# Do Restrictive Telemedicine Regulations Stand in the Way of the Right to Health? Technological Negative Bias in Human Rights Versus Healthcare Development

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# Do Restrictive Telemedicine Regulations Stand in the Way of the Right to Health? Technological Negative Bias in Human Rights Versus Healthcare Development

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## Abstract

Telemedicine offers a transformative approach to healthcare, enabling remote consultations and expanding access to underserved populations, especially in inaccessible and isolated regions. This article discusses the role of laws and regulations in telemedicine within a rights-based framework, to address the understaffing of medical doctors. Historically, restrictive regulations delayed the liberalisation of telemedicine until the COVID-19 pandemic. Today, however, human rights in the digital health sphere appear to be more focused on safeguards for privacy and autonomy than on mobilising government investments to facilitate access to health.

The article first draws attention to the negative bias in the use of human rights in global digital health discourse, by reviewing the pessimistic framing of human rights standards, with telemedicine guidance at the World Health Organisation (WHO) framed as simply a protection against digital harms. By considering the experience of legislative action on telemedicine in Brazil, this article analyses how law can contribute to a positive environment for expanded digital healthcare coverage. It discusses the danger of placing unwarranted concerns over professional guarantees and ethical questions above access to health, despite overwhelming evidence of the benefits of telemedicine. Furthermore, digital health regulations are often seen primarily as protections against market interests – perceived as the main suppliers of digital technologies – with limited attention paid to how human rights standards could and should actively steer publicly-funded policies. This study shows that a rights discourse can also serve to support state-led policies in digital health – positioning technological advances as an ally, rather than mainly a threat, in the pursuit of universal health coverage.

***Keywords**:* Right to health; telemedicine; negative bias; human rights; digital health.

## Introduction

Telemedicine, which empowers healthcare professionals to diagnose, consult, and perform procedures remotely through information and communication technologies, holds the potential to significantly enhance the availability of healthcare services. The World Health Organisation (WHO) defines telemedicine as the provision of healthcare services where distance plays a critical role, delivered by healthcare professionals through information and communication technologies for purposes such as diagnosing, treating, and preventing diseases and injuries, as well as conducting research, evaluation, and continuing education for healthcare providers.[1] This delivery model is particularly advantageous in countries characterised by low population density, including rural, remote, and isolated indigenous communities.

[1] World Health Organization, Telemedicine: Opportunities and Developments in Member States, 11.

This article examines the unappreciated role of laws and regulations in telemedicine, under a rights-based framework, to advance health coverage. It tackles what can be regarded as the negative bias in digital health human rights literature and practice, both in terms of a negative attitude towards emerging risks, as well as how rights are interpreted in a negative fashion to prevent those assumed or perceived threats (rather than as positive obligations and the basis for access to healthcare). In this view, human rights in digital health may be engaged mainly to mitigate ethical concerns and patient risks, while positive steps towards progressive implementation of access to healthcare remain overlooked, without laws that establish a favourable environment for telemedicine.

In line with WHO's definition, telemedicine is a core element of the manifold processes and interventions of digital health, which encompasses the convergence of science, technology, and healthcare through digital innovations.[2] Often, telemedicine is used interchangeably with telehealth (broader processes of health system services at a distance) or considered as one modality within eHealth ('health services and information delivered or enhanced through the internet and related technology').[3] However, its most transformative potential lies in 'client-to-provider telemedicine' or teleconsultations: 'long-distance access to medical services between health professionals and patients through digital or telecommunication means.' [4]

The benefits of telemedicine are well established through systematic literature reviews and higher-quality evidence, while scientific research on digital harms in healthcare remains relatively limited, based on ethical speculation or anecdotal reports. Telemedicine generally delivers safe and comparable outcomes to conventional healthcare, and in some instances, has been associated with reduced mortality.[5] For example, a review of outcomes across 139 studies in the area demonstrated 76% effectiveness and 83.9% patient satisfaction (where it was measured).[6] So far, digital harms in privacy or data breaches are scantily reported, most being theoretical or moral in nature, with relatively weaker evidence.[7] From an evidence-based public health perspective, policy should prioritise benefits demonstrated through systematic reviews, randomised clinical trials, and cohort studies—giving case reports and expert opinion less weight.[8] In contrast to these not systematically or empirically studied digital concerns, the progress made with telemedicine services is convincingly proven in controlled studies and systematic reviews, in both safety and effectiveness, without compromising service quality.[9] Not only does telemedicine reduce costs, but it also serves as an important tool for sustainability and lower carbon emissions.[10]

Especially where in-person services cannot be provided, in light of the abundant evidence supporting telemedicine from years of practice, it can be said that this mode of delivery may offer a commensurate standard of care and should be regarded as an ethical alternative. Tomáš Holčapek et al adduce this argument by proposing to accept telemedicine as an ethically justifiable standard of care, especially if 'complete unavailability of care would constitute a more serious violation of the right to protection of health than mere adaptation of its standard to allow for remote provision of care.'[11] In certain medical specialisations, such as intensive care, where in-person doctor–patient interaction is typically the approach, physicians may reasonably prefer to offer a remote alternative as a matter of justice—particularly in regions lacking healthcare infrastructure—thus contributing to 'a fairer distribution of limited healthcare resources.'[12]

As a viable and safe healthcare alternative, telemedicine alleviates understaffing in isolated and distant communities. One might therefore expect to associate it with the implementation of the right to health, just as other health technologies have been enthusiastically pursued in other areas. Yet, though the emergence of telemedicine preceded digital health – harking back to the invention of the telephone – the uptake of remote consultations with digital health has been slow, only gaining more traction after the COVID-19 pandemic.[13] While telemedicine adoption has been led by North America, Europe and even Asia, its implementation is not advanced in many states, particularly in Africa, where it has been mainly limited to emerging or

[2] Jiang, "The Cost-Effectiveness of Digital Health Interventions," 21.
[3] Eysenbach, "What Is E-Health?"
[4] World Health Organization, WHO Guideline, XV.
[5] Snoswell, "An Overview of the Effect of Telehealth on Mortality," 659-68.
[6] Goharinejad, "Review of Systematic Reviews in the Field of Telemedicine," 5.
[7] Laurie, "Review re Harm from Data Usage"; Wairimu, "Modelling Privacy Harms of Compromised Personal Data."
[8] Vatkar, "Understanding the Levels of Evidence in Medical Research."
[9] Snoswell, "The Clinical Effectiveness of Telehealth"; Hatef, "Effectiveness of Telehealth versus In-Person Care"; Carrillo de Albornoz, "The Effectiveness of Teleconsultations in Primary Care."
[10] Purohit, "Does Telemedicine Reduce the Carbon Footprint of Healthcare?"
[11] Holčapek, "Telemedicine and the Standard of Care," 3.
[12] Nesher, "Ethical Issues in the Development of Tele-ICUs," 656.
[13] Roh, "Telemedicine: What It Is, Where It Came from, and Where It Will Go."

developing policies among low internet access and insufficient infrastructure.[14] Around the world, teleconsultations have been constrained or virtually banned, until the COVID-19 pandemic forced legislators and governments to lift or revise those rules.[15] Regularly raised ethical red flags in telemedicine include difficulty in obtaining consent, lack of data privacy, undermined patient safety and quality of care, removal of patient choice for in-person care, negative impact on patient-doctor relationships and the potential for fraud.[16] From this perspective, one might deduce that digital technology represents a source of poorly regulated risks to patient rights, rather than a tool for advancing such rights. As Payal Arora suggests, many of the fears associated with the digital world arise from an account shaped by excessive pessimism; yet it is our moral responsibility to seek pathways for positive transformation in the future, not remain caught in a culture of paralysing negativity.[17]

Therefore, how can a human rights perspective reposition our relationship with the state in digital health, to emphasise access to health through telemedicine, instead of adopting human rights as only a safeguard against digital-world potential hazards? This research will offer a fresh outlook into human rights and digital health, assessing more closely Brazil's regulatory transition from a virtual ban on telemedicine to legislation designed to realise the right to health.

In brief, unlike a human-rights analysis focused on digital technology risks, this research will demonstrate how an awareness of positive state obligations towards equity and access to health can unlock the law's potential to foster a supportive regulatory environment for expanding health coverage with telemedicine. In tracking telemedicine legal reforms in Brazil, the article will consider how ethical paralysis and legislative omissions were made possible for so many years, and how a rights-discourse was instrumental to providing the legal basis for telemedicine. It will do so considering a) the evolution of telemedicine despite the absence of adequate regulatory frameworks prior to the COVID-19 pandemic; and b) the influence of medical stakeholders on legislative debates, and the extent to which this contributed to the adoption of telemedicine laws designed to ensure access to healthcare.

This article is structured as follows. Section one examines the problem of negative bias in engaging with human rights in digital health, highlighting how this bias is reflected in WHO guidance and policy statements on telemedicine and digital health. Section two explores the association between telemedicine and human rights as a positive obligation, focusing in particular on the obligation to legislate or regulate without creating undue barriers to technological adoption, drawing on relevant human rights documents on telemedicine. Section three turns to Brazil, where telemedicine operated without clear legal frameworks prior to COVID-19. It traces the coexistence of two competing discourses: one promoting the expansion of healthcare services, and another prioritising the interests of medical professionals, framed in terms of ethical standards that in practice served to preserve market exclusivity. This section also outlines and briefly evaluates the legislative framework introduced in 2022, when the Brazilian Congress passed a bill authorising teleconsultations on a permanent basis. The article concludes by arguing that excessive ethical restrictions must be balanced against the pressing need to expand access to healthcare in underserved and remote areas.

## 1. Digital Fatalism in Human Rights and Digital Health

To depart from the negative bias in digital health, we must carefully consider how rights are often interpreted in digital health advancements, and how this may reflect on telemedicine. This section will outline the negatively-oriented view of human rights in digital health, to then reflect on whether WHO may also exhibit a negative bias from a risk-averse perspective, centred on human rights, as a means of avoiding violations of privacy and autonomy.

