

## Universality in digital health: digitalisation and datafication in the Unified Health System (SUS)

*A universalidade na saúde digital: digitalização e dataficação no SUS*

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**Abstract:** This article analyses how universality is addressed in Brazil's Digital Health Strategy (ESD28). It starts, Centre for from the idea that this principle, enshrined in the 1988 Federal Constitution, emerged as an ethical imperative in modern times but became an adjective under neoliberalism. Using a qualitative methodology and bibliographic and documentary sources, it was observed that ESD28 led to the development of telehealth in remote areas and offered specialties but that it reproduces technological dependence and the risk to digital sovereignty. Access to information should not be confused with universal access to comprehensive healthcare, although it can contribute to this end. The weaknesses of infrastructure and interoperability in the Unified Health System (SUS) in Brazil together with digital inequality constrain universality.

**Keywords:** Universality. Universal health coverage. Digital Health Strategy. Digitalisation.

**Resumo:** Este artigo analisa como a universalidade é tratada na Estratégia de Saúde Digital (ESD28) do Brasil. Parte da ideia de que este princípio, consagrado na Constituição Federal de 1988, emergiu como imperativo ético na modernidade, mas foi adjetivado no neoliberalismo. Com metodologia qualitativa e fontes bibliográficas e documentais, observou-se que a ESD28 desenvolveu telessaúde em áreas remotas e ofertou especialidades, mas reproduz a dependência tecnológica e o risco à soberania digital. O acesso à informação não pode ser confundido com o acesso universal à integralidade do cuidado em saúde, embora possa contribuir para este fim. As fragilidades da infraestrutura e da interoperabilidade no Sistema Único de Saúde no Brasil e a desigualdade digital constroem a universalidade.

**Palavras-chave:** Universalidade. Cobertura universal em saúde. Estratégia de Saúde Digital. Digitalização.

## Introduction

This article results from recent research conducted within the Doctoral Programme in Social Work at the Federal University of Rio de Janeiro (PPGSS/UFRJ). Both studies reveal a scarcity of bibliographic output in Social Work regarding the principle of universality and the Digital Health Strategy (ESD28).

Universality, associated with human rights, has withstood the test of time. It is a legacy of Enlightenment values (Rouanet, 1987) and refers to guaranteeing access for all, without spatial, racial, gender, or other discrimination.

Based on a non-systematic bibliographic survey of the SciELO database, the descriptor *universality* was found in forty-five article titles. The majority of these refer to *universality in health* and *universal access*, reflecting the database's profile, with a predominance of health journals and a definition of *universality* as an ethical-political principle of universal health systems, such as the Unified Health System (SUS). This principle is linked to the defence of free, comprehensive, universal, and equitable public health. However, its value content requires updating considering the advance of conservatism and State responses to the crisis of capital, such as measures to restrict spending and decouple health revenues (Passos, 2025).

Health is the only Social Security policy to formally incorporate universality, and it is present in the ethical orientation of ESD28. However, following Law No. 8,080/1990 (Brazil, 1990), disputes over projects have put the meaning of this principle under tension. Nevertheless, it remains a relevant ethical-political thread for the generation of knowledge and the struggles in defence of the SUS.

Social struggles by historically excluded groups, such as Black and Indigenous people, riverside communities, forest dwellers, quilombola communities, and people with disabilities, among others, have forced the SUS to recognise their health demands, and this has increased equity of access.

The SUS's commitment to access is consistent with the principles of universality and equity, but there is a tendency to subordinate these principles to the term "access". The quality and quantity of access depend on the degree of ethical and political priority given to universality. Universality should be understood as its foundation, access as its descriptive expression, and equity as a concrete requirement in a country of profound inequalities.

This article analyses how the principle of universality is addressed in ESD28, which was formally established in 2020 by Ordinance GM/MS No. 3,632 (Brazil, 2024a). This took place in the context of the COVID-19 pandemic, a period that intensified the use of digital technologies. It is organised into two sections. The first revisits the ethical legacy of the modern Enlightenment as the foundation of the principle of universality in its opposition to the offensive of capital. The second discusses old and new contradictions in the implementation of digital health in the SUS.

## From ethical imperative to universal coverage in the SUS: universality as a legacy of the modern Enlightenment.

The term *universal* is widely used to affirm that human rights are inherent to all individuals, regardless of nationality, ethnicity, class, or other social markers. In political science, according to Matta (2009), *universality* is a notion originating from the legal field and appropriated by other areas, as it represents what *should be valid for everyone*. Bambilra (2014) points out that *universality* dates back to the roots of the formation of Western law in classical Greece, where, even with imprecisions, it was linked to the ideal of justice and was expressed politically in democracy, and philosophically in the conception of a *cosmos*. This ideal gained strength with the Enlightenment, a movement that linked reason and criticism as foundations against absolutism and in defence of natural rights.

