audience is exclusively composed of HCPs. Critically, the Code mandates

strict organisational separation. Discussions involving off-label uses or non-registered products must occur solely within the company's medical affairs or Medical Scientific Liaison (MSL) function, with no involvement from commercial teams. When such information is disseminated, whether through specialised health media or at scientific gatherings, express disclosure of the product's or indication's non-authorised status is required. These self-regulatory safeguards reflect the industry's recognition that scientific exchange with healthcare professionals, while valuable for advancing medical knowledge, must be carefully insulated from promotional activity to preserve informational integrity.

Promotion of medical devices

While Federal Law No 6,360/1976 provides that advertising of prescription medical devices shall be restricted to publications intended exclusively for healthcare professionals, ANVISA has not issued specific regulations governing medical device promotion comparable to those applicable to pharmaceuticals. This regulatory lacuna has created practical ambiguity: in the absence of detailed guidance, companies have adopted varied approaches to consumer-directed communications about medical devices. Industry practice has generally evolved towards positioning such content as informational and educational rather than overtly promotional, incorporating disclaimers advising consumers to consult healthcare professionals. However, this self-regulatory approach operates without clear regulatory boundaries, leaving companies to navigate uncertain terrain and exposing them to potential enforcement risk should authorities adopt a more restrictive interpretation of the statutory framework.

Promotion by individual healthcare professionals

The promotion of medical services by individual healthcare professionals is regulated by their respective professional councils. For physicians, CFM published Resolution No 2,336/2023 to regulate medical advertising and promotion. This regulation established ethical limits on the use of social media, curbing practices that had been spreading, especially in the aesthetic field. It reinforced prohibitions on self-promotional and sensationalist conduct, the dissemination of content implying guaranteed results, unfair competition and the propagation of untrue content. Similar rules apply to other healthcare professionals through their respective regulatory councils.

Ongoing regulatory debates and challenges

A part of the rules contained in RDC No 96/2008 is currently under review by the Brazilian Supreme Federal Court (Supremo Tribunal Federal or STF) in Direct Action of Unconstitutionality (Ação Direta de Inconstitucionalidade or ADI) No 7788. This lawsuit discusses the scope of ANVISA's regulatory authority to restrict so-called indirect advertising, such as insertions in editorial content, television programmes, soap operas, digital media and social networks, especially when there is no clear identification of products. Public health and consumer protection entities argue that the resolution gives effect to the state's duty to ensure health protection and adequate information, while representatives of the regulated sector contend that limitations of this nature may only be imposed through formal legislation.

This dispute reveals a structural tension between health protection and economic freedom, which is intensified in the digital environment, marked by hybrid communication formats such as undisclosed sponsored content, influencer advertising and engagement strategies that hinder traditional enforcement. The outcome of ADI No 7788 may redefine the scope of ANVISA's regulatory authority and establish new parameters for the regulation of indirect advertising, with direct impact on industry stakeholders. Alongside this institutional debate, a more recent challenge has emerged: the role of health authorities in addressing the new communication ecosystem of social media, where the circulation of false information and the promotion of products without sanitary registration (marketing authorisation) has become increasingly frequent.

In sum, the content and reach of posts on social media must take into account the audience and the general rules governing the advertisement of medical products, with distinctions based on whether products are prescription-only, non-prescription drugs or medical devices, that is, whether they are obtainable by the general public directly or require a prescription and may only be acquired through institutional or individual healthcare providers. These challenges are relevant not only in Brazil but also in other jurisdictions, given that regulatory principles aimed at health protection and the provision of adequate consumer information are similar across many countries worldwide.

A glimpse of the regulatory landscape in other jurisdictions

Within the EU, the approach to patient protection closely mirrors that adopted in Brazil. Pursuant to Directive 2001/83/EC,[2] Member States are required to ensure that only duly authorised medicinal products are placed on the market and that any advertising or promotional activity, permitted exclusively for non-prescription medicines when directed at the general public, promotes rational use without exaggerating therapeutic benefits or misleading consumers.