The negative bias in digital technologies at large is felt even within the human rights scholarship. In Kari Karppinen and Outi Puukko's typology of framings of rights in this digital world, the view of rights 'as protection of negative liberties,' among academics and activists, 'has historically dominated the debates.'[18] Digital rights have in essence mirrored this civil and political rights approach, providing safeguards against unchecked capitalism's intrusion into privacy or freedoms in a digitised society, from social media to novel and unpredictable digital technologies such as AI.[19] Datafication is looked upon as an existential

[14] Ndwabe, "Post Pandemic Analysis on Comprehensive Utilization," 10.
[15] Rockwell "Telemedicine as Part of COVID-19 Response Systems"; VanderWerf, "Policy and Regulatory Considerations During a Pandemic," 459–61.
[16] Nittari, "Review of the Current Ethical and Legal Challenges," 1430–34.
[17] Arora, "The Privilege of Pessimism."
[18] Karppinen, "Four Discourses of Digital Rights," 312–13.
[19] Wagner, Research Handbook on Human Rights and Digital Technology.

threat, while human rights 'are meant to change wrongful activity and halt transgressions against personhood' and viewed 'as a limitation on powerful actors or a set of obligations on the powerful.'[20]

The discourse on digital health technologies follows a similar pattern, privileging civil and political rights in response to concerns about data and privacy violations. This narrative takes form under the prevailing mood of dangerous and obscure technologies, with a 'dark side' that must be wrestled with as a 'Trojan horse.'[21] The fear is that services may be used to hoard data or directly jeopardise the quality of care, even without corroborating evidence.[22] While seemingly promising on the surface, digital health is regarded as concealing numerous rights-related violations: market exploitation, privacy breaches, mass surveillance, diminished quality of care, and the exacerbation of existing inequities among populations lacking access to technical resources.[23] For instance, researchers were quick to raise issues of digital surveillance during COVID-19 as a potential human rights violation; was there a similar sense of urgency for the adoption of digital technologies, among evidence that states with digital health programmes were better prepared and had lower mortality rates by preserving essential services?[24] Such a negative interpretation of human rights (without fully assessing the scope of positive obligations to introduce technology, in particular for low-resource settings devoid of other options) may be seen in this very journal, regarding data exploitation in tuberculosis monitoring or misuse of COVID-19 data recording.[25]

I suggest this cautionary perspective places greater emphasis on the potential misuse of digital technologies than on their implementation as a valuable model for fulfilling the positive obligation to provide access to healthcare. Recognising that rights establish positive obligations is almost a counteraction to mounting fears of surveillance capitalism. This very idea borrows from a worldview represented by (colonial) American ideology and culture (using only examples of private insurance or commercial ventures, such as monitoring devices and wearables), where economic and social rights are not part of the constitutional lexicon.[26] Therefore, the assumption is that digital health is, fundamentally and inevitably, a neoliberal product serving capitalism – not a tool for state development as may be experienced beyond the US, in the Global South.[27]

From a human rights-based standpoint, digital health is *not* uniquely concerned with the protection of civil and political rights, nor negative obligations over autonomy and patient freedom. Not all digital technologies represent only the threat of capitalist exploitation; if adequately managed and accounted for, they can be used to explore new opportunities where traditional approaches cannot work as part of substantive efforts to implement the right to health.[28] This is particularly true if digitalisation is employed in a way that enhances affordability and scalability of healthcare to underserved populations, achieving benefits that would not be possible through traditional methods. Therefore, digital transformations are also deeply connected with a set of standards of progressive realisation and maximum available resources inherent to the right to health, which can, with appropriate laws and regulations, change the 'legal determinants of scarcity' of medical staff.[29]

However, this impetus towards healthcare accessibility and realisation is not strongly reflected in international governance and soft law practice at WHO. To date, there has been no well-defined or fully articulated recognition that the adoption of telemedicine constitutes an effective strategy for realising the right to health. Moreover, legal and human rights considerations are inconsistently addressed across different levels of policy and documentation. A range of WHO guidance materials highlight the need for a solid regulatory foundation to support digital health, covering organisational capacity, legal compliance, data protection, provider licensing, quality control, and reimbursement frameworks.[30] Such guidance may well recognise the need for introducing regulatory or legislative measures, but does not stretch to promoting human rights fulfilment as a positive obligation of access to health. While the main WHO discourse is generally supportive of telemedicine, its human rights considerations remain largely relevant to civil and political rights – often under ethical concerns, particularly those relating to privacy and autonomy.[31] For instance, the *WHO Consolidated Telemedicine Implementation Guide* recommends careful analysis of regulatory and legal standards necessary to the institutionalisation and integration of telemedicine into national

[20] Wong, We, the Data, 43.
[21] Davis, "The Trojan Horse."
[22] Maturo, "The Dark Side of Digital Health."
[23] Davis, "The Trojan Horse."
[24] Sekalala, "Analyzing the Human Rights Impact"; Yazdi, "Does Digital Technology Adoption Affect Outcomes?"
[25] Taylor, "Pulling Together or Pulling Apart?"
[26] Zuboff, The Age of Surveillance Capitalism."
[27] Banner, "Digital Health and Capitalism."
[28] Hinton, "Moving beyond Tokenism."
[29] Chenwi, "Unpacking 'Progressive Realisation'"; Bottini Filho, "The Legal Determinants of Scarcity."
[30] See e.g., World Health Organization. Regional Office for Europe: Support Tool to Strengthen Telemedicine; World Health Organization, WHO Guideline, 51; World Health Organization, National eHealth Strategy Toolkit, 55.
[31] World Health Organization. Regional Office for Europe, Telehealth Quality of Care Tool, 27.

health strategies.[32] Legal systems may not afford telemedicine the same status as in-person medical acts, affecting reimbursement, liability, and rights, and requiring regulatory adaptation to accommodate telemedicine services.[33]

The *2019 WHO Guideline Recommendations on Digital Interventions for Health System Strengthening* makes commendable progress towards human rights more expressly than other documents, but this is framed under the rubric of 'evidence of the anticipated impact of the (digital) intervention/option on equity,' falling short of systematically engaging with human rights obligations.[34] Among digital interventions, telemedicine is presented in a more positive light, associated with 'facilitating access to health services, particularly for individuals who speak minority languages,' lower 'burden of travel […] for people with caring or work responsibilities and those living far from health facilities,' while noting barriers for 'people with hearing impairments or poor digital literacy.'[35] The document generally represents progress, given that in the *2012 National eHealth Strategy Toolkit*, WHO and the International Telecommunication Union were entirely silent on human rights matters regarding digital health, and only recommended adopting legislation and regulation for technical compliance such as data storage and privacy.[36]

Similarly, WHO's resolutions and programmes have noticeably promoted a vision of digitalisation not necessarily within a rights-based discourse, or still with a negative framing of rights. In 2005, in the 'World Health Assembly Resolution on eHealth,' human rights are not set out as active obligations (as a basis for action), but more as protections from risks ('respecting human rights' rather than implementing the right to health).[37] Equally, the current *Global Strategy on Digital Health (2020-2025)* is negatively framed, with priority given to the 'protection of people, populations, healthcare professionals and systems' against a series of potential abuses of 'misinformation and the misuse of information, malicious cyber activities, fraud and exploitation, inappropriate use of health data, (and) racism.'[38] The aims are focused on preventing 'human rights violations within the framework established by international treaties binding the Member States.'[39]

This negative bias extends to the WHO Regional Committee for Africa, which has turned to telemedicine with a higher attention among digitalisation plans, as the most reported service by countries or the most supported through regional cooperation.[40] Monitoring the implementation of the regional eHealth strategy (and from 2020-2025 the Global Health Strategy on Digital Health), some progress was identified by the WHO Regional Committee particularly with appropriate legislation or regulation. However, the only legislation survey was on legal protection of medical, patient or research data, with no enabling legislation, authorising access to or coverage of digital technologies, including telemedicine.[41]

## 2. Understanding Telemedicine Under Right to Health Positive Obligations

In contrast to the negative-bias discourse, human rights also serve as a source of positive obligations to invest in and promote health. This section examines how the right to health is framed as a basis for such obligations, with a view to maximising state capacity in delivering health services. It then provides examples of positive or substantive articulations of the right to health in the context of telemedicine. The right to health shifts the narratives from protection of freedoms and acts as a powerful driver for policymaking, resource mobilisation, and accountability, serving both as an advocacy tool and as a basis for legislative and policy development.[42]

When considering the framework for implementing economic and social rights in international law, the principles of progressive realisation and the use of maximum available resources offer a valuable lens for thinking about resource mobilisation and innovation in support of advancing substantive rights through state action and new technologies.[43] Enshrined in Article 2 of the

[32] World Health Organization, Consolidated Telemedicine Implementation Guide, 14–15.
[33] World Health Organization, Consolidated Telemedicine Implementation Guide, 16.
[34] World Health Organization, WHO Guideline, 28.
[35] World Health Organization, WHO Guideline, 54.
[36] World Health Organization, National eHealth Strategy Toolkit, 54.
[37] World Health Assembly, Resolution WHA58.28 eHealth, WHA58/2005/REC/1; May 16 –25 2005.
[38] World Health Organization, Global Strategy on Digital Health 2020-2025, 16.
[39] World Health Organization, Global Strategy on Digital Health 2020-2025, 16.
[40] Regional Committee for Africa, World Health Organisation, Progress Report on Utilizing eHealth Solutions, 6 September 2013; and 28 July 2023; Progress Report on Framework for Implementing the Global Strategy, 22 July 2024.
[41] Regional Committee for Africa, World Health Organisation, AFR/RC73/INF.DOC/3 28 (note 42).
[42] Rumbold, "Universal Health Coverage, Priority Setting, and the Human Right to Health," 713.
[43] ICESCR, Art. 2.

International Covenant on Economic, Social and Cultural Rights (ICESCR), these principles require states to act expeditiously and purposefully, employing all available means to continuously promote the right to health.[44]

Taken together, these principles imply that states must remain flexible and proactive, adopting a broad interpretation of 'resources' that encompasses not only financial assets but also regulatory and institutional measures.[45] This approach enables the identification and implementation of alternative policies where existing resources are insufficient to secure effective access to health services. For example, if no medical personnel with certain specialisations are available in a given location, a state may utilise telemedicine to connect remote populations to highly specialised clinical expertise. The introduction of neurosurgical remote procedures in regions lacking specialised care has been proposed as a means of realising the right to health if this is the only cost-effective or viable alternative.[46] While not mandatory, states may establish long-term policies by enshrining them in law with a human rights language. In 2021, the Portuguese Assembly of the Republic passed a resolution calling on the government to update its telehealth strategic plan and enact legislation codifying a formal 'right to telehealth, as part of citizens' rights.'[47]

Within the UN international human rights regime, this positive discourse, as an association between human rights–based positive obligations fulfilment and the adoption of telemedicine, remains relatively nascent, but it has been increasingly framed as a means to enhance equity and access to healthcare. The term telemedicine has been cited only sporadically in UN human rights bodies - appearing in approximately 200 documents since the early 2000s. The majority of these references have been issued since 2017 (17 documents), with the highest frequency recorded in 2024 (34 documents).[48] To demonstrate their commitment to fulfilling the right to health, states have occasionally identified telemedicine as one of the strategies or measures employed to guarantee access to healthcare in their submissions during the UN's periodic review process; these include submissions by Panama, to ensure healthcare in prisons, and Colombia, to ensure healthcare in remote areas.[49]

A more explicit connection between access to telemedicine and the implementation of the right to health as part of State obligations only emerged in 2021, when the Special Rapporteur on the right to health, Tlaleng Mofokeng, associated telemedicine with the removal of barriers to abortion in considering challenges and opportunities of sexual health and reproductive (SHR) rights during COVID-19.[50] The discourse of laws and regulations as an enabler of access to health with telemedicine gained more relevance, as early access to abortion was severely hindered when non-essential healthcare services were delayed or deprioritised, alongside mobility restrictions and health facility restructuring during COVID-19.[51] Telemedicine emerged as a valuable alternative, allowing for continued access to abortion services, requiring the revision of domestic laws blocking self-managed abortion through telemedicine.[52]

The heightened attention to telemedicine under Mofokeng's mandate coincided with her use of her position to undertake a comprehensive examination of the nexus between human rights and digital health, considering not only negative obligations but also positive ones to increase the availability of healthcare by the state. Drawing on standards of the availability, accessibility, acceptability and quality framework (AAAQ), the Special Rapporteur noted in 2022 that digital health is a high-impact strategy for health-system strengthening.[53] Despite the urgent need for safeguards and appropriate regulation, digital health was regarded as a practical approach perfectly compatible with the progressive realisation of the right to health. Telemedicine was cited by the Special Rapporteur as a relevant resource in improving human rights standards as to the availability of medical care in isolated areas, fulfilling SHR rights to provide access to abortion, prioritising marginalised or excluded populations (such as people with disabilities) affected by accessibility obstacles, and enhancing affordability for