According to Rouanet (1987), these structural elements of the Enlightenment, criticism and reason, formed an integral part of this movement, which was not limited to the economic, political, and cultural ideas that flourished during the 17th and 18th centuries. He proposes that the nature of the Enlightenment is perennial, and is an antidote to diffuse irrationalism, using reason to combat myth and power. “In this sense, the Enlightenment is a trans-epochal tendency that crosses history transversally and that was updated in the Illustration, but did not begin with it, nor did it end in the 18th century” (Rouanet, 1987, p. 28). For Rouanet (2003), modernity brings an element of autonomy, formation, and emancipation of the individual, as heir to the Enlightenment tradition, which unites the forces of universalism and pluralism. Thus, the “Illustration appears [...] as a very important historical achievement of the Enlightenment, certainly the most prestigious, but neither the first nor the last” (Rouanet, 1987, p. 28).

Immanuel Kant (1724-1804) is an exponent of the Illustration. Rouanet (1987) recognises that Kant’s “[...] overcoming of minority [...]” (Rouanet, 1987, p. 30). In other words, “[...] the inability to use one’s own understanding without external guidance [...]” (Rouanet, 1987, p. 31) – is at the root of the criticism of all teaching that inhibits the use of reason. Criticism and reason therefore remain the two structural vectors for the new Enlightenment. “A critique that is not rational or a reason that is not critical cannot be considered Enlightenment” (Rouanet, 1987, p. 29).

Kantian ethics propose universality as a moral principle, whose sole criterion is impartiality: only what can be universalised is morally valid. For Kant (2007), morality is universal because it cannot be related to individual motives and particular intentions.

The moral law of Kantian ethics, expressed by the categorical imperative, is rational, *a priori*, and unconditional. This law, which is duty, cannot be empirically grounded, “[...] the representation of an objective principle, insofar as it is constitutive for a will, is called a command (of reason), and the formula of the command is called an ‘imperative’” (Kant, 2004, pp. 43-44). In the categorical imperative, it is not just any duty that grounds the moral law, but an unconditional duty.

In Kantian moral theory, the categorical imperative does not derive from experience and imposes itself by itself, not by the purpose that allows one to act. The categorical imperative, whether fulfilled or not, will always have the character of a practical law,

being a proposition constructed by Kant, which imposes on the subject an imperative (a maxim) that must be fulfilled by stating a universal law (Hamel, 2011, p. 166).

The criterion of universality is what absolutely defines the necessity of action through laws, that is, imperatives. Although Kantian thought is fruitful and a basis for modern philosophy, it is also the object of criticism from “[...] wise reason [...]” (Rouanet, 1987, p. 31), that which is “[...] capable of criticism and self-criticism, apt to expose the true structures of laws and institutions, armed to unmask supposedly rational discourses and aware of its vulnerability to the irrational” (Rouanet, 1987, p. 31). So, Kant is a product of the Eurocentric culture in transformation arising from capitalist social relations, self-centred, taken as an example of the universal. Furthermore, he disregards historical inequalities such as those resulting from the Industrial Revolution, imperialism, and colonisation.

So, the maxim *what applies to me must apply to everyone* (not a literal translation of Kant's work), embodies the categorical imperative and bases its argument on universality. However, it becomes abstract in bourgeois sociability if it is not mediated by critical reason.

In modern times, universality has been actioned in various fields, such as human rights, science, health, and technology, always referring to the idea that something belongs to, or applies to, everyone. In the field of social rights, which is relevant to this article, the debate between targeted and comprehensive social policies, for example, was common with the advancement of neoliberalism, beginning in the 1990s (Soares, 2002), when the SUS, was being implemented.

One of the most widespread neoliberal strategies [...] is *targeting*. The idea is that public/state spending and social services should be directed exclusively towards the poor. [...] As with the privatisation strategy, restricting access becomes extremely complicated insofar as the poor constitute the vast majority, if not all, of the demand for basic social services. [...] The result has been, by avoiding the inclusion of the ‘non-poor’, the exclusion of the poor themselves (Soares, 2002, p. 79).

At the peripheries of capitalism, the universality of social protection is weakened by emergency policies and guidelines from international organisations that condition its scope. Such measures are strongly influenced by the guidelines of multilateral financial institutions and underpin the commodification of public services, restricting and conditioning universality in Social Security.

In Brazil, the offensive of capital also imposes severe limits on social policies, distorting the radical meaning of the universality of health (Sousa, 2014). Following social struggles, article 194 of the 1988 Federal Constitution (Brazil, 1988), in a single paragraph, established the guiding principles of Social Security, with universal coverage and care being the first of these. This principle is related to guaranteeing protection against all social risks, breaking with the meritocratic model of health, and encompassing all residents of the nation. This universality inspired the creation of the SUS, whose logic broke with the insurance tradition of social security medicine and recognised access as an unconditional right similar to the Kantian ethical imperative.

