

Health Information in the Digital Sphere

LA INFORMACIÓN SOBRE SALUD EN LA ESFERA DIGITAL


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Abstract: The digital health ecosystem has significantly transformed the management, access and dissemination of healthcare information, redefining the relationship between patients, professionals and healthcare systems thanks to the strategic integration of technologies such as Artificial Intelligence, telemedicine and social media. This progress has allowed the democratization of medical knowledge and the empowerment of patients, although it faces challenges such as the digital divide, misinformation and data protection. Digital communication in healthcare is a complex social process, in which participation, digital literacy and the construction of shared meanings play a key role. Digital platforms and influencers have taken on a central role, influencing perception and healthcare decision-making, but they require regulation and training to ensure the quality and veracity of the information. Digital health promotes more inclusive, efficient and patient-centered care, provided that technological innovation, equity and ethics are balanced.

Keywords: Digital Health; Communication; ICT; Participation; Social Media.

Resumen: La salud digital ha transformado profundamente la gestión, el acceso y la difusión de la información sanitaria, redefiniendo la relación entre pacientes, profesionales y sistemas de salud gracias a la integración estratégica de tecnologías como la inteligencia artificial, la telemedicina y las redes sociales. Este avance ha permitido la democratización del conocimiento médico y el empoderamiento de los pacientes, aunque enfrenta retos como la brecha digital, la desinformación y la protección de datos. La comunicación digital en salud constituye un proceso social complejo, donde la participación, la alfabetización digital y la construcción de significados compartidos son fundamentales. Plataformas digitales e *influencers* han cobrado un papel central, influyendo en la percepción y toma de decisiones sanitarias, pero requieren regulación y formación para garantizar la calidad y veracidad de la información. La salud digital promueve una atención más inclusiva, eficiente y centrada en el paciente, siempre que se equilibren innovación tecnológica, equidad y ética.

Palabras clave: salud digital; comunicación; TIC; participación; redes sociales.



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1. Introduction

Digital health has radically transformed the way health information is accessed, managed and disseminated, redefining the relationship between patients, healthcare professionals and systems to a degree that would have been unthinkable just a few years ago, and this process continues to evolve, thanks to the disruption of Artificial Intelligence. This makes it necessary to track the milestones achieved in order to forecast both the potential advances and the possible threats that may occur in the future. Today, the integration of information and communication technology (ICT) into healthcare not only optimizes administrative and clinical processes, but also democratizes medical knowledge, facilitating patient empowerment and the emergence of virtual communities. However, this technological advancement poses significant challenges, such as the digital divide, misinformation, and the need to ensure the privacy and security of health data.

1.1. The Digital Health Context

Digital health has emerged as a transformative paradigm in healthcare, redefining interactions between patients, professionals, and health systems through the strategic integration of information and communication technology (ICT). This field ranges from telemedicine to the use of Artificial Intelligence, systems such as the blockchain, and wearable devices, with the aim of optimizing the accessibility, efficiency and personalization of medical services. It has evolved from the digitization of medical records in the 1990s to its present global reach, driven by the convergence of technical advances and growing sustainability needs in healthcare systems (Oh *et al.*, 2005), but its effects on culture, society, and specifically communications, must also be considered.

A central aspect of this transformation is the democratization of medical knowledge and the impact that this democratization has had on society. Thus, digital platforms and social networks have enabled patients to access specialized information, participate in virtual communities, and manage chronic conditions through mobile applications (Lupton, 2017).

ICTs have also revolutionized healthcare data management. Interoperable systems and cloud storage enable efficient coordination between care levels, reducing medical errors and improving continuity of care, especially in vulnerable populations (Black *et al.*, 2011). However, this digitization poses ethical and technical challenges. The digital divide, for example, persists as a critical barrier: socioeconomically disadvantaged groups, people with rare diseases, ethnic minorities, and rural populations face limitations to device access,

connectivity, and digital literacy, expanding health disparities and threats to equity (Saeed & Masters, 2021). In addition, the sensitivity of clinical data demands robust privacy and security frameworks, particularly in the face of increased cyberattacks targeting healthcare infrastructures.