[44] Chenwi, "Unpacking 'Progressive Realisation'."
[45] Balakrishnan, "Maximum Available Resources and Human Rights."
[46] Lassarén, "Telemedicine and the Right to Health."
[47] Resolução da Assembleia da República, nº 293/2021, para. 22.
[48] Data retrieved from the United Nations Digital Library using the search term "telemedicine" across human rights bodies, resulting in documents published between 1996 and 2025. See United Nations Digital Library, 'Search results for the term "telemedicine" across UN human rights bodies.' (United Nations, 1996–2025) https://digitallibrary.un.org accessed 28 July 2025.
[49] Human Rights Council, Report of the Working Group on the Universal Periodic Review – Colombia, A/HRC/10/82/Add.1 13 January 2009, 10; National Report Submitted in Accordance with Paragraph 15(a) of the Annex to Human Rights Council Resolution 5/1: Panama. A/HRC/WG.6/9/PAN/1/Rev.1, 24 August 2010, para. 59.
[50] United Nations General Assembly, Seventy-sixth session, Report of the Special Rapporteur, para. 43.
[51] Qaderi, "Abortion Services during the COVID-19 Pandemic," 2.
[52] Berro Pizzarossa, "Self-Managed Abortion," 26–27.
[53] Human Rights Council, Fifty-third session, Digital Innovation, Technologies and the Right to Health.

patients and health organisations.[54] To instrumentalise telemedicine as a human rights tool, close attention must also be given to policies to reduce the digital divide among lower-income communities, and secure online infrastructure and devices for the broadest digital accessibility.[55] A new focus on digital inclusion, alongside recognising internet access as an essential service, must be regarded as a vital right to health positive obligation.[56]

It is important to note that not all new health technologies have been directly referenced in statements or reports concerning health-system strengthening by human rights bodies, and in particular, in the specific contributions and contours of telemedicine in advancing health equity (except in limited contexts such as the focus on abortion inaccessibility during the COVID-19 pandemic). Certainly, one could still argue that state obligations to ensure access to all types of health technologies—including vaccines, medical devices, and medicines—are implicitly embedded in broader international human rights standards that govern human interactions with technology across various contexts. However, this overlooks the particular human rights implications and standards for telemedicine (both in positive and negative obligations).

Even the most recent standard-setting effort, such as General Comment No. 25 (2020) on the right to access to science, takes a more generic approach.[57] The Comment does not focus specifically on digital health or telemedicine. Instead, the notion of access to science is interpreted in an expansive way, encompassing both the outcomes of scientific progress and access to its research and development processes. This cross-cutting concept includes the generation, dissemination, and enjoyment of scientific benefits across various domains, such as work, media, education, and politics. While General Comment No. 25 discusses the regulation of future or speculative technologies and emphasises knowledge dissemination and access during the research process, many exact applications of technologies referenced are left undefined as part of broad fields or areas still under study ('artificial intelligence, robotics, 3D printing, biotechnology, genetic engineering, quantum computers and management of big data').[58] These cannot be reasonably compared to medical practices such as telemedicine, which has been extensively researched and whose risks and benefits are relatively well established through years of practice and systematic literature reviews.

Moreover, General Comment No. 25 is not dedicated to medical technologies, despite recommending that States 'ensure access to those applications of scientific progress that are critical to the enjoyment of the right to health.'[59] Nor does it study telemedicine in particular. As such, it cannot be assumed, for instance, that references to 'gender-sensitive approaches' necessarily imply an endorsement of telemedicine as a means to promote access to sexual and reproductive health rights.[60]

The notion of precautionary principle may have some relevance to telemedicine, but in a more limited way than technologies in research and development phase, such as robotics or bioengineering. General Comment No. 25 does suggest that '(s)tates parties have to adopt policies and measures that expand the benefits of these new technologies while at the same time reducing their risks.'[61] Yet due to the wide spectrum of emerging technologies considered, the Committee's pledge to 'constantly monitor the impact of these new technologies on the enjoyment of economic, social and cultural rights' has not led to specific recommendations addressing the particular risks and benefits of telemedicine in depth.[62]

The nature of risks in telemedicine may also be different to those other new cutting-edge technologies in medicine and other human fields. Risks are to be understood as those that: '(a) threaten human life or health; (b) are serious and effectively irreversible; (c) are inequitable to present or future generations; or (d) are imposed without adequate consideration of the human rights of those affected.' [63] As the safety and effectiveness of telemedicine has been more clearly established, the application of the precautionary principle would mainly relate to potential infringements of negative rights—particularly the right to privacy. However, such risks do not necessarily or most commonly constitute a direct threat to human life or health. Even if a precautionary approach is applied in response to possible threats to certain civil and political rights—often the primary concern in digital health—this would not justify a blanket prohibition of telemedicine. As the Committee has emphasised, *'the precautionary principle should not hinder and prevent scientific progress, which is beneficial for humanity.'*[64]

[54] Human Rights Council, "Digital Innovation, Technologies and the Right to Health" paras 31, 38, 43 and 54.
[55] Marinelli, "Telemedicine, Telepsychiatry and COVID-19 Pandemic," 6; Sieck, "Digital Inclusion as a Social Determinant of Health."
[56] Alami, "Virtual Care and the Inverse Care Law," 8.
[57] Committee on Economic, Social and Cultural Rights (CESCR), General Comment No. 25.
[58] CESCR, General Comment No. 25, para 72.
[59] CESCR, General Comment No. 25, para 52.
[60] CESCR, General Comment No. 25, para 33.
[61] CESCR, General Comment No. 25, para 74.
[62] CESCR, General Comment No. 25, para 74.
[63] CESCR, General Comment No. 25, para 56.
[64] CESCR, General Comment No. 25, para 57.

### *2.1 Legislative Action as Human Rights Positive Obligations - Patterns of 'Ethical Paralysis' and 'Legislative Neglect' for Enabling Telemedicine Laws in Domestic Jurisdictions*

Legislative and regulatory action is a primary means of fulfilling obligations under the right to health as developed in international law. CESCR General Comment No. 25 identifies, as a core obligation of the right to access to science, the elimination of laws, policies and practices that unjustifiably restrict access to facilities, services, goods and information related to science and its application.[65] Indeed, the Covenant, under Article 2, places special weight on the contribution of laws as one of the steps to progressively realise rights by all available means, noting in particular 'the adoption of legislative measures.'[66]

Even though enabling legislation is a core type of state action towards the right to health, the telemedicine regulatory environment has been inadequate in many countries. This section presents two forms of obstructive relationships (often acting in tandem) between law and telemedicine that pose a threat to the right to health, which will be better illustrated later with the case study in Brazil. The first is 'ethical paralysis' – excessive apprehension surrounding the risks of digital health interventions – and the second is 'legislative neglect' – the unnecessary absence of appropriate legal frameworks and regulations. This will allow us to understand how, in Brazil, substantive consideration relevant to the right to health supported reframing obligations to enact supportive telemedicine legislation.

In this sense, telemedicine regulations can institute outright prohibitions or a hostile environment that discourages the practice, either as a direct ban on long-distance care, or indirect restriction by prohibiting related practices, such as remote prescribing.[67] An International Bar Association survey among 66 countries noted that 27 had restrictions or prohibitions on telemedicine, and changed policy during the pandemic (Argentina, Belgium, Brazil, Chile, Czech Republic, Egypt, Germany Guatemala, India, Japan, Kenya, Mexico, Morocco, Nigeria, Pakistan, Peru, Philippines, Qatar, Russia, Saudi Arabia, South Africa, Thailand, Ukraine, United Arab Emirates, Uruguay, Vietnam and Zimbabwe).[68] This does not mean that other countries do not have regulatory issues today, or effectively address the uncertainties around the status of telemedicine, as even countries that lifted barriers or had no prior bans may still not fully institutionalise and regulate telemedicine in a way that promotes its use. In Latin America, a 2022 Inter-American Development Bank Report found that the lack of clear laws constrained the full implementation of telemedicine in the region, even though at the time, Colombia, Panama, Paraguay, Peru, and Uruguay did incorporate positive rights-based frameworks into legislation, such as principles of universality and accessibility of healthcare.[69] As suggested here, a form of ethical paralysis or legislative omission may occur because of indirect regulatory concerns that do not recognise telemedicine as a good medical standard of care – even in countries without laws limiting the exercise of telemedicine. This may be the consequence of indirect regulation made by conferring regulatory competence to statutory or state-sanctioned medical agencies, councils or authorities. In jurisdictions where telemedicine is not explicitly banned, medical regulatory bodies may enforce codes and guidelines requiring in-person medical practice, as in Spain (until 2022).[70] In these conditions, the lawful exercise of telemedicine is recognised only when approved by agencies or professional bodies that may issue codes of practice or ethical standards serving as *de facto* regulation. Legislation, partly as a defence of the medical profession, may create 'medical guarantees' or 'exclusive practice' for certain medical procedures, while simultaneously delegating authority to regulate these procedures to independent national medical bodies. Such a dual arrangement can limit the scope of telemedicine, when these medical bodies restrict authorisation to in-person care only.

In South Africa, the broader implementation of telemedicine remained stalled for several years due to the restrictive provisions in the guidance issued by the state's Health Professions Council (where teleconsultation was only authorised in established doctor-patient relationships).[71] These rules were briefly lifted during the pandemic, allowing emergency-care remote consultations for doctors to include new patients.[72] In 2021, *the General Ethical Guidelines for Good Practice in Telehealth* were adopted, permitting consultations with first-time patients.

## 3. Developing Telemedicine in Brazil with Legal Foundation on Hold

Geographic inequalities have persistently influenced access to healthcare across the Brazilian health system. Covering a vast territory of 8.5 million km² – slightly smaller than the whole of Europe – Brazil's healthcare workforce is predominantly

[65] CESCR, General Comment No. 25, para 52.
[66] ICESCR, Article 2.
[67] Wernick, "Prohibitions on Long Distance Treatment."
[68] International Bar Association, "IBA Healthcare and Life Sciences Law Committee Telemedicine Survey."
[69] Aizenberg, Regulatory Framework for Telemedicine, 15.
[70] Consejo General de Colegios Oficiales de Médicos, Código de Deontología Médica - Guía de Ética Médica (2011).
[71] Prinsen, "Challenges to and Regulation of Telemedicine in South Africa," 219–20.
[72] Townsend, "The HPCSA's Telemedicine Guidance during COVID-19."

concentrated in densely populated or wealthier urban regions. Despite government targets to reduce location-based disparities in over 50 years, little progress has been made to equalise access to care, largely because doctors tend to live, train and practise in metropolitan areas.[73] In the six most developed states, the per capita index of medical professionals is higher than Japan or the UK (over 3.2 per thousand inhabitants), while Amazon region states may have less than half that figure.[74] Disparities also exist between rural towns and state capitals, with the latter housing 53% of the medical workforce despite accounting for only 23% of the population.[75]

The Brazilian legislative move to authorise teleconsultations illustrates how minimal positive action through law—such as simply making the use of technology permissible—can shift the emphasis from the protection of potential risks (ethical paralysis) to the fulfilment of positive obligations aimed at increasing equity and access to healthcare (to correct a legislative omission). It was only with the enactment of new statutes by Congress—temporarily in 2020 during COVID-19 and permanently in 2022—authorising direct doctor-to-patient health services via telemedicine that ensuring access to care became a priority, effectively removing the regulatory roadblock that had existed until then.[76] These legislative measures overcame barriers imposed by the Federal Council of Medicine (CFM), the body responsible for medical accreditation and professional standards, which had previously maintained a highly conservative position on telemedicine.