The implementation of the SUS, however, occurred in an adverse context, marked by the rise of neoliberalism in the country and State counter-reforms under the guise of modernisation. This concept of modernity is prevalent in specialised literature and in economic and social

development policies that link it to improving the effectiveness of the tax, education, health, transportation, food, and public administration systems in general. “It is a functional concept of modernity, in the proper sense of the word: in a modern society, institutions function better than in an archaic society” (Rouanet, 2003, p. 16). In this sense of modernity, the concept of universality is qualified by an instrumental rationality that updates everything through a regression of rights.

This was reflected in tensions between universal health systems and universal coverage models, as highlighted by Giovanella (2008), who denounces segmentation and selectivity as threats to full access. This focus compromises the principle of universality and the consequent universal access, as it reduces the scope and quality of health actions to a minimum set of services. In the consolidation of health systems, the tension between expanding coverage with only basic care for certain populations and guaranteeing broad and unrestricted health care is always present. The direction taken in each conjuncture depends on the political forces in dispute.

In the current context, despite increased fiscal austerity and capital’s offensive against social rights, universality remains enshrined in the legislation that structures health policy, but its formal existence is insufficient. The principle continues to inspire social movements, such as the Black movement, which questions: “[...] how to link the pursuit of universal rights with the demands of specific groups in an unequal society?” (Faustino, 2017, p. 3,831).

The fight for equity, in conjunction with universality, sheds light on concrete agendas within the SUS to confront prejudices and discrimination related to racism, ableism, misogyny, LGBTQIAPN+ phobia, among others, whose oppressive forms impact healthcare. If the critical reason of the modern Enlightenment serves to update the radical nature of the ethical principle of universality, then, “[...] wise reason [...]” (Rouanet, 1987, p. 31) demands recognition of this historical debt to these populations.

If, however, considering diversity made universalisation unfeasible, it would be necessary to question whether the set of subjects and policies already mobilised around health equity—and not only those aimed at promoting racial equity—risks assuming that the reported discomfort is not the perspective of equity—nor the risk of neoliberal focusing—but rather the attempt to achieve racial equity. The Unified Health System itself, in its notion of an ‘expanded concept of health,’ presents the principle of equity—and also comprehensiveness—alongside the principle of universality, and not as a counterpoint (Faustino, 2017, p. 3,837).

In this sense, ESD28, as a recent policy, needs to be analysed from the perspective of universality, insofar as it commits to guaranteeing equal access to the benefits of digital health to all citizens, regardless of their location or socioeconomic status (Brazil, 2020). This is a monumental challenge, considering the socio-racial inequalities present in the country.

### **Universality in Brazilian digital health: old and new challenges.**

The Digital Health Strategy for Brazil (ESD28) was established by the federal government to cover the period 2020 to 2028. It was announced at the end of the first year of the COVID-19 pandemic and in line with the launch of the Global Strategy on Digital Health 2020-2025 (World Health Organisation, 2021), by the World Health Organisation, which had already

passed three resolutions on the subject since 2005<sup>1</sup>.

In Brazil, the e-SUS medical record, launched by the Ministry of Health in 2012, was a government initiative to digitise clinical records for the SUS. This is sensitive data regarding human lives, and its digitalisation into informational and computational models has become a strategic component for promoting universal access to healthcare, both by the Brazilian government (Brazil, 2020) and the World Health Organisation (WHO) (Souza; Maldonato, 2024). Despite the underlying concept of universality, technocratic optimism obscures the socially determined nature of technology and the instrumental rationality that guides proposals for modernising public administration under neoliberalism.

2019 was a milestone in the digital transformation of the federal government, as the Gov.br platform became the single point of access to public services for Brazilians. This modernisation of public administration sought to standardise and automate the provision of public services, reducing public spending and jobs with repetitive activities (ENAP, 2023). That same year, the Digital Health Strategy Management Committee (Comitê Gestor da Estratégia de Saúde Digital) was formed to expand the digital transformation in the SUS, an objective that was accelerated by the COVID-19 pandemic.

ESD28 reaffirms the constitutional principles of the SUS, among them, the principle of universality. As we saw in the previous section, the foundations and the ethical-political direction of this principle have been disputed since the implementation of the SUS, a period marked by the neoliberal offensive in Brazil (Soares, 2002; Sousa, 2014). Furthermore, the Ministry of Health, responsible for the implementation of ESD28, explicitly states its role as a catalyst for collaborative actions between public and private actors (Brazil, 2020), which highlights the ownership of digital health as an area of interest to capital. The same trend is observed internationally.