EU regulations also prohibit the abusive or misleading use of visual representations depicting changes in the human body caused by a medicinal product, as well as endorsements by prominent figures, such as celebrities, who may unduly encourage consumption. In essence, advertising directed at the general public is permitted for OTCs, provided it employs balanced language, refrains from exaggerated or unfounded claims, and maintains full transparency regarding the product's limitations and intended purposes.

Consistent with the regulatory frameworks in Brazil and the EU, the UK's Medicines and Healthcare products Regulatory Agency (the 'MHRA') permits advertising to the general public only for non-prescription medicines that have received appropriate regulatory authorisation. The promotion of prescription medicines remains restricted to HCPs, mirroring the approach adopted in the EU.

The MHRA requires that all advertising content be accurate, balanced and non-misleading. Specifically, the agency prohibits exaggerated claims, representations suggesting risk-free use, content encouraging self-medication and celebrity endorsements, as detailed in the MHRA's Blue Guide.[3]

By contrast, unlike Brazil, the UK and EU, the US permits direct-to-consumer (DTC) advertising of prescription medicines. New Zealand is the only other jurisdiction that allows this practice, making these two countries unique in their approach[4] globally.

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2 Directive 2001/83/EC of the European Parliament and of the Council of 6 November 2001 on the Community code relating to medicinal products for human use http://data.europa.eu/eli/dir/2001/83/oj accessed 20 January 2026.

3 MHRA-UK, *The Blue Guide Advertising and Promotion of Medicines in the UK: Medicines and Healthcare products Regulatory Agency*, 3rd edn https://assets.publishing.service.gov.uk/media/6012d7f2d3bf7f05b92f6cfc/BG_2020_Brexit_Final_version.pdf accessed 22 January 2026.

4 Robert H Shmerling, 'Harvard Health Ad Watch: How direct-to-consumer ads hook us - Harvard Health' www.health.harvard.edu/blog/harvard-health-ad-watch-how-direct-to-consumer-ads-hook-us-201909201968 accessed 22 January 2026.

Although the US regulatory regime is more permissive than those in Brazil, the EU and UK, the Federal Food, Drug and Cosmetic Act[5] (FDCA), together with Food and Drug Administration (FDA) guidance, mandates that all risks associated with the use of medicinal products, whether prescription or OTC, be clearly and comprehensively disclosed to consumers.

Legislation also prohibits claims regarding unapproved indications; overstatement of therapeutic benefits; and the omission or minimisation of risks and adverse events. Accordingly, even within this more flexible regulatory environment, the US system imposes clear substantive constraints on pharmaceutical advertising and promotion.

Notwithstanding the variations in permissiveness described above, the jurisdictions analysed share a common commitment to consumer protection and transparency in pharmaceutical communications. This shared foundation, grounded in principles of safety and responsible disclosure, is particularly relevant when examining the emerging interplay between patients, digital platforms and regulated markets.

The concept of the 'infodemic' and the spread of health-related disinformation: legal-regulatory challenges and public health implications

According to the World Health Organization (WHO), the concept of an infodemic refers to an overabundance of information, including false, misleading or manipulated content, circulated across physical and digital environments, with the potential to generate confusion, insecurity and risky health behaviours.[6] Unlike traditional misinformation, the infodemic is characterised by its sheer volume, velocity of spread, and the difficulty it poses for individuals and institutions seeking to distinguish credible sources from unreliable ones. In the health sector, this phenomenon presents particularly acute risks: erroneous information about treatments, vaccines or medical products can lead directly to physical harm, undermine public health campaigns and erode the legitimacy of regulatory frameworks designed to protect consumers.

This phenomenon has reached unprecedented proportions in recent years, driven by the massive expansion of social media, the intensive use of the internet and the centrality of digital spaces as primary sources of information for much of the population.

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5 FDA, FD&C Act Chapter V: Drugs and Devices www.fda.gov/regulatory-information/federal-food-drug-and-cosmetic-act-fdc-act/fdc-act-chapter-v-drugs-and-devices#Part_E accessed 21 January 2026.