The regulatory environment of telemedicine in Brazil has reflected an obstructive backdrop since the 2000s because administrative resolutions regulating the exercise of medicine had virtually banned the use of teleconsultations. The first Council regulation passed in 2002 was too brief to give guidance on teleconsultation requirements; telemedicine activities were described as 'assistance, education, and research' – teleconsultations were not explicitly approved.[77] Making express reference to the 'World Medical Association Tel Aviv Declaration,' the regulation accepted underlying principles to prioritise and protect face-to-face consultations and physicians' autonomy.[78] In 2009, the Council further tightened regulations, introducing the new *Code of Medical Ethics* through CFM Resolution No. 1,931/2009,[79] prohibiting doctors from prescribing treatments or performing procedures without a direct patient examination, except in cases of urgency or emergency (and requiring a subsequent in-person consultation).

Prior to the COVID-19 pandemic, the practice of medicine by distance gained more prominence in the Brazilian health system as a national development enterprise (despite professional regulations creating a *de facto* ban on teleconsultations).[80] The early initiatives of telehealth were headed by public university networks, designing technological environments and collaborations mainly concerned with knowledge-sharing, expert referral, and training to support in-person care delivery – rather than introducing supplementary remote doctor-patient platforms.[81] Because of a mismatch between laws and local capacities, the full potential of implementation of the right to health through remote consultation was highly hampered, as the government was making good infrastructure progress to allow patients to take advantage of telehealth systems without doctors being allowed to provide appointments via telemedicine.

The conflicting climate engendered parallel legal scenarios: in the last 20 years, the bulk of laws and regulations promulgated by the government concentrated on telehealth programmes (but not telemedicine and remote patient treatment and consultation).[82] From the 2000s to the later 2010s, federal policies (and supporting legislation) were implemented to modernise primary care units and establish a public telehealth system, in particular to enhance connectivity between health practitioners located in remote regions with university experts, to support diagnosis, and provide continued education.[83] At the regional or state level, programmes were carried out for different public health goals, but as they never entailed videoconference or direct patient consultations, they generally fell within other forms of telehealth: teleconsulting among clinical practitioners, telediagnosis, tele-education and second opinions (tele-advice). The federal legislation remained silent on direct-to-patient healthcare in Brazil until COVID-19, when for the first time, temporary laws on doctor-patient consultations by long-distance technologies were passed through emergency temporary legislation.[84]

[73] Russo, "Effect of More Doctors Program," 1586.
[74] CFM, "CFM | CRMs - Demografia Médica."
[75] CFM, "CFM | CRMs - Demografia Médica."
[76] Brazil, Lei nº 13.989, 15 April 2020,
[77] CFM, Resolução CFM nº 1.643/2002.
[78] World Medical Association. Statement on Accountability, Responsibilities and Ethical Guidelines.
[79] CFM, Resolução nº 1.931/2009.
[80] Lisboa, "A história da telemedicina no Brasil."
[81] Botrungno, "The Telehealth Brasil Networks," 047.
[82] Silva, "Three Decades of Telemedicine in Brazil."
[83] Silva, "Telemedicina: análise da entrada da telessaúde na agenda política brasileira."
[84] Brazil, Lei nº 13.989, 15 April 2020; Lei nº 14.510, 27 December 2022.

Before the Congress statutory interventions (in 2020 and 2022), the approach of the medical community via its professional authority was always overly restrictive. An attempt to regulate telemedicine in Brazil was made by the Council in 2019, just before the pandemic. However, an extraordinary backlash from doctors put the regulator under fire. The Council revoked the resolution after receiving over 1400 comments from its affiliates, promising a more participatory discussion in order to generate a new text.[85] As the COVID-19 crisis broke, the 2002 resolution was still good law: the Council clarified that any temporary authorisation for teleconsultations during the pandemic was intended solely for emergency response. Ideally, teleconsultations were to be used only for monitoring and ongoing care, not as a replacement for direct medical contact.[86] The suspension of the telemedicine ban without prior medical relationship or support from another doctor came via a letter sent by the Council to the Ministry of Health, in March of the same year. [87] At the time, the Council was forced to give ground to the public outcry and public health needs emerging from the constraints imposed by social-distancing rules. Legally, the autonomy of the Council was threatened by Congress, which passed an emergency statute in April 2020 authorising the implementation of telemedicine during the public health emergency.[88]

### *3.1 Assessing the Ethical Paralysis Promoted by Doctors*

Academic analysis of the narrative presented by doctors observed some misleading ethical concerns aired to maintain a 'restraint of trade' with the expected new telemedicine competition. For Soraia De Camargo Catapan and Maria Cristina Marino Calvo, the arguments against the Council's formalisation of telemedicine were based on not-totally-substantiated predictions that the new technology could deteriorate working conditions, damage career progression, exploit professionals by private insurers, convert clinics into call centres, and seriously transgress deontological obligations.[89] In a study charting the controversies among the medical groups in Brazil over telemedicine, drawing on communications made to the Council and interviews with practitioners, Daniela de Cunto Bueno and Elaine Tavares identified the presence of medical corporatism.[90] This attitude is formed by doctors' fears of 'loss of space to other health professionals, the domination of the market by health insurance companies and large hospitals, and the loss of territory to other doctors.'[91]

A protectionist and anti-competitive approach has also been evident in previous policies aimed at increasing the number of qualified practitioners in remote areas of the country. CFM has been a fierce defender of their professional prerogatives, being the leading institution in domestic litigation for the purpose of market exclusivity and limiting competition with other healthcare workers.[92] In 2013, the medical establishment strongly opposed the government's *Mais Médicos* (More Doctors) programme, which sought to launch new medical schools in underserved regions and recruit foreign doctors, citing ethical and legal concerns. The medical lobby in Brazil was instrumental in pushing for legislation, such as the 2013 Medical Act Statute, which restricted certain healthcare practices to licensed physicians.[93]

Concerns about the deterioration of medical working conditions may be plausible, but they are not necessarily borne out following the legalisation allowing teleconsultations—at least when measured by the number of labour complaints brought in this context. The Brazilian Labour Justice system is both high-volume and saturated, handling around four million cases annually in 2024 across the Superior Labour Court, 24 Regional Labour Courts, and 1,587 Labour Courts of First Instance.[94] While it is still early to assess the litigation impact of telemedicine's expansion, rulings at the regional level rarely involve claims by telemedicine practitioners seeking recognition of an employment relationship. Between 1 January 2022 and 11 August 2024, the portal lists 26 appellate decisions from Regional Labour Courts citing both 'telemedicine' and 'determination of employee status' (the indexing category used in case headnotes).[95] Of these, only three were lodged by doctors working in telemedicine, and only one awarded statutory rights on the basis of employment mischaracterisation.[96] There were five duplicate decisions, and six judgments that involved telemedicine companies but it could not be determined whether those had doctors as claimants nor the nature of the work performed (by telemedicine).

[85] Canto, "Teledoctors without Borders," 179.
[86] CFM. "CFM Esclarece Critérios Vigentes Para Atendimento a Distância No Brasil."
[87] CFM, Ofício CFM nº 1756/2020-Cojur.
[88] Brazil, Lei nº 13.989, 15 April 2020.
[89] Catapan, "Brazilian Macro-Institutional Context to implement Medical Teleconsultation," 34–35.
[90] Bueno, "Cartografia Das Controvérsias Da Telemedicina No Brasil."
[91] Bueno, "Cartografia Das Controvérsias Da Telemedicina No Brasil," 14.
[92] Romão, "A competência normativa frente aos novos atores políticos," 8.
[93] Gomes, "An Analysis of the Brazilian Medical Associations Struggles Confronting the More Doctors Program."
[94] Tribunal Superior do Trabalho, "Relatório Geral - Estatística - TST."
[95] Tribunal de Contas da União, FALCÃO – Sistema de busca de jurisprudência https://jurisprudencia.jt.jus.br/jurisprudencia-nacional/pesquisa.
[96] Tribunal Regional do Trabalho da 1ª Região (TRT-1), Processo 0100597-29.2023.5.01.0030; Tribunal Regional do Trabalho da 2ª Região (TRT-2), Processos 1000235-24.2023.5.02.0434 and 1001370-97.2020.5.02.0039

Nonetheless, the rise of precarious work and the proliferation of 'bogus contracts' remain pressing realities in Brazil. This practice—known as *pejotização* (from *PJ*, meaning 'legal person')—involves misclassifying workers as self-employed service providers through the creation of a sham company, despite the existence of an employment relationship. Telemedicine could potentially facilitate such fraudulent arrangements, as remote work may make it harder for doctors to demonstrate the element of direct subordination, a requirement for recognising an employment relationship. In 2024, the Brazilian Supreme Federal Court (*Supremo Tribunal Federal*, STF), in light of legislative changes introduced in 2017 that allow companies to outsource core activities to agency workers, in a case brought by a medical doctor, held that the self-employment model may be enforceable as a valid agreement, particularly in liberal professions such as medicine, on the basis of individual freedom of contract.[97] In 2025, the Supreme Court suspended all claims concerning the misclassification of contractors, in a case where it declared the matter to have 'general repercussion.' [98] Procedurally, this filter decision means that an appeal on the issue is deemed constitutionally of broad impact, and that the subsequent decision will serve as binding precedent for all lower courts. That said, the deterioration of employment status and labour rights is a broader systemic phenomenon, and there is currently no evidence that telemedicine has contributed to an increase in litigation in this regard. Preventing contractual fraud does not require an outright prohibition on doctor–patient telemedicine consultations at the expense of reduced healthcare access, and the Brazilian professional body could have pursued specific regulatory strategies to prevent erosion of workers' rights, or enhanced union and auditing bodies inspections.

### *3.2 Legislating Telemedicine: How Right To Health Aspirations Unlocked Ethical Paralysis*

Ethical concerns remained high during the legislative process that led to the congressional authorisation of teleconsultations. During the COVID-19 crisis, in 2020, medical professionals' scepticism about Brazil's telemedicine policy was still high, even though its importance and application during lockdown became evident. In a 2020 survey, 2,258 São Paulo doctors revealed that 44% identified inadequate regulation as a significant barrier to providing telemedicine services.[99] Additionally, 31% expressed concerns about the potential devaluation of medical practice.[100] In 2021, during a public hearing at Congress, representatives of the Council stated that they support regulation mandating that, at a minimum, the first patient appointment must be conducted in person.[101] Under the same law that temporarily legalised the use of telemedicine during the public health emergency, the Council was legally obligated to regulate the matter once the crisis had ended – yet, the Council failed to act. In 2022, Congress intervened, passing new legislation recognising telehealth as a legitimate form of healthcare unless its limitation is medically justifiable (i.e. the procedure is not safe or effective at distance).[102] This forced the Council to finally regulate the matter, establishing that teleconsultations are permissible.[103]

The statutory interventions were key to overcoming the regulatory barrier erected by the medical professional organisation in Brazil, which used ethical red flags to disproportionately restrict the use of teleconsultations, perpetuating ethical paralysis and legislative neglect. This section will suggest that the 2022 statute, despite embedding a dual set of motivations, from both patients' rights and doctors' professional prerogatives, is an example of internalising the substantive principles of the right to health by pursuing more equitable access to healthcare (instead of only being driven by the idea of containing risks). This section will demonstrate that the legislative intervention followed a strong commitment to access to health as a human right in order to rectify such a legislative omission, while noting that it may have overlooked certain areas of attention for the safe use of telemedicine. Two salient issues not directly covered by the new telemedicine regulation in Brazil are safeguards against fraud from online services, and the possibility of AI assistance or replacement of medical decisions and procedures.