In medical communication, social media has taken on a dual role. On the one hand, influencers and content creators specializing in health have helped to make rare diseases visible and promote prevention campaigns. On the other hand, the proliferation of unverified information—from miracle cures to conspiracy theories—underscores the need for evidence-based strategies to counteract misinformation (Moorhead *et al.*, 2013).

As we can see, digital health represents a dynamic ecosystem where technological innovation must be balanced with equity, ethics and the need for cultural adaptation to the social reality of every moment and every place. Its potential to transform healthcare technically is unquestionable, but its success will depend on the ability to integrate inclusive solutions, ensure data security, and encourage the informed participation of all stakeholders.

1.2. Evolution of e-Health

The evolution of e-health is part of a historical and technological process that spans more than six decades, marked by milestones that have reconfigured the relationship between technology and medicine.

From the mid-20th to early 21st centuries, e-health evolved from a promising field in healthcare «technification» to become an increasingly integrated part of public health care, enabling the exchange of health information among all actors (professionals, patients, managers) and delivering health services in an innovative way, decentralized and with patient involvement and participation, both individually and grouped into associations.

All of this was made possible by the digitization of medical records and the implementation of electronic health records (EHRs) marking a turning point, facilitating integrated data management and the improvement of quality of care (Oh *et al.*, 2005; Lupton, 2017). The early 21st century brought mobile device democratization and cloud computing, enabling health application development, remote monitoring and telemedicine, consolidating e-health as a central axis of modern healthcare (Lupton, 2017; Kip *et al.*, 2018). In addition, the integration of Artificial Intelligence and big data has enabled the customization of treatments and optimization of healthcare resources, although challenges related to interoperability, privacy and access equity persist and are hindering wider, more equitable implementation (Kip *et al.*, 2018).



The COVID-19 pandemic in 2020 drastically accelerated this evolution. There was a surge in the use of teleconsultation platforms, while remote monitoring systems meant chronic patients could be continuously monitored without the need for hospitalization. This period also showed the potential of big data: the analysis of millions of clinical records facilitated the identification of epidemiological patterns and optimization of resources in real time, as observed in the Mayo Clinic's early warning system (Black *et al.*, 2011).

Today, e-health integrates technologies such as surgical robotics, augmented reality in medical education, and wearable devices capable of real-time biomarker monitoring. However, this progress faces persistent challenges, such as systems interoperability and the digital divide in rural populations, which require innovative public policies to ensure equity.

1.3. The Social Dimension of e-Health and 4P Medicine: Participation, Collaboration and Empowerment

E-health has evolved into a model that prioritizes active patient participation and collaboration among all actors in the healthcare system, in line with the principles of 4P medicine (predictive, preventive, personalized, participatory). This approach promotes a social transformation in healthcare, where patients are no longer passive recipients and become active players in their own health, participating in clinical decisions and in the management of their well-being (Boonstra *et al.*, 2014).

Virtual patient communities show how e-health is evolving to become more social, collaborative and open. These communities exemplify this trend, facilitating spaces of mutual support and experience-sharing that strengthen empowerment and self-management. These platforms allow information, self-care strategies and resources to be shared, especially in the case of rare or chronic diseases, where information and social support are scarce in traditional care (Kreps & Neuhauser, 2010). Participation in these communities fosters patient autonomy and helps reduce social isolation, promoting a more active role in decision-making and adherence to treatments.

On the other hand, the so-called 4P medicine (participatory, predictive, proactive and personalized) emphasizes the importance of shared decision-making in which professionals and patients dialogue and collaborate in the choice of therapeutic options, considering the values and preferences of the patient. Digitization has facilitated this process through platforms that offer clear and accessible information, promoting transparency and shared responsibility (Elwyn *et al.*, 2012), without which shared decisions would be practically

impossible due to the extreme asymmetry in knowledge and information between professionals and patients. Citizen participation is also reflected in patient involvement in public health management, where, as we will see, social media and digital platforms allow users to influence health policies and the visibility of health-related social issues (Moorhead *et al.*, 2013).

In addition, self-management of health, supported by digital tools such as mobile apps and patient portals, allows monitoring of chronic conditions, managing medications and accessing medical records in real time, strengthening autonomy and collaboration with healthcare professionals (Kreps & Neuhauser, 2010). Active patient participation in virtual communities and health management helps improve clinical outcomes, reduce costs and promote more focused care for social and emotional needs.