By mentioning that state and private sectors should work together to implement a globalised digital health system, the WHO is doing nothing more than reinforcing the neoliberal precepts of privatising public services and the State as an agent promoting the interests of capital, while, in the case of peripheral countries, it also means deepening dependence, since the implementation of 'partnerships' in this area means the contracting by the State of services, solutions and technologies from multinational private companies, headquartered in imperialist countries (Souza; Maldonato, 2024, not paginated).

In ESD28, there is a need to integrate health data from different systems to facilitate the secure, agile, and standardised sharing of information, resulting in the National Health Data Network (Rede Nacional de Dados em Saúde (RNDS)) in 2020. To host the data for this Network, the federal government contracted the Amazon Web Services (AWS) data cloud (Rachid et al., 2023).

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<sup>1</sup> According to the World Health Organisation (2005; 2013; 2018), the first resolution, WHA58.28 (2005), recommended that countries develop long-term national strategies to implement e-Health programmes and services – a term then used to designate the incorporation of digital technologies in health, later replaced by digital health from 2018 onwards. The second, WHA66.24 (2013), emphasised the importance of standardisation and interoperability of e-Health systems, guiding countries to develop public policies and legislative mechanisms integrated into a national strategy. The third, WHA71.7 (2018), marked the terminological and institutional transition, proposing the construction of a global strategy for digital health, with the definition of priority areas of action by the WHO itself.

The ConecteSUS Programme, in the form of a website and cell phone application, was part of ESD28 and became known for issuing the Digital National Vaccination Card (Carteira Nacional de Vacinação Digital) and the National Vaccination Certificate against COVID-19 (Certificado Nacional de Vacinação contra COVID-19) – in this case, in multilingual versions. In January 2024, it became My SUS Digital (Meu SUS Digital), integrating and making health information available to every Brazilian and to health professionals. The information that flows through this system and that of the National Health Data Network require an informational and computational infrastructure for interoperability. Although using the infrastructure of the Brazilian company Serpro<sup>2</sup> MultiCloud, it nevertheless has partnerships with multinational technology giants, namely: AWS, Azure Stack (Microsoft), Google Cloud, Huawei Cloud, IBM Cloud, and Oracle. “In practice, this means that the storage of RNDs data remains on AWS infrastructure and can also be allocated to other international corporations under Serpro’s management” (Souza; Maldonado, 2024, not paginated).

Under Lula’s (President Luiz Inácio Lula da Silva) government, which took power in 2023, there is interest in attracting international investment in the construction of data centres based in Brazil. In May 2025, the Minister of Finance met with the three leading digital technology companies – Nvidia, Google, and Amazon – and announced that the Brazilian government, through the National Bank for Economic and Social Development (Banco Nacional de Desenvolvimento Econômico e Social (BNDES)), will finance a credit line of R\$ 2 Billion with lower interest rates for data centres installed in the North and Northeast regions (Queiroz, 2025).

Because of this, researchers concerned with digital sovereignty have warned of the risks of handing, over not only the health data of citizens and professionals in the field, but also “[...] strategic information aimed at the development and advancement of Brazilian health science” (Souza; Maldonado, 2024, not paginated).

We know that the central countries, where these companies are concentrated, have become strongly involved in technological development and patent registration in the 21st century, so the more data they obtain, the more economic and political advantages they will have over other countries, such as Brazil (Souza; Maldonado, 2024, not paginated).

The Brazilian State is, therefore, reproducing technological dependence and actively participating in the *datafication* sought by *big tech* companies, whose objective is to strengthen their geoeconomic and geopolitical power, turning the processing of health data into a means for producing information and a relevant information vantage point concerning the morbidity and mortality profile of Brazilians.

This type of asymmetrical power relationship does not align with the ethical imperative underlying the principle of universality. According to Souza and Maldonado (2024), the implementation of health services through digital means without concessions to the neoliberal agenda requires a solid strategy of digital sovereignty and autonomy over health data. Furthermore, as healthcare and its corresponding record-keeping depends on living

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<sup>2</sup> Consulting the websites of SERPRO, formerly the Federal Data Processing Service and currently the National Company for Digital Government Intelligence and Information Technology, and DATAPREV, the Social Security Technology and Information Company, we found that both are responsible for the digitalisation of the Brazilian State in its various spheres.

labour, that is, on workers in direct contact with users who use their knowledge for intervention and recording. Digital technologies can mediate the encounter between healthcare professionals and the population, expanding access to certain procedures, but their use must be preceded by a technical and ethical evaluation.

Regarding the computerisation of the large mass of health data, there remain challenges regarding the integration projected in the RNDS (in primary, secondary and tertiary health care), and its objective of improving care for the population by; minimizing the effort of data collection; guaranteeing the privacy and security of shared information; avoiding errors in retyping information and strengthening care based on referral and counter-referral (Brazil, 2020).