One argument explaining the Brazilian medical community's conversion to telemedicine is that some international organisations (WHO, and the Pan-American Health Organisation, PAHO) exerted normative influence over doctors to relax regulations.[104] Though there were many guidelines and recommendations supporting fast-tracking telemedicine in international discourse, the references and drivers of regulatory change were more internal, determined by a legislative ambition among Congress members to sponsor a bill to achieve access to health (during and after the crises). The Brazilian medical regulatory agency ultimately submitted to legislative pressure by only subsidiarily regulating a matter already sanctioned by Congress.

[97] Supremo Tribunal Federal, Reclamação (RCL) 65011.
[98] Supremo Tribunal Federal, ARE 1532603.
[99] Associação Paulista de Medicina (APM), "Pesquisa Conectividade e Saúde Digital."
[100] Associação Paulista de Medicina (APM), "Pesquisa Conectividade e Saúde Digital."
[101] Haje, "Conselho Federal Defende Que Primeira Consulta."
[102] Brazil, Lei nº 14.510, 27 December 2022.
[103] CFM, Resolução nº 2.370/2023.
[104] De Araújo, "Alignment and Specifics of Brazilian Health Agencies."

Passed by the Brazilian Congress in 2022, the statute culminated in a rich and purposeful framework that integrates rights-based, ethically-driven, and patient-centred principles, in a convergence of patient and medical professional concerns, as outlined below:

> I - autonomy of the healthcare professional;
> II - free and informed consent of the patient;
> III - the right to refuse care in the telehealth modality, with the guarantee of in-person care whenever requested;
> IV - dignity and appreciation of the healthcare professional;
> V - safe and quality care for the patient;
> VI - confidentiality of data;
> VII - promotion of universal access for Brazilians to health actions and services;
> VIII - strict observance of the legal responsibilities of each profession and
> IX - digital responsibility.[105]

The selection of principles established by the new legislation can be partly attributed to Brazil's legal environment and its dominant public health culture. Some principles reflect the common perception of the public health system as a cornerstone of a democratic society, best reflected by the Brazilian constitutional right to health.[106] Brazilian legal culture favours rights-based principles enshrined in law, particularly in the Constitution, where the regulation of the health system is closely intertwined with the organisation of the state in detailed constitutional provisions on the structure of public health services.[107] Similarly, policy documents and programmes within the national health system (SUS – Unified Health System, in Portuguese) find their normative foundation in constitutional rights. In 2022, the Tribunal de Contas da União (TCU), Brazil's Federal Court of Accounts, an audit institution responsible for overseeing the use of public funds and policies at the federal level, delivered a monitoring report on information and technology governance at the Ministry of Health. The report asserted that 'in a country as diverse and vast as Brazil, where health is a universal right guaranteed by the Constitution […]investing in a digital health strategy is not just an innovative action, but a vital necessity for the sustainability of public health.'[108] The document also notes that the digital health policy 'seeks to ensure that every citizen, regardless of their location, has equitable, efficient, and high-quality access to health services.'[109]

This right to health culture can be clearly felt in the justificatory notes to the original bill, further emphasised by the rapporteur in the lower house (Câmara dos Deputados).[110] The rationale behind the legislation, as explicitly stated in the introductory reports, was to broaden the availability of health services, integrally aligned with the normative framing of progressive realisation under the right to health. The introductory justification for the bill states that 'the provision of virtual healthcare options, by definition, increases the population's access to medical care,' listing certain vulnerabilised populations as priority groups, such as 'the elderly, people with mobility problems and the carceral population.'[111] It also confirmed that telehealth services are a crucial strategy within public policy for a country of vast territorial dimensions, having been successfully tested and safely deployed during the pandemic. The adoption of the 'principle of universal access' in the text was justified by a newfound view brought by COVID-19, fostering the idea that telemedicine should be integrated into the health system 'for healthcare realisation.'[112] It is important to observe that the travaux préparatoire has not engaged with the other principles in more depth as to their meaning and reasons for inclusion. Certain principles merely reaffirm obligations already enshrined in law, offering no additional protections to patients beyond those already established in existing national legislation governing consumer rights and personal data protection. Brazilian legislation has consistently aligned with international best practices, and taken a progressive stance on recognising consumer vulnerabilities, as well as regulating the internet and personal data.[113] This may have influenced the drafters' decision to incorporate these principles. The inclusion of digital responsibility (Principle IX) reflects the principle of accountability in the 2018 General Data Protection Law.[114] Responsibility, in this context, refers to

[105] Brazil, Lei Nº 8.089, 19 September 1990, art. 26-A, amended by Lei 14.510, 27 December 2022.
[106] Ferraz, Health as a Human Right: The Politics and Judicialisation of Health in Brazil.
[107] Brazil, Constituição da República Federativa do Brasil, arts. 196–200.
[108] Tribunal de Contas da União (TCU), Acórdão 2463/2022, Plenário.
[109] Tribunal de Contas da União (TCU), Acórdão 2463/2022, Plenário.
[110] Câmara dos Deputados, PL 696/2020.
[111] Câmara dos Deputados. 2020. Parecer de Plenário pelas Comissões de Seguridade Social e Família e de Constituição e Justiça ao Projeto de Lei nº 1998, de 2020.
[112] Câmara dos Deputados. 2020. Parecer de Plenário pelas Comissões de Seguridade Social e Família e de Constituição e Justiça ao Projeto de Lei nº 1998, de 2020.
[113] de Souza, "The Brazilian Law on Personal Data Protection."
[114] Brazil, Lei no. 13.709, August 2018.

the overarching obligation of organisations handling and storing personal data to implement preventative and proactive policies and procedures. These measures ensure robust data governance and protect individuals, aiming to mitigate data-related risks and harms.

If some principles are the result of general legislation, others mirror political interests at play from the medical side. The principles of 'autonomy of healthcare professionals' and 'dignity and recognition of healthcare professionals' align with the medical community's strong reservations about telemedicine. The Council was one of the few organisations, unlike any patient coalitions, to hold direct meetings with members of Congress and participate in public hearings to share their perspectives on telemedicine provision.[115] During the bill's passage through Congress, Council representatives clearly expressed opposition to permitting teleconsultations for initial clinical assessments, insisting that if such consultations are necessary, they should be promptly followed by an in-person appointment.

This inclination towards physical care was to some extent linked with principle III, which guarantees patients the right to in-person appointments if they wish. This principle establishes an absolute and autonomous right to access face-to-face appointments without need for justification, in line with patient consent. In the literature, no such explicit provision has been reported in other jurisdictions. This obligation to provide care in the preferred mode was already agreed upon by the courts, and can be directly enforced by patients. In 2023, the Court of Appeal of the State of São Paulo (Tribunal de Justiça de São Paulo) ordered a private-care provider to make available an in-clinic appointment with a neuropediatric specialist for a 3-year-old.[116] The decision noted that, even if there was remote triage, any further consultation would require unequivocal acceptance through an informed-consent document.

The focus on trying to resolve the problem of an effective regulatory ban on teleconsultation caused by mandatory medical standards did not answer all possible questions and risks involved in this mode of care. Regarding telemedicine fraud, scams rose significantly globally during the pandemic, as telemedicine attained widespread implementation (in the US, a single operation in 2020 revealed at least USD4.5 billion in telemedicine scams).[117] Telemedicine fraud can take many forms, e.g., providers requesting payments for services not performed, or duplicating bills.[118] These schemes were well documented in the US during the pandemic, but Brazilian authorities currently lack official data.

With respect to AI, the decision-making assisted system may fast-track referrals, diagnoses, and service access, by being fully merged or combined with telemedicine consultations.[119] Brazilian law and the medical council made no rules to determine, for instance, the level of control and supervision doctors must hold over these software and technologies, nor did they place any responsibility to clearly communicate risks nor more specific rules on consent for non-human medical assessment. Local software developers and entrepreneurs interested in exploring the market opened by legal authorisation of teleconsultations are now gouging the regulatory limits of AI in telemedicine for new services. In Santa Catarina State, following a formal consultation request from a software developer, the regional medical council asserted that 'the use of AI in telemedicine has no explicit restrictions on its application and can serve as a means of optimising care.' [120] While some of the report's considerations come from an ethical basis (not explicit regulations), it seems as though the regional body also understands that there are still obligations to patients that would not decrease doctors' responsibilities in AI teleconsultations. Doctors remain the sole responsible person, and any breach of care or misconduct is not attributable to the technology; the doctor is obliged to ensure the confidentiality of patients' data and is liable for supervising the quality of care provided with AI assistance.[121] The report recommends doctors inform patients of AI use in teleconsultations and any risks involved, noting that in-person care is the gold standard, and triages or service selection are exclusively medical acts; AI instructions or indications do not replace final doctor judgments.[122] However, in this guidance, it is unclear where those ethical considerations could be directly enforced or discussed during teleconsultations, and what type of limits can be imposed to prevent bias and distortions in AI decision-making that may not be easily noticed by patients.

[115] CFM, "Presidente do CFM reúne-se com Arthur Lira."
[116] 5ª Câmara de Direito Privado do Tribunal de Justiça de São Paulo, 2294692-70.2023.8.26.0000
[117] Copeland, "Telemedicine Scams," 76.
[118] Copeland, "Telemedicine Scams," 76; Stephenson, "Report Dissects Fraud Risk."
[119] Sharma, "Addressing the Challenges of AI-Based Telemedicine."
[120] CRM-SC nº: 45/2023
[121] CRM-SC nº: 45/2023.
[122] CRM-SC Nº: 45/2023.