Finally, professional social networks and collaboration platforms among health professionals encourage interprofessional cooperation and knowledge sharing, enriching clinical practice and promoting social innovation in health (Boonstra *et al.*, 2014). However, these advances also pose challenges related to the quality of shared information and data protection, which require regulations and best practices to ensure security and trust in these digital environments (Moorhead *et al.*, 2013).

As we will see in the following sections, the social dimension of e-health, in line with the philosophy of 4P medicine, is building a more participatory, collaborative and empowering healthcare ecosystem, where active patient participation, grouping in associations and making intensive use of ICT are key to more human, equitable and sustainable care.

2. Health in the Digital Sphere

Digital health has undergone unprecedented transformation, driven by the convergence of emerging technologies and innovative models of healthcare. Advances in Artificial Intelligence, wearables, and telemedicine platforms are redefining healthcare delivery, although critical challenges persist in equity, data security, and effective adoption (Martínez-Pérez *et al.*, 2019; Conway *et al.*, 2023).

The World Health Organization's «Global Strategy on Digital Health 2020-2025» emphasizes that ICT expansion and global interconnection provide great possibilities to accelerate human progress, overcome the digital divide, and develop knowledge societies (WHO, 2021). The strategy recognizes that health digitization is a key process for overcoming access gaps, improving service efficiency, and strengthening resilience in the face of health emergencies, provided



it is implemented ethically, securely, and in a people-centred manner. And it also emphasizes that digital health must be inclusive, equitable and adapted to the needs and resources of each context, protecting users from misinformation and misuse of their personal data, and encouraging active participation of all stakeholders, including healthcare professionals, patients and civil society.

Digital communication in healthcare is now a key subject for study in the communication sciences, since it transcends the mere transfer of information and is a complex social process mediated by digital technologies. In this context, digital health cannot only be understood through a technological or instrumental prism; the interaction between actors, the construction of shared meanings and the influence of digital channels on communication practices inside and outside of health systems must also be analysed (Eysenbach, 2008). The literature has shown that the digitization of health has transformed how individuals, institutions and society access, interpret and produce health information, generating new dynamics of citizen participation and empowerment.

In the field of communication sciences, it is critical to analyse how health messages are built, circulated, and interpreted in digital environments. Digital communication in health is not limited to the one-way transmission of information but rather promotes two-way and multi-directional interaction between professionals, patients, institutions and the general public (Topol, 2019). This process involves negotiating meanings, adapting messages to different audiences, and managing credibility and trust in contexts where both truth and misinformation proliferate (Swire-Thompson & Lazer, 2020). Thus, communication sciences provide theoretical and methodological tools to understand how digital health can strengthen citizen participation, disease prevention and the promotion of healthy habits, provided that effective communication strategies adapted to digital environments are developed.

Managing health information in the digital sphere poses specific communication challenges. On the one hand, data overabundance and multiplicity of sources require advanced competencies in digital literacy and critical information assessment (Estrela *et al.*, 2023). On the other hand, the digital divide and inequalities in access to technology limit the effectiveness of communication strategies, especially in vulnerable populations. Communication sciences can help overcome these barriers by designing inclusive messages, adapting channels to user needs, and promoting active participation across all sectors of society.

Social media and other digital platforms have played a central role in the disclosure of health information, becoming spaces where health meanings are

built and disputed (Swire-Thompson & Lazer, 2020). In this context, communication professionals have the responsibility to develop strategies that promote the truthfulness, transparency and accessibility of information, while encouraging dialogue and interaction between the different stakeholders. Digital communication in health should not be reduced to the mere dissemination of content, but should incorporate mechanisms for active listening, feedback and co-creation of messages, thus favouring the construction of virtual communities committed to collective well-being.

The integration of Artificial Intelligence and big data in healthcare communication represents an opportunity to personalize messages and tailor them to individual and collective needs (Topol, 2019). However, from a communication science perspective, it is essential to critically analyse the impact of these technologies on building user trust, privacy and autonomy (Price & Cohen, 2019). Digital health communication must ensure the protection of personal data and transparency in the use of information, promoting ethical and responsible practices that strengthen citizens' trust in institutions and healthcare professionals.