Gradually, the RNDS and the My Digital SUS (Meu SUS Digital) will allow users and healthcare professionals to access information through a longitudinal health history, including situations of violence, health problems, and other relevant data. The implementation of the RNDS, which requires the interoperability of different health systems, also allows for the monitoring of indicators and social determinants of health in the population. Access to information should not, however, be confused with universal access to comprehensive healthcare, although it may contribute to this end.

There are challenges for the RNDS, including expanding the technological infrastructure of municipal health units, expressed by increasing the number of available computers and the digital skills of professionals, as well as guaranteeing the confidentiality of user information. This challenge is amplified by a country of continental size, with regional disparities, especially for territories that are not in urban centres, such as Indigenous, quilombola, rural, and Amazonian populations. The scarcity of infrastructure for cable and fibre optic technologies in the “Northern Region makes internet access expensive and inaccessible [...], causing the use of mobile internet to be the preferred option among the population” (Soares; Azevedo, 2023, p. 6).

So, WhatsApp, as a free communication platform, has been used by healthcare professionals to communicate with each other and to interact with the population. A recent initiative is in Amazonas, where the State Government, in the municipality of Anamã, is using WhatsApp in its functionality to increase universal access to telehealth. In June 2025, two telehealth rooms were implemented at the Luzia Nunes de Melo Basic Health Unit, offering care in twelve medical specialties, enabling remote consultations and diagnoses through the Saúde AM Digital programme. Patients are notified via WhatsApp regarding appointments and exams, scheduled through Sisreg. The aim is to reduce non-attendance for scheduled procedures, which reaches approximately 60%, and to bring specialised medical care, especially to the interior and remote regions of Amazonas (Santos, 2025).

Telehealth is a digital tool that enhances access for populations in remote areas and others marked by violence, where people have limited options for traveling for healthcare services or where professionals cannot reach or provide home care.

Since 2015, to mitigate the infrastructure limitations in the Northern Region, a series of programmes have been implementing information highways via riverbed fibre optic cables along the Amazon Basin, aiming to offer “[...] a series of quality data network services, such as high-speed internet, telemedicine, distance learning, public safety monitoring and tourism”

(Soares; Azevedo, 2023, p. 8). This intention contrasts, however, with the reality of 2024, when health establishments in the state of Amazonas still had only partial connection to the RNDS due to “[...] insufficient financial resources for the purchase of equipment and good quality connectivity to support the network’s needs” (Brazil, 2024b, unpaginated). To expand connectivity, the Ministry of Health plans to connect 12,000 primary health care units by 2026, including those in Indigenous communities, and to contract satellite internet services to serve 1,191 primary health care units in remote areas by 2025 (Mais..., 2025).

This projection stemmed from the creation of the SUS Digital Programme, in which the guidelines of “[...] universality and equity in access to digital health products and services, at all levels of health care” (Brazil, 2024a, unpaginated) were ratified and included the following,

[...] digital health encompasses, among others, interoperable information systems, electronic health data records, application of data science, artificial intelligence, telehealth, mobile health applications, wearable devices, applied robotics, personalised medicine, and the internet of things, among others, aimed at the health sector (Brazil, 2024a, unpaginated).

According to the Monitoring of Adherence and Situational Diagnosis Panel (Painel do Monitoramento da Adesão e do Diagnóstico Situacional) of this Programme, adherence included all 27 Brazilian states and 5,570 municipalities. In the first stage of adherence, the Ministry transferred R\$232 million to resource digital health (Brazil, 2024b) and obtained data collected from the Federal entities that conducted a self-diagnosis. The most cited challenge identified in the implementation of the Digital Health Programme relates to infrastructure and connectivity, followed by training and continuing education, and finally, the interoperability and integration of state and municipal systems with the RNDS.

Expanding connectivity is essential to increasing the availability of telehealth services. In 2024 this covered only 39% in primary health care units nationwide (Mais, 2025). Despite 77.9% of primary health care units having telematic resources, only slightly more than half offer telehealth, identifying obstacles that need to be investigated.

It is worth remembering that telehealth was driven by the need to prevent the spread of the COVID-19 virus. Regulated by Law No. 13.989/2020 and the Federal Council of Medicine, it allowed medical consultations to be conducted through digital platforms. However, telehealth is not limited to telemedicine and has come to be used by other professions, post the COVID-19 pandemic this continued as telecare.

So, telehealth and RNDS are the main strategies for universal access. ESD28 foresees the need to,

[...] identify the data and Information and Communication Technologies in Health (ICTs) essential for remote care to be integrated into continuous care, at various levels of complexity within the SUS, focusing on addressing inequalities in access to and use of health services in the SUS (Brazil, 2020, p. 58).