### *3.2 Effects of Telemedicine's Regulatory Shift on the Realisation of the Right to Health*

With the endorsement of telemedicine through new regulations (the temporary pandemic response in 2020, permanently confirmed in 2022), the advantages of this model of care are now well documented in Brazil. For Soraia de Camargo Catapan et. al., the regulation of teleconsultation during the COVID-19 crisis drastically altered the Brazilian dialogue on telecare, thanks to the fast-paced development of experiences in health system growth.[123] Randomised clinical trials with patients with diabetes indicated that teleconsultations are not clinically inferior to in-person treatment.[124] This progress has inspired the confidence that telemedicine can be 'part of the solution,' and is recognised as a measure to help reduce inequality in healthcare across the country.[125]

From 2023 to 2024, 4.6 million telemedicine services—including teleconsultations—were provided by the national health system.[126] During this time, healthcare providers quickly perceived opportunities that had been previously missed due to telemedicine restrictions. Studies in Brazil suggest higher patient adherence to treatments, strengthened coordination between teams and specialists for patient care, and better use of resources and prioritisation with remote patient triage.[127] The availability of teleconsultation in the Brazilian health system has grown steadily in both private and public systems, and can be accessed from 22% of healthcare units, mainly driven by supply in public health facilities in peripheral regions of the North and Northeast (locations with the lowest concentration of doctors in Brazil).[128]

In connecting places with a limited medical workforce, remote consultations had a profound impact on indigenous communities. The recognition of telemedicine healthcare as a legitimate form of realising the right to health was further reinforced by the judiciary. A constitutional complaint reviewed by the Brazilian Supreme Court addresses a state of unconstitutional affairs – a widespread violation of human rights – concerning the failure to implement public policies ensuring the right to health for these communities.[129] In 2024, an agreement between indigenous collective representatives and the government was approved and ratified by the Court. This judicial settlement outlines a series of measures to secure healthcare access for indigenous peoples, with broadening use of telemedicine and improving internet connection in the region a focused part of the strategic plan.[130]

## Conclusions

This article argues for a more nuanced understanding of how legal frameworks and human rights can be mobilised to support equitable access to digital health technologies, by engaging with rights not only as risk-mitigation. It shows how the legal discourse about digital health and data harms (through the discussed WHO guidance on digital health and telemedicine) holds a negative bias towards new technologies, and human rights framings may not fit squarely with the usages and needs of a legal framework in the pursuit of access to healthcare. Telemedicine can serve as a tool for health systems development, and can be linked to positive steps. Experiences of rights-based discourse from countries like Brazil illustrate that a narrow emphasis on ethical and safeguarding concerns – often led by expert communities – can inadvertently obstruct forward-looking health policies, especially in resource-constrained environments and with geographical barriers that cannot be overcome by traditional technologies and available medical capacity. In light of the undertaken legal and policy review, governments, such as in Brazil, can in practice associate digital technologies with the fulfilment of human rights obligations and have legislation with standards echoing positive obligations of the right to health.

Certainly, the common concerns about consent and privacy remain (and Brazil shows that a pro-access rights discourse alone cannot rise to the challenge of possible misuses of new technologies). Yet, while protecting patient data and ensuring informed consent are vital, these objectives must not become the holy grail of conversations about health digitalisation, when addressing deeply entrenched inequalities in healthcare access and interpreting state human rights obligations. This stance will help broaden the ethical and normative agenda in researching digital health (with special attention to telemedicine) when it comes to the role of laws and human rights in issues of access and quality of care, where no traditional options of health delivery are available or feasible, including in times of public health emergencies.[131]

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[123] Catapan, "Telecare in the Brazilian Unified Health System." 4.
[124] Gomes Rodrigues, "Teleconsultation on Patients with Type 2 Diabetes."
[125] Oliveira, "Public Telemedicine Policy in Brazilian Unified Health System," 10.
[126] Agência Brasil, "Estudo Mostra Que Teleconsulta."
[127] Nunes, "A Wake-up Call on the Importance of Telemedicine"; Scheffer, "The Multiple Uses of Telemedicine during the Pandemic."
[128] Brazilian Network Information Center, "Survey on the Use of Information and Communication Technologies," 152.
[129] Supremo Tribunal Federal, ARE 1532603
[130] Coordenação-Geral de Demandas de Órgãos Externos da Saúde Indígenas, Nota Técnica nº 7/2024-SESAI/CGOEX/SESAI/GAB/SESAI/MS, 25 March 2024, 3.3.6-7.
[131] Kaplan, "Ethics, Guidelines, Standards, and Policy," 107–8.

As telemedicine continues to be institutionalised globally, legal and ethical discourse must shift from being predominantly risk-averse to combining caution with practical solutions that enable the realisation of the right to health. In this context, law is not merely a shield – it is also a scaffold upon which inclusive and resilient health systems can be built, to avoid legal uncertainty and create prompt technology adoption, and to reduce the unbearable cost of no access to care.

Human rights may offer a powerful discursive platform to articulate and reinforce state responsibilities in expanding access to healthcare, particularly in developing countries. In Sub-Saharan Africa, where access to the internet is available for 37% of the population on average, it is vital to question why human rights discourse is often disproportionately focused on mitigating hypothetical risks or digital harms, while neglecting the equally pressing, evidence-abundant positive progress digital technologies can make in remote areas.[132] The digital realm holds enormous potential for rights-realisation, and local community empowerment through digital technologies and alternative strategies can serve as a counter-narrative to longstanding (Afro)pessimism in international development.[133] This focus is a huge departure for research, as a rights-based approach may be concerned with how law creates a positive environment for new technologies. It demands more attention to questions about rules that can be inhibitory or detrimental, and where overregulation represents a risk, allowing inequalities to exist in low-resources settings.

This approach also assists us in opening our minds to engaging with digital health and human rights beyond the lens of privatised healthcare systems, and challenging previous assumptions of the primacy of private actors in shaping access to services. This perspective risks overlooking the essential role of the state in fulfilling positive obligations to guarantee healthcare. In regions where health systems are weak and private sector interests dominate, rights-based frameworks must be employed not only to constrain market exploitation, but also to create pathways for public investment in inclusive digital health infrastructure. Concerns about data extraction and privacy, often expressed in post-colonial terms, should not obscure the urgent need to expand access to healthcare – particularly when the potential benefits of telemedicine are well-established.

[132] World Bank Open Data, “World Bank Open Data.”
[133] Machirori, "How TikTok Trends Challenged Afro-Pessimism during COVID-19”; Mkono, “The ‘Afro-Positive Turn’.”

## Bibliography


Agência Brasil. "Estudo Mostra Que Teleconsulta é Eficaz No Acompanhamento Médico." Agência Brasil, 30 March 2025. https://agenciabrasil.ebc.com.br/saude/noticia/2025-03/estudo-mostra-que-teleconsulta-e-eficaz-no-acompanhamento-medico.

Aizenberg, Marisa. *Regulatory Framework for Telemedicine*. Inter-American Development Bank, 2022. https://doi.org/10.3233/SHTI200696.

Alami, Hassane, Pascale Lehoux, Sara E. Shaw, Chrysanthi Papoutsi, Sarah Rybczynska-Bunt and Jean-Paul Fortin. "Virtual Care and the Inverse Care Law: Implications for Policy, Practice, Research, Public and Patients." *International Journal of Environmental Research and Public Health* 19, no 17 (2022): 10591. https://doi.org/10.3390/ijerph191710591.

Albrecht, Kat and Brian Citro. "Data Control and Surveillance in the Global TB Response: A Human Rights Analysis." *Law, Technology and Humans* 2 (2020): 107. https://doi.org/10.5204/lthj.v2i1.1487.

Arora, Payal. "The Privilege of Pessimism: The Politics of Despair towards the Digital and the Moral Imperative to Hope." *Dialogues on Digital Society* 1, no 1 (2024): 33-36. https://doi.org/10.1177/29768640241252103.

Associação Paulista de Medicina (APM). "Pesquisa Conectividade e Saúde Digital na Vida do Médico Brasileira." Global Summit Telemedicine and Health 2020, São Paulo, 10 March 2020. https://www.apm.org.br/wp-content/uploads/05_mar2020_Pesquisa_APM_Tecnologia03.pdf.

Balakrishnan, Radhika, Diane Elson, James Heintz and Nicholas Lusiani. *Maximum Available Resources and Human Rights: Analytical Report*. Center for Women's Global Leadership, Rutgers Uni, 2011.

Banner, Olivia. "Digital Health and Capitalism." In *The Routledge Handbook of the Political Economy of Health and Healthcare,* edited by David Primrose, Rodney D. Loeppky, Robin Chang, 202-209. Routledge, 2024.

Berro Pizzarossa, Lucía and Rishita Nandagiri. "Self-Managed Abortion: A Constellation of Actors, a Cacophony of Laws?" *Sexual and Reproductive Health Matters* 29, no 1 (2021): 23–30. https://doi.org/10.1080/26410397.2021.1899764.

Botrungno, Carlo, José Roberto Goldim and Márcia Santana Fernandes. "The Telehealth Brasil Networks: A 'Socially Engaged' Technological System." *Revista Latinoamerica de Telessaúde* 6, no 1 (2019): 044–058.

Bottini Filho, Luciano. "The Legal Determinants of Scarcity: Expanding Human Rights Advocacy for Affordability of Health Technologies." *Health and Human Rights* 25, no 2 (2023): 205-217.

Brazilian Network Information Center. *ICT in Health: Survey on the Use of Information and Communication Technologies in Brazilian Healthcare Facilities*. Comitê Gestor da Internet no Brasil, 2024.

Bueno, Daniela de Cunto and Elaine Tavares. "Cartografia Das Controvérsias Da Telemedicina No Brasil." *Cadernos EBAPE. BR* 22 (2024): e2023-0135.

Canto, Marian. "Teledoctors without Borders: The Need for a New Regulation of Telemedicine in Brazil." In *The Futures of eHealth*, edited by Thomas Christian Bächle and Alina Wernick. Alexander von Humboldt Institute for Internet and Society, 2019.

Carrillo de Albornoz, Sara, Kah-Ling Sia and Anthony Harris. "The Effectiveness of Teleconsultations in Primary Care: Systematic Review." *Family Practice* 39, no 1 (2022): 168–82. https://doi.org/10.1093/fampra/cmab077.

Catapan, Soraia De Camargo and Maria Cristina Marino Calvo. "Contexto macro-institucional brasileiro para implantação da teleconsulta médica / Brazilian Macro-institutional Context to Implement Medical Teleconsultation." *Brazilian Journal of Health Review* 5, no 1 (2022): 27–46. https://doi.org/10.34119/bjhrv5n1-003.

Catapan, Soraia de Camargo, Eduardo Alves Melo, Angélica Baptista Silva, Mariana Vercesi de Albuquerque and Maria Cristina Marino Calvo. "Telecare in the Brazilian Unified Health System: Where We Are and Where We Are Heading." *Ciência & Saúde Coletiva* 29, no 7 (2024). doi: 10.1590/1413-81232024297.03302024.

Conselho Federal De Medicina (CFM). "CFM | CRMs - Demografia Médica." Accessed November 11, 2024. https://observatorio.cfm.org.br/demografia/.

Conselho Federal De Medicina (CFM). "CFM Esclarece Critérios Vigentes Para Atendimento a Distância No Brasil - Portal CRM-PR." Accessed September 3, 2024. https://www.crmpr.org.br/CFM-esclarece-criterios-vigentes-para-atendimento-a-distancia-no-Brasil-11-51885.shtml.

Conselho Federal De Medicina (CFM). "Presidente do CFM reúne-se com Arthur Lira para debater projeto de lei da telemedicina." *Portal Médico*, n.d. Accessed September 17, 2024. https://portal.cfm.org.br/noticias/presidente-do-cfm-reune-se-com-arthur-lira-para-debater-telemedicina/.

Chenwi, Lillian. "Unpacking 'Progressive Realisation,' Its Relation to Resources, Minimum Core and Reasonableness, and Some Methodological Considerations for Assessing Compliance." *De Jure (Pretoria)* [online] 46, no 3 (2013) 742-769.

Copeland, Katrice Bridges. "Telemedicine Scams." *Iowa Law Review* 108, no 1 (2022): 69–126.

Davis, Sara LM. "The Trojan Horse: Digital Health, Human Rights, and Global Health Governance." *Health and Human Rights* 22, no 2 (2020): 41-47.

De Araújo, Aguinaldo José, Ísis De Siqueira Silva, Renan Cabral De Figueirêdo. "Alignment and Specifics of Brazilian Health Agencies in Relation to the International Premises for the Implementation of Digital Health in Primary Health Care: A Rhetorical Analysis." *Frontiers in Sociology* 9 (February 2024). https://doi.org/10.3389/fsoc.2024.1303295.