6 WHO, Infodemic www.who.int/health-topics/infodemic#tab=tab_1 accessed 22 January 2026.

In the health field, this practice finds particularly fertile ground, as it exploits information asymmetries, fear, emotional vulnerability and the search for quick solutions to complex problems. Critically, health-related misinformation is not monolithic; it manifests in several distinct forms, each presenting unique legal and regulatory challenges.

These forms include: (1) fraudulent advertising, which promotes unregistered, adulterated, or counterfeit products with false therapeutic claims; (2) off-label promotion, whereby companies or individuals market approved products for indications not sanctioned by regulatory authorities; (3) fake endorsements, including the unauthorised use of healthcare professionals' images or fabricated testimonials from celebrities and influencers; and (4) anti-science narratives, which systematically undermine confidence in vaccines, evidence-based treatments or regulatory agencies themselves. Understanding these distinctions is essential for designing targeted regulatory responses and enforcement strategies.

Digital advertising has become one of the main vectors of this dynamic. Both Conselho Nacional de Saúde (CNS) and Fiocruz (a Brazilian research institute) attest that fraudulent campaigns disseminated through online platforms frequently promote irregular supplements, medicines with no scientifically proven efficacy and even false treatments for serious diseases. Many of these campaigns rely on sophisticated algorithmic segmentation strategies, expanding their reach and impact, while simultaneously hindering oversight by competent authorities.

The mechanisms by which such misinformation spreads are multiple and mutually reinforcing: (1) algorithmic amplification, whereby platform recommendation systems favour sensational or emotionally charged content to maximise engagement; (2) micro-targeting, which allows advertisers to direct misleading claims to vulnerable demographic segments with precision; (3) network effects and viral sharing, through which false content is rapidly disseminated across social graphs before fact-checkers can intervene; and (4) platform design incentives, which prioritise user retention over content accuracy, creating structural impediments to effective moderation.

Investigations conducted by NetLab, the internet and social media research laboratory of the Federal University of Rio de Janeiro (Universidade Federal do Rio de Janeiro or UFRJ), underscore the severity of the situation. Between April and May 2025 alone, nearly 170,000 health-related advertisements were identified on social media. Of these, approximately 76 per cent contained fraudulent elements, exploiting consumers' cognitive and emotional vulnerabilities, and encouraging potentially dangerous

behaviours, such as self-medication and the abandonment of appropriate medical treatments.[7]

These findings show that the infodemic transcends mere information overload. It is a phenomenon with direct public health implications, capable of undermining health policies, causing individual and collective harm, and placing pressure on traditional regulatory systems.

From a legal-regulatory perspective, the consequences are equally severe: (1) enforcement gaps, as health surveillance agencies lack jurisdiction over foreign platforms or face resource constraints in monitoring the vast volume of digital content; (2) evidentiary challenges because misleading content may be ephemeral, algorithmically personalised or hosted on servers outside national territory; (3) liability fragmentation, with responsibility dispersed among content creators, platforms, advertisers and intermediaries under varying legal standards; and (4) erosion of deterrence, as low detection rates and delayed sanctions fail to discourage repeat offenders or new market entrants seeking to exploit regulatory blind spots.

Thus, the infodemic and the widespread dissemination of misinformation about health products and services not only distort perceptions of risk and benefit but also weaken trust in institutions, health professionals and regulatory authorities. The resulting loss of institutional credibility has cascading effects: patients may delay or refuse beneficial treatments, public health campaigns may fail to achieve target coverage rates, and legitimate pharmaceutical and medical device companies may face reputational damage through association with fraudulent actors operating in the same digital spaces. For regulators, the challenge is compounded by the need to balance free expression, innovation and proportionate enforcement, while maintaining public confidence in the integrity of the health system.

Mechanisms of attention capture and the spread of disinformation: platform architecture and psychological exploitation

Social media platforms have increasingly become environments saturated with inaccurate health-related information, which easily captures the attention of users on the other side of the screen. Topics such as weight loss, aesthetics and chronic diseases are frequently exploited through content promising quick or 'miraculous' solutions, often associated with the use of unregistered medicines or dietary supplements and herbal products allegedly capable of producing immediate results.