Most actions set out in ESD28 for expanding universal access to healthcare presuppose that users possess smartphones, internet connectivity, and the skills to operate them. According to the 2024 ICT Households Survey (CGI.br, 2025), profound inequalities in internet access persist in Brazil. While 99% of households in class A (with a monthly family income above R\$

25,200) have internet access, this percentage drops to 67% in classes D/E (D: with income between R\$ 1,250 and R\$ 3,400; and E: up to R\$ 1,249), revealing a strong class divide. Inequality is also expressed regionally: 28% of the rural population remain disconnected, compared to 21% in urban areas. Furthermore, 15% of urban households and 26% of rural households do not have fixed broadband. Only 22% of the Brazilian population lives in households with significant connectivity – a criterion that considers speed, connection stability, and diversity of connected devices – which compromises equitable participation in access to public services remotely, such as telehealth and My Digital SUS (Meu SUS Digital).

According to Veloso (2011), the advancement of technology in bourgeois society has been characterised by its non-universality, since a large portion of the population does not possess, or faces difficulties in accessing, telematic means – internet access, devices, and digital skills. For him, this can be considered one of the contemporary expressions of the social question, as it presents the restrictions faced by the working class in accessing socially produced wealth. Digital health, therefore, is conditioned by historical social inequalities, including race, ethnicity, gender, disabilities, which challenge the universality of the SUS.

### **Final considerations**

This article highlights the tensions and contradictions surrounding the principle of universality in its modern philosophical dimension, and as a guiding principle of the SUS and digital health in Brazil, including its milestones such as ESD28.

Although universality is present in the 1988 Constitution and Law No. 8,080/1990 (Brazil, 1990), there is a significant gap between what is legal and what is real. Neoliberalism did not eliminate the principle, but rather qualified it in its defence of universal health coverage, as opposed to a universal health system.

The digitalisation of the SUS, embodied in the ESD28 and, more recently, in the Digital Health Programme, reveals an intrinsic tension within the system. While its implementation can be interpreted as a response to the neoliberal agenda, by potentially containing social spending and increasing dependence on external technologies, it also presents a contradiction, as it enables responses to the demand for access to certain services and improves the dissemination of strategic information on health indicators to the population.

Achieving the potential of digital health is, however, profoundly conditioned by Brazil's continental size, which, paradoxically, also justifies it. The persistence of chronic operational challenges, including deficiencies in infrastructure and connectivity, the complex interoperability of public health systems, and the need for continuing education and the availability of the health workforce are factors that demonstrate marked regional particularities. Despite these obstacles, ongoing digital health experiences in the Northern Region demonstrate that regional inequalities can be mitigated and increase the effectiveness of the SUS.

The effects of these telehealth experiences require further empirical investigation, and health information systems and the staging of RNDs data in big tech clouds demand an urgent political debate, lest the digitalisation of the Brazilian state fundamentally serves the *datafication* interests of these companies.

Digital health aims to both expand access to healthcare and to recognise the demands of underserved population groups and territories. In both cases, comparing any assessments with the ethical imperative of universality will be fundamental, especially when it involves geopolitical and geoeconomic interests related to digital sovereignty.

We observe that ESD28 expresses the limits placed on social policies by the expanded reproduction of capital, running the risk of being employed as a technological solution capable of concealing the structural underfunding of the SUS, while in-person services remain dilapidated and, at times, not even implemented.

It is essential that universal digital health guarantees digital infrastructure as a universal right, ensures the country's sovereignty regarding technological innovation, and secures public funding for the SUS. These are battlegrounds guided by universality.

## **Bibliography**

BAMBIRRA, F. M. O sistema universal de proteção dos direitos humanos e fundamentais. Belo Horizonte: UFMG, 2014.

BRASIL. **Constituição da República Federativa do Brasil de 1988**. Diário Oficial da União: seção 1, Brasília, DF, ano 126, n. 191, p. 1-32, 5 out. 1988. Available at: [http://www.planalto.gov.br/ccivil\\_03/constituicao/constituicao.htm](http://www.planalto.gov.br/ccivil_03/constituicao/constituicao.htm). Accessed on: 12 July 2025.

BRASIL. **Lei nº 8.080, de 19 de setembro de 1990**. Dispõe sobre as condições para a promoção, proteção e recuperação da saúde, a organização e o funcionamento dos serviços correspondentes e dá outras providências. Brasília (DF), 1990. Available at: [https://www.planalto.gov.br/ccivil\\_03/leis/l8080.htm](https://www.planalto.gov.br/ccivil_03/leis/l8080.htm). Accessed on: 28 June 2025.

BRASIL. Ministério da Saúde. **Portaria GM/MS nº 3.232, de 1º de março de 2024**. Institui o Programa SUS Digital, alterando dispositivos da Portaria de Consolidação GM/MS nº 5, de 28 de setembro de 2017. Diário Oficial da União: seção 1, Brasília, DF, 4 mar. 2024a. Available at: <https://www.in.gov.br/en/web/dou/-/portaria-gm/ms-n-3.232-de-1-de-marco-de-2024-546278935>. Accessed on: 28 June 2025.