Estatística. "Relatório Geral - Estatística - TST". Accessed 12 August 2025. https://www.tst.jus.br/web/estatistica/jt/relatorio-geral.

Eysenbach, Gunther. "What Is E-Health?" *Journal of Medical Internet Research* 3, no 2 (2001): e833. https://doi.org/10.2196/jmir.3.2.e20.

Ferraz, Octávio Luiz Motta. *Health as a Human Right: The Politics and Judicialisation of Health in Brazil*. Cambridge University Press, 2020.

Goharinejad, Saeideh, Sadrieh Hajesmaeel-Gohari, Nazanin Jannati, Samira Goharinejad and Kambiz Bahaadinbeigy. "Review of Systematic Reviews in the Field of Telemedicine." *Medical Journal of The Islamic Republic of Iran* 35 no 1 (2021): 1253-1268. https://doi.org/10.47176/mjiri.35.184.

Gomes, Luciano Bezerra and Emerson Elias Merhy. "An Analysis of the Brazilian Medical Associations Struggles Confronting the More Doctors Program." *Interface-Comunicação, Saúde, Educação* 21 (2017): 1103–14. doi:10.1590/1807-57622016.0363.

Gomes Rodrigues, Daniela Laranja, Gisele Silvestre Belber, Frederica Valle De Queiroz Padilha. "Teleconsultation on Patients with Type 2 Diabetes in the Brazilian Public Health System: A Randomised, Pragmatic, Open-Label, Phase 2, Non-Inferiority Trial (TELECONSULTA Diabetes Trial)." *The Lancet Regional Health - Americas* 39 (November 2024): 100923. https://doi.org/10.1016/j.lana.2024.100923.

Haje, Lara. "Conselho Federal Defende Que Primeira Consulta Seja Presencial Na Regulamentação Da Telemedicina - Notícias - Portal Da Câmara Dos Deputados." Câmara Dos Deputados, 16 March 2021. https://www.camara.leg.br/noticias/736544-conselho-federal-defende-que-primeira-consulta-seja-presencial-na-regulamentacao-da-telemedicina/.

Hatef, Elham, Renee F. Wilson and Allen Zhang. "Effectiveness of Telehealth versus In-Person Care during the COVID-19 Pandemic: A Systematic Review." *Npj Digital Medicine* 7, no 1 (2024): 157. https://doi.org/10.1038/s41746-024-01152-2.

Hinton, Rachael, Ulla Jasper and Siddhartha Jha. "Moving beyond Tokenism in Our Approach to Human Rights in Digital Health." *BMJ*, 22 November 2021, n2873. https://doi.org/10.1136/bmj.n2873.

Holčapek, Tomáš, Martin Šolc and Petr Šustek. "Telemedicine and the Standard of Care: A Call for a New Approach?" *Frontiers in Public Health* 11 (May 2023): 1184971. https://doi.org/10.3389/fpubh.2023.1184971.

International Bar Association. "IBA Healthcare and Life Sciences Law Committee Telemedicine Survey." (2023). Accessed March 22, 2025. https://www.ibanet.org/IBA-Healthcare-and-Life-Sciences-Law-Committee-telemedicine-survey.

Jiang, Xinchan, Wai-Kit Ming and Joyce HS You. "The Cost-Effectiveness of Digital Health Interventions on the Management of Cardiovascular Diseases: Systematic Review." *Journal of Medical Internet Research* 21, no 6 (2019): e13166. https://doi.org/10.2196/13166.

Kaplan, Bonnie. "Ethics, Guidelines, Standards, and Policy: Telemedicine, COVID-19, and Broadening the Ethical Scope." *Cambridge Quarterly of Healthcare Ethics* 31, no 1 (2022): 105–18. https://doi.org/10.1017/S0963180121000852.

Karppinen, Kari and Outi Puukko. "Four Discourses of Digital Rights: Promises and Problems of Rights-Based Politics." *Journal of Information Policy* 10 (2020): 304–28. https://doi.org/10.5325/jinfopoli.10.2020.0304

Lassarén, Philipp, Ishaan A Tewarie, Jakob VE Gerstl, Jeffrey E Florman, Timothy R Smith and Marike LD Broekman. "Telemedicine and the Right to Health: A Neurosurgical Perspective." *Journal of Clinical Neuroscience* 102 (2022): 71–74. https://doi.org/10.1016/j.jocn.2022.06.011.

Laurie, Graeme, Leslie Stevens, Kerina H Jones and Christine Dobbs. *A Review of Evidence Relating to Harm Resulting from Uses of Health and Biomedical Data*. Nuffield Council on Bioethics, 2015.

Lisboa, Kálita Oliveira, Ana Clara Hajjar, Isabela Perin Sarmento, Rebecca Perin Sarmento and Sérgio Henrique Resende Gonçalves. "A história da telemedicina no Brasil: desafios e vantagens." *Saúde e Sociedade* 32, no 1 (2023): e210170pt. https://doi.org/10.1590/s0104-12902022210170pt.

Machirori, Fungai. "This Is Africa: How Young African TikTok Trends Challenged Afropessimism during COVID-19." *Journal of African Media Studies* 15, no 2 (2023): 161–77. https://doi.org/10.1386/jams_00098_1.

Marinelli, Susanna, Giuseppe Basile and Simona Zaami. "Telemedicine, Telepsychiatry and COVID-19 Pandemic: Future Prospects for Global Health." *Healthcare* 10, no 10 (2022): 2085. https://doi.org/10.3390/healthcare10102085.

Maturo, Antonio Francesco and Veronica Moretti. "The Dark Side of Digital Health." In *Digital Health and the Gamification of Life: How Apps Can Promote a Positive Medicalization*. Emerald Publishing Limited, 2018.

Mkono, Mucha. "The 'Afro-Positive Turn': Undermining Afro-Pessimism through Afro-Positive Digital Counter-Narratives." In *Positive Tourism in Africa* edited by Mucha Mkono, 67-78. Routledge, 2019. https://doi.org/10.4324/9780429428685-6.

Ndwabe, Hamunyare, Arindam Basu and Jalal Mohammed. "Post Pandemic Analysis on Comprehensive Utilization of Telehealth and Telemedicine." *Clinical eHealth* 7 (December 2024): 5–14. https://doi.org/10.1016/j.ceh.2023.12.002.

Nesher, Lior and Alan Jotkowitz. "Ethical Issues in the Development of Tele-ICUs." *Journal of Medical Ethics* 37, no 11 (2011): 655–57. https://doi.org/10.1136/jme.2010.040311.

Nittari, Giulio, Ravjyot Khuman and Simone Baldoni. “Telemedicine Practice: Review of the Current Ethical and Legal Challenges.” *Telemedicine and E-Health* 26, no 12 (2020): 1427–37.
Nunes, Rafaela de Jesus, Lais Farias Masullo and Matheus Zaian Rodrigues de Fonseca Lira. “Impact of the COVID-19 Pandemic in the Treatment of Patients with Acromegaly in a Tertiary Center: A Wake-up Call on the Importance of Telemedicine.” 66, no 6 (2022): 863–67. https://doi.org/10.20945/2359-3997000000491.
Oliveira, Angela Maria De, Marcos Aurélio Pereira Valadão and Benjamin Miranda Tabak. “Public Telemedicine Policy in Brazilian Unified Health System: An Impact Analysis.” *International Journal of Environmental Research and Public Health* 21, no 6 (2024): 657. https://doi.org/10.3390/ijerph21060657.
Prinsen, Larisse. “Challenges to and Regulation of Telemedicine in South Africa.” *African Journal of International and Comparative Law* 31, no 2 (2023): 204–27. https://doi.org/10.3366/ajicl.2023.0444.
Purohit, Amy, James Smith and Arthur Hibble. “Does Telemedicine Reduce the Carbon Footprint of Healthcare? A Systematic Review.” *Future Healthcare Journal* 8, no 1 (2021): e85–91. https://doi.org/10.7861/fhj.2020-0080.
Qaderi, Kowsar, Rasa Khodavirdilou and Mehri Kalhor. “Abortion Services during the COVID-19 Pandemic: A Systematic Review.” *Reproductive Health* 20, no 1 (2023): 61. https://doi.org/10.1186/s12978-023-01582-3.
Rockwell, Kimberly Lovett and Alexis S Gilroy. “Incorporating Telemedicine as Part of COVID-19 Outbreak Response Systems.” *American Journal of Managed Care* 26, no 4 (2020): 147–48. https://doi.org/10.37765/ajmc.2020.42784.
Roh, Chul-Young. “Telemedicine: What It Is, Where It Came from, and Where It Will Go.” *Comparative Technology Transfer and Society* 6, no 1 (2008): 35–55.
Romão, Ana. “A competência normativa frente aos novos atores políticos: um estudo de caso da telemedicina.” *Saúde e Sociedade* 32, no 1 (2023): e210680pt. https://doi.org/10.1590/s0104-12902022210680pt.
Rumbold, Benedict, Rachel Baker and Octavio Ferraz. “Universal Health Coverage, Priority Setting, and the Human Right to Health.” *The Lancet* 390, no 10095 (2017): 712–14. https://doi.org/10.1016/S0140-6736(17)30931-5.
Russo, Letícia Xander. “Effect of More Doctors (Mais Médicos) Program on Geographic Distribution of Primary Care Physicians.” *Ciência & Saúde Coletiva* 26, no 4 (2021): 1585–94. https://doi.org/10.1590/1413-81232021264.26932020.
Scheffer, Mário, Alex Cassenote, Maria Teresa Seabra Soares De Britto e Alves and Giuliano Russo. “The Multiple Uses of Telemedicine during the Pandemic: The Evidence from a Cross-Sectional Survey of Medical Doctors in Brazil.” *Globalization and Health* 18, no 1 (2022): 81. https://doi.org/10.1186/s12992-022-00875-9.
Sekalala, Sharifah, Stéphanie Dagron, Lisa Forman and Benjamin Mason Meier. “Analyzing the Human Rights Impact of Increased Digital Public Health Surveillance during the COVID-19 Crisis.” *Health and Human Rights* 22, no 2 (2020): 7-20.
Sharma, Sachin, Raj Rawal and Dharmesh Shah. “Addressing the Challenges of AI-Based Telemedicine: Best Practices and Lessons Learned.” *Journal of Education and Health Promotion* 12, no 1 (2023). https://doi.org/10.4103/jehp.jehp_402_23.
Sieck, Cynthia J, Amy Sheon, Jessica S Ancker, Jill Castek, Bill Callahan and Angela Siefer. “Digital Inclusion as a Social Determinant of Health.” *NPJ Digital Medicine* 4, no 1 (2021): 52. https://doi.org/10.1038/s41746-021-00413-8.
Silva, Angélica Baptista. “Telemedicina: análise da entrada da telessaúde na agenda política brasileira.” *Physis Revista de Saúde Coletiva* 22, no 3 (2012): 1211-1235. https://doi.org/10.1590/S0103-73312012000300019.
Silva, Angélica Baptista, Rondineli Mendes Da Silva and Gizele Da Rocha Ribeiro. “Three Decades of Telemedicine in Brazil: Mapping the Regulatory Framework from 1990 to 2018.” *PLOS ONE* 15, no 11 (2020): e0242869. https://doi.org/10.1371/journal.pone.0242869.
Snoswell, Centaine L, Georgina Chelberg and Keshia R De Guzman. “The Clinical Effectiveness of Telehealth: A Systematic Review of Meta-Analyses from 2010 to 2019.” *Journal of Telemedicine and Telecare* 29, no 9 (2023): 669–84. https://doi.org/10.1177/1357633X211022907.
Snoswell, Centaine L, Hannah Stringer, Monica L Taylor, Liam J Caffery and Anthony C Smith. “An Overview of the Effect of Telehealth on Mortality: A Systematic Review of Meta-Analyses.” *Journal of Telemedicine and Telecare* 29, no 9 (2023): 659–68. https://doi.org/10.1177/1357633X211023700.
Souza, Jonatas S de, Jair M Abe, Luiz A de Lima and Nilson A de Souza. “The Brazilian Law on Personal Data Protection.” *International Journal of Network Security and Its Applications (IJNSA)* 12, no 6 (2020) 15-25.
Stephenson, Joan. “Report Dissects Fraud Risk in Telehealth Services Billed to Medicare.” *JAMA Health Forum* 3, no 9 (2022): e223887. https://doi.org/10.1001/jamahealthforum.2022.3887.
Taylor, Mark, Megan Richardson and Stacey Steele. “Pulling Together or Pulling Apart: Opportunities for Privacy in a Pandemic?” *Law, Technology and Humans* 3, no 1 (2021): 1–5. https://doi.org/10.5204/lthj.1924.
Townsend, B A, M Mars and R E Scott. “The HPCSA’s Telemedicine Guidance during COVID-19: A Review.” *South African Journal of Bioethics and Law* 13, no 2 (2020): 97. https://doi.org/10.7196/SAJBL.2020.v13i2.00725.
VanderWerf, Mark, Jordana Bernard and Doris T. Barta. “Pandemic Action Plan Policy and Regulatory Summary Telehealth Policy and Regulatory Considerations During a Pandemic.” *Telemedicine and E-Health* 28, no 4 (2022): 457–66. https://doi.org/10.1089/tmj.2021.0216.