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7 NetLab UFRJ, Desinformação pode matar https://netlab.eco.ufrj.br/en/post/desinformacao-pode-matar accessed 26 January 2026.

According to Fiocruz's guidance manual,[8] psychological and socio-emotional mechanisms are widely leveraged to maximise the reach of this misleading content. Digital platforms, in this context, act as amplifiers by favouring simple, alarmist, sensationalised or highly personalised messages capable of triggering emotions such as fear, indignation or a sense of urgency.

These platform architectures create environments in which user engagement, measured by clicks, shares and time on site, becomes the primary metric of success, regardless of content accuracy. Health misinformation thrives in this environment because emotionally provocative claims about miracle cures, hidden dangers or institutional conspiracies generate higher engagement than nuanced, evidence-based communications. The result is a structural bias towards sensationalism embedded in the very design of the digital information ecosystem.

This setting facilitates the proliferation of irregular advertising for counterfeit medicines, anti-vaccine campaigns and purported 'miracle treatments' that circulate precisely because they activate instinctive emotional responses, capturing users' attention before they can engage in fact-checking or critical reflection. The manual further emphasises that health misinformation thrives in contexts of low media and scientific literacy, which erodes public trust in health institutions and scientific consensus, including established best practices and standards of care.

From a regulatory standpoint, these dynamics present significant enforcement challenges: content removed from one platform may quickly resurface on another; algorithmic personalisation causes different users to encounter different versions of misleading content, complicating evidence collection; and the global nature of digital platforms creates jurisdictional conflicts that impede coordinated enforcement actions.

In addition to these strategies, there has been growing use of artificial intelligence (AI) tools to produce deepfake videos and images of widely recognised public figures who are falsely portrayed as endorsing medicines or substances allegedly aimed at improving health. This emerging category of fake endorsements represents a particularly insidious form of misinformation because it exploits the credibility of trusted healthcare communicators, while being increasingly difficult to detect.

In Brazil, for example, Dr Drauzio Varella, one of the country's most reputable medical communicators, was targeted by a wave of fake videos in which he appeared recommending products and miracle treatments,

8 Igor Sacramento et al, ' Guia para profissionais de saúde: desinformação sobre saúde: vamos enfrentar esse problema?' https://arca.fiocruz.br/handle/icict/63242 accessed 26 January 2026.

particularly related to weight loss, wellness and aesthetics. Similar incidents have been reported internationally, with deepfakes of prominent physicians and researchers used to promote fraudulent products. The legal implications are significant: victims face reputational harm and may incur liability exposure, while consumers are deceived into purchasing potentially dangerous products based on fabricated authority.

In many cases, disinformation does not appear explicitly. Instead, it relies on subtle, persuasive tactics, such as glorifying socially valued aesthetic standards, associating brands with a healthy lifestyle or using the image of specialists, celebrities and influencers,[9] as in the case of Dr Drauzio Varella.

Given this scenario, strengthening media and scientific literacy strategies, as well as improving mechanisms for the verification and traceability of digital content, becomes essential. From a legal-regulatory perspective, several specific responses merit consideration: (1) mandatory disclosure requirements for AI-generated or synthetically altered content; (2) enhanced platform liability frameworks that impose due diligence obligations for health-related advertising; (3) cross-border cooperation agreements among health surveillance agencies to enable coordinated enforcement; (4) expedited takedown procedures for content posing imminent public health risks; and (5) investment in regulatory technology tools that enable real-time monitoring of digital health communications. These measures must be calibrated to preserve legitimate speech and innovation while creating meaningful accountability for actors who profit from health misinformation.