Collaboration between communication professionals, health experts and technology developers is critical to designing innovative solutions that meet the real needs of the population (Steinhubl *et al.*, 2013). However, the central role of communication should not be subordinated to technology or vocational training, but should be at the core of the process, guiding channel design, messaging and engagement strategies. In this sense, communication sciences provide theoretical and methodological frameworks to analyse how digital health can contribute to the construction of a more informed, participatory and healthy society.

Digital health communication research should continue to delve deeper into the analysis of interaction dynamics, building trust, and managing misinformation in digital environments (Swire-Thompson & Lazer, 2020). It is also necessary to explore how communication strategies can adapt to different cultures, languages and social contexts, overcoming language and cultural barriers that limit access to health information (Bardus *et al.*, 2016). Digital communication in health must be inclusive, accessible and adapted to the needs of all social groups, promoting equity and justice in access to health information and services.

In conclusion, health communication in the digital sphere is a priority field of study for communication sciences, providing a critical and thoughtful look at the role of digital media in building collective health. The centrality of

communication in digital health lies in its ability to generate dialogue, participation and citizen empowerment, overcoming technocentric visions and positioning communication as a fundamental axis for social transformation and the improvement of public health.

2.1. Influencers: New Health Actors

The phenomenon of influencers as new actors in health has radically transformed how the population accesses health information and makes decisions about their physical and mental well-being. Over the past decade, the influx of digital platforms such as Instagram, YouTube and TikTok has given highly influential people mass audiences with whom to share content related to health, nutrition, exercise, chronic disease management and mental health (Kaplan & Haenlein, 2010). This paradigm shift has displaced, in many cases, the traditional role of healthcare professionals and medical institutions as primary sources of information, posing significant challenges and opportunities for contemporary health systems.

Numerous studies have documented the impact of influencers on the perception and behaviour of young and adult populations regarding health. For example, recent research found that more than 50% of young people under the age of 35 regularly consult influencers' content rather than traditional medical sources, especially on issues related to mental health and chronic disease management (Keles *et al.*, 2019). This phenomenon is enhanced by social media recommendation algorithms, which prioritize emotionally impactful and viral content over clinically validated information, generating an environment where engagement predominates over scientific precision (Kaplan & Haenlein, 2010). In addition, exposure to influencers' health content is associated with changes in body self-perception, adoption of eating habits, and use of nutritional supplements, often without scientific support (Fardouly *et al.*, 2015).

Influencers' effectiveness as agents of change in healthcare has been the subject of experimental research in recent years. A recent study conducted with 105 content creators on TikTok showed that training on the use of evidence-based communication significantly increased the production of scientifically validated content, which in turn generated greater reach and engagement among users (Motta *et al.*, 2024). These results suggest that educational strategies aimed at content creators can optimize the quality of health information available on social media. However, important risks persist, such as health commercialization: a significant proportion of influencers have been found to promote nutritional supplements and health products without clinical support,

often through commercial agreements with pharmaceutical laboratories and wellness companies (Fardouly *et al.*, 2015).

From a regulatory perspective, integrating influencers into health systems poses significant challenges. Analysis of the scientific literature reveals that only a minority of translational research directly impacts public digital health policies, making it difficult to adapt regulatory frameworks to the rate of viral content proliferation (Roberts *et al.*, 2017). The implementation of real-time algorithmic monitoring tools is presented as a promising solution to identify and mitigate the dissemination of misinformation, although their development requires collaboration between technologists, digital epidemiologists and policymakers (Roberts *et al.*, 2017). In addition, mandatory certification of health content creators has been shown to be effective in reducing the spread of misinformation on sensitive topics such as vaccination and the management of eating disorders, according to pilot initiatives implemented in several European countries.

Influencers' role in promoting mental health has been particularly relevant in recent years. Exposure to influencer content on mental health is associated with increased awareness of the importance of psychological well-being and seeking professional help, although it may also increase vulnerability to social comparison and dissatisfaction with self-image (Fardouly *et al.*, 2015; Keles *et al.*, 2019). Community feedback systems and the integration of scientific verification mechanisms into digital platforms have proven to be effective strategies for identifying and amplifying evidence-based content, creating virtuous cycles of participatory health education (Motta *et al.*, 2024). However, lack of regulation and supervision may favour the dissemination of myths and misinformation, especially in controversial issues such as vaccination or the use of alternative therapies.