BRASIL. Ministério da Saúde. **Programa SUS Digital: Monitoramento da Adesão e do Diagnóstico Situacional**. Brasília (DF): Departamento de Monitoramento, Avaliação e Disseminação de Informações Estratégicas em Saúde da Secretaria de Informação e Saúde Digital (DEMAS/SEIDIGI), 2024b. Available at: [https://infoms.saude.gov.br/extensions/SEIDIGI\\_DEMAS\\_ADESAO\\_SUSDIGITAL/SEIDIGI\\_DEMAS\\_ADESAO\\_SUSDIGITAL.html](https://infoms.saude.gov.br/extensions/SEIDIGI_DEMAS_ADESAO_SUSDIGITAL/SEIDIGI_DEMAS_ADESAO_SUSDIGITAL.html). Accessed on: 27 November 2025.

BRASIL. Ministério da Saúde. Secretaria-Executiva. Departamento de Informática do SUS. **Estratégia de saúde digital para o Brasil 2020-2028**. Brasília (DF): Ministério da Saúde, 2020. Available at: [https://bvsmis.saude.gov.br/bvs/publicacoes/estrategia\\_saude\\_digital\\_Brasil.pdf](https://bvsmis.saude.gov.br/bvs/publicacoes/estrategia_saude_digital_Brasil.pdf). Accessed on: 29 June 2025.

CGI.br – COMITÊ GESTOR DA INTERNET NO BRASIL. **Pesquisa sobre o uso das tecnologias de informação e comunicação nos domicílios brasileiros: TIC Domicílios 2024**. São Paulo: NIC.br/CETIC.br, 12 maio 2025. Available at: <https://cetic.br/pt/publicacao/pesquisa-sobre-o-uso-das-tecnologias-de-informacao-e-comunicacao-nos-domicilios-brasileiros-tic-domicilios-2024/>. Accessed on: 15 May 2025.

ENAP - ESCOLA NACIONAL DE ADMINISTRAÇÃO PÚBLICA. **Momentos importantes da transformação digital do governo federal**. Enap. GovCasTI. 03 May 2023. Available at: <https://www.youtube.com/watch?v=3ax1X5ZJVYU>. Accessed on: 29 June 2025.

FAUSTINO, D. M. A universalização dos direitos e a promoção da equidade: o caso da saúde da população negra. **Ciência & Saúde Coletiva**, v. 22, n. 12, p. 3831–3840, 2017. Available at: <https://doi.org/10.1590/1413-812320172212.25302017>. Accessed on: 12 March 2025.

GIOVANELLA, L. Atenção primária à saúde seletiva ou abrangente? **Cadernos de Saúde Pública**, Rio de Janeiro, v. 24, supl. 1, p. 21–23, 2008. Available at: <https://doi.org/10.1590/S0102-311X2008001300004>. Accessed on: 29 June 2025.

HAMEL, M. R. Da ética kantiana à ética Habermasiana: implicações sociojurídicas da reconfiguração discursiva do imperativo categórico. **Revista Katálysis**, Florianópolis, v. 14, n. 2, p. 164-171, jul./dez. 2011. Available at: <https://www.scielo.br/j/rk/a/KsMDjn7GKWzDc8VklP9C8Sv/?lang=pt>. Accessed on: 18 May 2025.

KANT, I. **Fundamentação da metafísica dos costumes e outros escritos**. Tradução de Leopoldo Holzbach. São Paulo: Martin Claret, 2004.

LAMBERTUCCI, F. F. M; ERSINA, M. C. P. Marx: universalidade filosófica e ciência positiva. **Revista Katálysis**, Florianópolis, v. 25, n. 2, p. 326-336, ago. 2022. Available at: <https://www.scielo.br/j/rk/a/WbGYrQvRmLKJkMm5dccTFhv/?format=pdf&lang=pt>. Accessed on: 18 May 2025.

MAIS de 97% das unidades básicas de saúde utilizam prontuário eletrônico e quase a totalidade tem acesso à internet. **Notícias**, Brasília (DF): Ministério da Saúde, 19 jun. 2025. Available at: <https://www.gov.br/saude/pt-br/assuntos/noticias/2025/junho/mais-de-97-das-unidades-basicas-de-saude-utilizam-prontuario-eletronico-e-quase-a-totalidade-tem-acesso-a-internet>. Accessed on: 28 June 2025.

MATTA, G. C. Universalidade. In: FUNDAÇÃO OSWALDO CRUZ. **Dicionário da educação profissional em saúde**. Rio de Janeiro: Escola Politécnica de Saúde Joaquim Venâncio, 2009.