Practical effects of disinformation and its consequences for public health and regulatory systems

Disinformation produces practical, concrete and significant impacts, including in the realm of public health. Individuals influenced by misleading advertisements and deceptive marketing may abandon medically recognised treatments validated by health and scientific authorities in favour of supposedly miraculous solutions or untested products, which can worsen pre-existing health conditions. The pathway from misinformation to harm typically follows a recognisable pattern: exposure to emotionally compelling but inaccurate content; reduced trust in conventional medical advice; adoption of unproven alternatives; delay or abandonment of effective

9 Carlos Eduardo Barros, et al, 'Dr. Drauzio Varella has the solution to your problems: mapping fraudulent health ads on Meta', Proceedings of the 34th Annual Meeting of COMPÓS, page 5 (NetLab Brasil, 11 June 2025), https://netlab.eco.ufrj.br/post/dr-drauzio-varella-tem-a-solu%C3%A7%C3%A3o-dos-seus-problemas-mapeando-an%C3%BAncios-fraudulentos-sobre-sa%C3%BAde-n, accessed 26 January 2026.

treatments; and ultimately, adverse health outcomes that may be irreversible. For regulatory authorities, these harms translate into increased surveillance burdens, reactive enforcement actions and the difficult task of rebuilding public confidence after high-profile incidents of consumer harm.

This phenomenon is not unprecedented. During the Covid-19 pandemic, for instance, false narratives that promoted medicines with no proven efficacy gained widespread traction and led to the adoption of ineffective or potentially harmful treatments.

Within the landscape of health-related misinformation, one of the most notable examples concerns the promotion and irregular commercialisation of weight loss drugs. Recently, in Brazil, ANVISA issued warnings and adopted prohibitions on the manufacturing, importation, commercialisation and advertisement of a number of products that had not been granted sanitary registration in the country and therefore had not undergone evaluations of efficacy, quality or safety.[10]

Brazilian media reported that, following ANVISA's measures, more than 1,500 packages of weight loss medications had been seized by the Federal Police before they could be smuggled into a state of the federation.[11]

The role of social media influencers in promoting unregistered weight loss products has emerged as a particularly concerning enforcement challenge. In July 2026, Brazilian media reported that numerous high-profile influencers outside the country attended events organised by pharmaceutical laboratories producing weight loss products that do not hold ANVISA registration in Brazil. Following these events, the influencers posted content on Instagram featuring the products, laboratories and events, often without explicit advertising disclosure. Such posts may constitute indirect advertising of prohibited medicines, potentially violating the Health Infractions Law (Law No 6,437/1977), the Consumer Defence Code and CONAR's advertising self-regulation rules. Violators may face sanctions, which could include being ordered to remove the post or fines, as well as civil liability for damages caused to consumers who acquire or use the promoted products, and potential criminal liability for contributing to the

10 Notícias ANVISA, 'Anvisa informa sobre proibição de ingresso de canetas emagrecedoras no Brasil' www.gov.br/anvisa/pt-br/assuntos/noticias-anvisa/2025/anvisa-esclarece-sobre-proibicao-de-ingresso-de-canetas-emagrecedoras accessed 27 January 2026.

11 Portal de Notícias G1, 'Após proibição, MS apreende 1,5 mil canetas emagrecedoras paraguaias' https://g1.globo.com/ms/mato-grosso-do-sul/noticia/2025/12/19/apos-anvisa-proibir-o-uso-de-canetas-paraguaias-no-brasil-apreensoes-passam-de-r-1-milhao-em-ms.ghtml accessed 27 January 2026.

irregular commercialisation or promotion of products lacking Brazilian sanitary authorisation.[12]

Internationally, regulatory bodies such as the FDA face similar challenges related to weight loss drugs, particularly in the market of compounded, falsified or counterfeit versions of GLP1 receptor agonists, which have been widely promoted as weight loss solutions. The agency warns that unapproved versions do not undergo rigorous safety and efficacy assessments, and may contain inadequate or potentially harmful formulations, with reported adverse events including gastrointestinal disorders and other severe symptoms.[13]

The WHO has similarly addressed the risks associated with falsified or adulterated medications marketed for diabetes treatment or weight loss, particularly given the surge in global demand for these products. In a technical alert,[14] the organisation warned that such products may not only fail to deliver their purported therapeutic benefits but may also cause serious health complications, whether due to the absence of appropriate active ingredients, incorrect dosages or the presence of dangerous contaminants.

Thus, the practical effects of disinformation go far beyond individual risk. They hinder the implementation of disease prevention and treatment campaigns, and may place additional pressure on public health systems as a result of avoidable complications. For the pharmaceutical and medical device industry, the proliferation of fraudulent products and misleading claims creates an unfair competitive environment, potentially exposing compliant companies to reputational spillover effects and undermining the market value of legitimate innovation.