Vatkar, Arvind, Sachin Kale, Ashok Shyam and Sushant Srivastava. "Understanding the Levels of Evidence in Medical Research." *Journal of Orthopaedic Case Reports* 15, no 5 (2025): 6. https://doi.org/10.13107/jocr.2025.v15.i05.5534.
Wagner, Ben, Matthias C. Kettemann and Kilian Vieth, eds. *Research Handbook on Human Rights and Digital Technology: Global Politics, Law and International Relations*. Edward Elgar Publishing, 2019. https://doi.org/10.4337/9781785367724.
Wairimu, Samuel and Lothar Fritsch. "Modelling Privacy Harms of Compromised Personal Medical Data-beyond Data Breach." Proceedings of the 17th Conference on Availability, Reliability and Security, Association for Computing Machinery (ACM), 2022, article id 133, 1–9.
Wernick, Alina and Irma Klünker. "Prohibitions on Long Distance Treatment: Historical Roots and Continuities in Limiting the Use of Electronic Telemedicine." In *The Futures of Ehealth*, edited by Thomas Christian Bächle and Alina Wernick. Alexander von Humboldt Institute for Internet and Society, 2019.
Wong, Wendy H. *We, the Data: Human Rights in the Digital Age*. The MIT Press, 2023.
World Bank Open Data. "World Bank Open Data." Accessed 25 March 2025. https://data.worldbank.org.
World Health Organization. *Consolidated Telemedicine Implementation Guide*. World Health Organization, 2022.
World Health Organization. *Global Strategy on Digital Health 2020-2025*. World Health Organization, 2021. https://iris.who.int/handle/10665/344249.
World Health Organization. *WHO Guideline: Recommendations on Digital Interventions for Health System Strengthening*. World Health Organization, 2019. https://iris.who.int/handle/10665/311941.
World Health Organization and International Telecommunication Union. *National eHealth Strategy Toolkit*. In *Guide Pratique Sur Les Stratégies Nationales En Matière de Cybersanté*. International Telecommunication Union, 2012. https://iris.who.int/handle/10665/75211.
World Health Organization. Regional Office for Europe. *Support Tool to Strengthen Telemedicine: Resource for Assessment, Strategy Development, and Strengthening of Telemedicine Services*. World Health Organization. Regional Office for Europe, 2024. https://iris.who.int/handle/10665/378200.
World Health Organization. Regional Office for Europe. *Telehealth Quality of Care Tool*. World Health Organization. Regional Office for Europe, 2024. https://iris.who.int/handle/10665/376258.
World Health Organization. *Telemedicine: Opportunities and Developments in Member States: Report on the Second Global Survey on eHealth 2009.* Global Observatory for eHealth Series, Volume 2, 2010.
Yazdi, Faezeh, Farzin Rasoulyan, and Seyed Reza Mirnezami. "Does Digital Technology Adoption Affect COVID-19 Health Outcomes? A Quantitative Analysis on the Global Level." *International Journal of Human Rights in Healthcare* 17, no 2 (2024): 127–44. https://doi.org/10.1108/IJHRH-07-2021-0141.
Zuboff, Shoshana. *The Age of Surveillance Capitalism: The Fight for a Human Future at the New Frontier of Power*. Profile Books, 2019.

**Legal sources**

Brazil. *Constituição da República Federativa do Brasil*, de 5 de outubro de 1988. Publicada no *Diário Oficial da União*, Seção 1, October 5 1988.
Brazil. *Lei nº 8.080, de 19 de Setembro de 1990 (Lei Orgânica da Saúde)*. *Diário Oficial da União*., September 19, 1990.
Brazil. *Lei nº 13.709, de 14 de Agosto de 2018 (Lei Geral de Proteção de Dados Pessoais)*. *Diário Oficial da União*, August 15, 2018.
Brazil. *Lei nº 13.989, de 15 de Abril de 2020*. *Diário Oficial da União*, April 15, 2020.
Brazil. *Lei nº 14.510, de 27 de Dezembro de 2022*. *Diário Oficial da União*, December 28, 2022.
Câmara dos Deputados. *Parecer de Plenário pelas Comissões de Seguridade Social e Família e de Constituição e Justiça ao Projeto de Lei nº 1998, De 2020*. Accessed August 14, 2025. https://www.camara.leg.br/proposicoesWeb/prop_mostrarintegra?codteor=2159986&filename=Tramitacao-PL%201998/2020.
United Nations Committee on Economic, Social and Cultural Rights. *General Comment No. 25 (2020) on Science and Economic, Social and Cultural Rights (Article 15 (1) (b), (2), (3) and (4) of the International Covenant on Economic, Social and Cultural Rights).* E/C.12/GC/25, April 30, 2020. https://docs.un.org/en/e/c.12/gc/25.
Consejo General de Colegios Oficiales de Médicos, *Código de Deontología Médica: Guía de Ética Médica*. July 2011.
Conselho Federal de Medicina. *Resolução nº 2.227/2018: Define e disciplina a Telemedicina como forma de prestação de serviços médicos mediados por tecnologia*. Brasília: CFM, December 13, 2018.
Conselho Federal de Medicina. *Resolução nº 2.314/2022*. *Diário Oficial da União*, November 17, 2022.
Conselho Federal de Medicina. *Parecer nº 14/2017: Uso da Telemedicina*. Brasília: CFM, 2017.
Conselho Federal de Medicina. *Resolução nº 1.643/2002.*
Conselho Federal de Medicina. *Resolução* nº 1.931/2009.
Conselho Federal de Medicina. *Resolução* nº 2.370/2023.

Conselho Federal de Medicina. Ofício nº 1756/2020-Cojur.
Conselho Regional de Medicina de Santa Catarina (CRM-SC). *Parecer nº 45/2023*. Florianópolis: CRM-SC, 2023.
Human Rights Council. *Digital Innovation, Technologies and the Right to Health: Report of the Special Rapporteur on the Right of everyone to the Enjoyment of the Highest Attainable Standard of Physical and Mental Health*. A/HRC/53/65, April 21, 2023. https://www.ohchr.org/en/documents/thematic-reports/ahrc5365-digital-innovation-technologies-and-right-health.
Human Rights Council. *Report of the Working Group on the Universal Periodic Review – Colombia*. A/HRC/10/82/Add.1, January 13, 2009.
Human Rights Council. *National Report Submitted in Accordance with Paragraph 15(a) of the Annex to Human Rights Council Resolution 5/1: Panama*. A/HRC/WG.6/9/PAN/1/Rev.1, . 24 August 2010
Ministério da Saúde (Brasil). Secretaria Especial de Saúde Indígena (SESAI). *Nota Técnica nº 7/2024-SESAI/CGOEX/SESAI/GAB/SESAI/MS*. Brasília: Ministério da Saúde, March 25, 2024.
*Resolução da Assembleia da República Nº 293/2021*. *Diário da República*, I Série, Nº 253, December 31, 2021.
Regional Committee for Africa, World Health Organization. *Progress Report on Utilizing eHealth Solutions to Improve National Health Systems in the African Region*. AFR/RC63/9, September 6, 2013.
Regional Committee for Africa, World Health Organization. *Progress Report on Utilizing eHealth Solutions to Improve National Health Systems in the African Region*. AFR/RC73/INF.DOC/3, July 28, 2023.
Regional Committee for Africa, World Health Organization. *Progress Report on Framework for Implementing the Global Strategy on Digital Health in the WHO African Region: Information Document.* AFR/RC74/INF.DOC/3, July 22, 2024.
Supremo Tribunal Federal (Brazil)**.** *Reclamação (RCL) 65.011*. Related judgment delivered on 11 January 2024. Brasília: STF, 2024.
Supremo Tribunal Federal (Brazil). *Agravo em Recurso Extraordinário (ARE) 1532603*. Judgment of repercussão geral recognized on 12 April 2025. Brasília: STF, 2025.
Tribunal de Contas da União (Brazil). *Acórdão 2463/2022 – Plenário*. Brasília: TCU, 2022.
Tribunal de Contas da União, FALCÃO – Sistema de busca de jurisprudência https://jurisprudencia.jt.jus.br/jurisprudencia-nacional/pesquisa.
Tribunal de Justiça de São Paulo (Brasil). *Agravo de Instrumento nº 2294692-70.2023.8.26.0000, 5ª Câmara de Direito Privado*. São Paulo, decided October 2023.
Tribunal Regional do Trabalho da 1ª Região (TRT-1), Processo 0100597-29.2023.5.01.0030; Tribunal Regional do Trabalho da 2ª Região (TRT-2), Processos 1000235-24.2023.5.02.0434 and 1001370-97.2020.5.02.0039.
United Nations General Assembly. Seventy-sixth session , *Report of the Special Rapporteur on the Right of Everyone to the Enjoyment of the Highest Attainable Standard of Physical and Mental Health, Tlaleng Mofokeng.* A/76/121. New York: United Nations, 2021. .
United Nations Human Rights Council**.** *Digital Innovation, Technologies and the Right to Health: Report of the Office of the United Nations High Commissioner for Human Rights*. A/HRC/53/29, Fifty-third Session, June 12, 2023.
World Health Assembly. *Resolution WHA58.28 eHealth*. WHA58/2005/REC/1, May 16–25, 2005.
World Medical Association. *Statement on Accountability, Responsibilities and Ethical Guidelines in the Practice of Telemedicine*. World Medical Association, 1999.