OMS - ORGANIZAÇÃO MUNDIAL DA SAÚDE. Assembleia Mundial da Saúde (58.: 2005: Genebra, Suíça). **eHealth: resolution WHA58.28**. Genebra: Organização Mundial da Saúde, 2005. Available at: [https://apps.who.int/gb/ebwha/pdf\\_files/WHA58/WHA58\\_28-en.pdf](https://apps.who.int/gb/ebwha/pdf_files/WHA58/WHA58_28-en.pdf). Accessed on: 18 July 2025.

OMS - ORGANIZAÇÃO MUNDIAL DA SAÚDE. Assembleia Mundial da Saúde (71.: 2018: Genebra, Suíça). **Digital health: resolution WHA71.7**. Genebra: Organização Mundial da

Saúde, 2018. Available at: [https://apps.who.int/gb/ebwha/pdf\\_files/WHA71/A71\\_R7-en.pdf](https://apps.who.int/gb/ebwha/pdf_files/WHA71/A71_R7-en.pdf). Accessed on: 18 July 2025.

OMS - ORGANIZAÇÃO MUNDIAL DA SAÚDE. Assembleia Mundial da Saúde (66.: 2013: Genebra, Suíça). **eHealth standardization and interoperability: resolution WHA66.24**. Genebra: Organização Mundial da Saúde, 2013. Available at: [https://apps.who.int/gb/ebwha/pdf\\_files/WHA66/A66\\_R24-en.pdf](https://apps.who.int/gb/ebwha/pdf_files/WHA66/A66_R24-en.pdf). Accessed on: 18 July 2025.

OMS - ORGANIZACIÓN MUNDIAL DE LA SALUD. **Estrategia mundial sobre salud digital 2020–2025**. Organización Mundial de la Salud, 2021. Available at: <https://iris.who.int/handle/10665/344251>. License: CC BY-NC-SA 3.0 IGO. Accessed on: 10 July 2025.

PASSOS, V. B. C. **Tendências regressivas da universalidade no SUS: o Minotauro na Atenção Primária em Saúde (APS)**. 2025. Tese (Doutorado em Serviço Social) – Escola de Serviço Social, Universidade Federal do Rio de Janeiro, Rio de Janeiro, 2025.

QUEIROZ, V. Haddad inicia viagem aos EUA para divulgar plano nacional de data centers. **CNN Brasil**, Brasília (DF), 3 maio 2025. Available at: <https://www.cnnbrasil.com.br/economia/macroeconomia/haddad-inicia-viagem-aos-eua-para-divulgar-plano-nacional-de-data-centers/>. Accessed on: 29 June 2025.

RACHID, R. et al. Saúde digital e a plataforma do Estado brasileiro. **Ciência & Saúde Coletiva**, v. 28, n. 7, p. 2143–2153, jul. 2023.

ROUANET, S. **Interrogações**. Rio de Janeiro: Tempo Brasileiro, 2003.

ROUANET, S. **As razões do Iluminismo**. São Paulo: Companhia das Letras, 1987.

SANTOS, M. Nova estrutura de Telessaúde é inaugurada em Anamá e reforça atendimentos com unidades flutuantes. **Portal Marcos Santos**, Manaus, 14 jun. 2025. Available at: <https://www.portalmarcossantos.com.br/2025/06/14/nova-estrutura-de-telessaude-e-inaugurada-em-anama-e-reforca-atendimentos-com-unidades-flutuantes/>. Accessed on: 29 June 2025.

SOARES, L. T. **Os custos sociais do ajuste neoliberal na América Latina**. 2. ed. São Paulo: Cortez, 2002. (Coleção Questões da Nossa Época, v. 78).

SOARES, I. N.; AZEVEDO, G. D. **Caminhos para a conectividade digital da Amazônia brasileira** [recurso eletrônico]. São Paulo: FGVces, 2023. 26 p. Available at: [https://eaesp.fgv.br/sites/eaesp.fgv.br/files/u1087/fgvces\\_-\\_policy\\_brief\\_conectividade.pdf](https://eaesp.fgv.br/sites/eaesp.fgv.br/files/u1087/fgvces_-_policy_brief_conectividade.pdf). Accessed on: 10 October 2025.

SOUSA, A. M. da C. Universalidade da saúde no Brasil e as contradições da sua negação como direito de todos. **Revista Katálysis**, Florianópolis, v. 17, n. 2, p. 227–234, jul./dez. 2014. Available at: <https://www.scielo.br/j/rk/a/xTDBxFXJfdS6gzzbKGG6qYP/?format=pdf&lang=pt>. Accessed on: 18 May 2025.

SOUZA, J.; MALDONADO, F. de O. SUS digital. **A Terra é Redonda**, 2024. Disponível em: <https://aterraeredonda.com.br/sus-digital/>. Accessed on: 12 June 2025.

VELOSO, R. **Tecnologias da informação e da comunicação: desafios e perspectivas**. São Paulo: Saraiva, 2011.

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