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12 *Influenciadores promovem canetas paraguaias ilegalmente. Equilíbrio e Saúde.* Revista Folha de São Paulo. Available at: www1.folha.uol.com.br/equilibrioesaude/2026/07/influenciadores-brasileiros-promovem-canetas-paraguaias-e-podem-pagar-multa-de-ate-r-15-milhao.shtml. Accessed on 27 July 2026.

13 FDA, Compounding and the FDA – Questions and Answers: FDA's Concerns with Unapproved GLP-1 Drugs Used for Weight Loss www.fda.gov/drugs/postmarket-drug-safety-information-patients-and-providers/fdas-concerns-unapproved-glp-1-drugs-used-weight-loss?_upf_link=545623&_upf_visitor=5y65xuqq&utm_campaign=100off&utm_medium=influencer&utm_source=FLUSCHEEITAWAY accessed 26 January 2026.

14 WHO, Medical Product Alert No 2/2024: Falsified OZEMPIC (semaglutide) www.who.int/news/item/19-06-2024-medical-product-alert-n-2-2024--falsified-ozempic-(semaglutide) accessed 21 January 2026.

Trends in regulatory responses by health authorities

Addressing health-related misinformation depends on advances in regulatory and health-product surveillance strategies, as well as on the increasingly urgent and indispensable coordination of civil society organisations and technological education.

National and international authorities have been adopting proactive responses that combine technological monitoring, informational guidance and inter-institutional coordination to mitigate the effects of misinformation, particularly when its impacts spill over into public health protection and consumer safety, as exemplified by the initiatives listed below.

Digital monitoring actions in Brazil

ANVISA has been institutionalising the use of technological tools to identify and combat the irregular sale of various products, including medicines commercialised without proper sanitary authorisation.

The Exclusion of Irregular Products on the Internet (EPINET), developed jointly with the United Nations Development Programme (UNDP), uses AI to continuously track and monitor the online offering of products subject to sanitary surveillance. The system has resulted in thousands of notifications for the removal of irregular content and the takedown of websites that violate health regulations.

To illustrate the reach of EPINET, according to the agency itself, 'in 2021, the Agency carried out 1,060 internet surveillance actions, while in 2022, after the use of AI, more than 85,000 notifications for website takedowns were issued, with a 98% success rate in the requests granted'.[15]

Additionally, ANVISA implemented VigiMed, a system made available by the Agency so that citizens, healthcare professionals, marketing authorisation holders and study sponsors can report suspected adverse events related to medicines and vaccines, with the aim of promoting transparency and continuous monitoring of the sector.

Brazilian Government, academic and civil society initiatives

At the federal level, the Saúde com Ciência[16] programme (coordinated by the Ministry of Health in partnership with the Secretariat of Social Communication

15 Notícias Gov.br, Anvisa promove encontro para apresentar suas estratégias no uso de dados e IA www.gov.br/anvisa/pt-br/assuntos/noticias-anvisa/2024/anvisa-promove-encontro-para-apresentar-suas-estrategias-no-uso-de-dados-e-ia accessed 27 January 2026.

16 Ministério da Saúde, Projeto Saúde com Ciência www.gov.br/saude/pt-br/assuntos/saude-com-ciencia accessed 27 January 2026.

of the Presidency and other agencies) has operated since 2023 as an inter-ministerial initiative to combat health misinformation. The programme monitors and debunks recurring false narratives about vaccines, treatments and healthcare services, and also guides the population on methods to identify and report misleading content.

However, regulatory actions and collaborations are not restricted to the Brazilian Federal Government. Organised civil society and academic institutions have also played a fundamental role in producing informational, educational and fact-checking content. Examples include: (1) the Rede Nacional de Combate à Desinformação (National Network to Combat Misinformation),[17] a multi-sector forum for information exchange, guideline development and organisational mobilisation to confront misinformation; and (2) the Laboratory for Studies on Information Disorder and Public Policy of Fundação Getúlio Vargas (FGV),[18] dedicated to research and the development of public policy strategies.

In the same direction, there are also notable initiatives from professionals dedicated to information verification and fact-checking, such as Instituto Butantan's Fato ou Fake and the Saúde sem Boato platform provided by the Brazilian Unified Health System (Sistema Único de Saúde or SUS).

Regulatory actions in the US

In the US, the FDA has strengthened its efforts to combat misinformation related to regulated medical products and prescription drugs. In 2024, the Agency issued draft guidance titled 'Addressing Misinformation About Medical Devices and Prescription Drugs: Questions and Answers',[19] which aims to provide recommendations for companies on how to respond, in a regulatory-compliant manner, to inaccurate or misleading information about their products circulating online.

This initiative reflects a paradigm shift that also focuses on empowering market actors to engage in the dissemination of evidence-based information, thereby reinforcing public trust in health data.

The trends described above point to a regulatory model for health information in which public health protection and the promotion of reliable content progress in an integrated manner. Ultimately, the challenge of

17 Rede Nacional de Combate à Desinformação (RNCD), Quem somos https://rncd.org/sobre-nos/ accessed 26 January 2026.

18 Desinfo.pop, Laboratório de Estudos sobre Desordem Informacional e Políticas Públicas (FGV/CEAPG/EAESP) https://desinfopop.org/category/pub/ accessed 27 January 2026.

19 FDA, Draft Guidance: Addressing Misinformation About Medical Devices and Prescription Drugs: Questions and Answers Guidance for Industry www.fda.gov/media/179827/download accessed 26 January 2026.

mitigating misinformation will continue to require dynamic adaptations of regulatory strategies, both by agencies and by societies committed to defending science, public health and citizens' rights.

Final considerations

This article set out to examine whether, and how, legal frameworks can effectively govern health misinformation in an era defined by algorithmic amplification, cross-border digital platforms and the erosion of traditional informational gatekeepers. The answer, as the preceding analysis suggests, is cautiously affirmative, but only if regulators, industry actors and civil society fundamentally reimagine their approach.

Three principal conclusions emerge from the comparative analysis.

First, despite differences in permissiveness, the EU, UK and US share a foundational commitment to accuracy, balance and non-deception in health communications. This convergence provides a normative baseline upon which international cooperation can be built.

Second, existing regulatory architectures, designed for print media and geographically bounded markets, are structurally ill-suited to address the velocity, volume and viral dynamics of digital misinformation. Evidentiary challenges, liability fragmentation and jurisdictional gaps are not anomalies but inherent features of the current system.

Third, purely reactive, enforcement-centred strategies will inevitably lag behind the pace of technological change; proactive interventions, including AI-powered monitoring, platform design mandates and scientific literacy campaigns, must become central pillars of any effective response.

What, then, is to be done? The path forward requires action on at least four fronts: (1) regulatory modernisation, including adaptive rulemaking procedures, expedited takedown authorities and mandatory transparency obligations for AI-generated health content; (2) platform accountability, through due diligence requirements, algorithmic audits and meaningful liability exposure for facilitating health misinformation at scale; (3) cross-border coordination, via mutual recognition agreements, joint enforcement operations and harmonised evidentiary standards among health surveillance agencies; and (4) demand-side resilience, achieved through sustained investment in media literacy, the empowerment of healthcare professionals as trusted communicators and the cultivation of a civic culture that values scientific inquiry over sensationalism.

Ultimately, the challenge of regulating health information in digital environments transcends mere technical or legal considerations: it strikes at

the very heart of preserving public trust in the institutions, professionals and scientific processes upon which effective healthcare fundamentally depends.

Governments, platforms, healthcare professionals and civil society must therefore act with urgency and resolve. Only through a comprehensive, integrated approach that boldly balances innovation with accountability, free expression with robust consumer protection and national enforcement with seamless cross-border cooperation can we hope to stem the tide of infodemics and safeguard patient welfare. This action is urgently required to ensure that the digital transformation of healthcare fulfils its profound promise of expanded access and improved outcomes for all. The moment for incremental reform has passed; the imperative now is decisive, coordinated action.