The influence of content creators on public health is not limited to the disclosure of information: it can also have a significant impact on the adoption of healthy behaviours and adherence to medical treatments. Recent studies have shown that influencer-led campaigns can increase participation in screening programs, adoption of healthy habits, and adherence to drug treatments, especially among young and minority populations (Motta *et al.*, 2024). However, the effectiveness of these interventions depends largely on the quality of the information transmitted and the credibility of the influencers, underscoring the importance of training and certifying healthcare content creators.

Influencers' future as key health actors will depend on the ability of health and regulatory systems to establish robust ethical frameworks that

balance technological innovation with the protection of public health. Collaboration between healthcare institutions, digital platforms, and content creators will be critical to ensuring that health information available on social media is accurate, accessible, and based on scientific evidence (Llewellyn *et al.*, 2023). In addition, the integration of community monitoring and feedback systems will allow the identification and mitigation of the dissemination of misinformation, promoting a responsible and participatory digital health culture.

Ultimately, influencers have emerged as new critical players in the digital health ecosystem, with a growing impact on the public's perceptions, behaviour and decision-making around health. Their ability to connect with mass audiences and generate engagement represents a unique opportunity for health promotion and disease prevention, provided that the quality, truthfulness and ethics of shared content can be ensured. The combination of training, certification, regulation and monitoring will be key to maximizing influencers' positive potential in public health and minimizing the risks associated with health misinformation and commercialization.

3. Digital Communication for Mental Health and Rare Diseases

The field of electronic health and communication or e-health has also been an area where efforts around mental health and orphan disease care are mobilized. There has been extraordinarily significant progress in the last decade thanks to the possibilities of ICTs as primary sources, reflectors and amplifiers of information, and as an arena of innovative communication phenomena.

It is enough to recall the Ice Bucket Challenge, launched in 2014 to raise awareness and funds for ALS (amyotrophic lateral sclerosis), a fatal neurodegenerative disease that affects nerve cells in the brain and spinal cord, with no known cure. Without digital social media, such a strategy could never have had such a global viral impact in such a short time. At that time, the need for patient associations to raise awareness in society, and the need for those suffering from a difficult-to-diagnose disease and/or treatment to access information, seemed to converge in a more promising landscape, at least in the digital field.

This shift from the analogue to the digital community can be explained by the Community Narratives widely used to address the life stories of people with mental health problems through alternative or citizen journalism, until today, in post-pandemic times, when influencers can choose to go beyond reporting or health marketing, emphasising truthful information and the use of

scientific sources in order to promote health awareness and literacy; for example, expanding awareness of mental health as a social problem rather than an individual one.

These two areas of health —mental illness and rare diseases— will serve as examples of how the e-health approach discussed in this article uses ICT-based tools, more specifically social media, for processing information to support and improve health care.

3.1. Digital Health and Rare Diseases

Studies in this specific area show that one of the main challenges faced today by people with rare diseases is language and communication. Aspects ranging from the definition of terminology related to these pathologies to matters such as symbolic representation, political discourse, interaction and participation have been identified in broad relation to ICTs. Although rare diseases are, by definition, unusual, there is sufficient evidence of the role of digital media in how meaning is constructed around issues related to these diseases or any disease, with similarities found even across national boundaries (Meléndez-Labrador & Sánchez-Castillo, 2024).

For rare diseases, digital communication can enable patients and associations to address some of their key challenges, such as accessing information to reach earlier diagnoses and empowering the clinical process, for example, using the DxGpt application; it can serve as an instrument for state medical records and care; it can avoid patient isolation due to lack of information (for which platforms such as Orphanet have been created) and facilitate community cohesion, especially through Facebook; and it can even draw the attention of the pharmaceutical industry and other actors to the political advocacy enabling state intervention in matters such as high drug costs, lack of scientific research and access to specialized units.

Regarding information barriers, while patient associations jumped from blogs and/or webpages with static content to using social media such as Facebook and X to respond to the need to provide basic information about diseases immediately (Castillo *et al.*, 2015), simple monitoring confirms that they learned to migrate their general information to these networks as their main web platform (especially on Facebook) and went on to use other platforms such as YouTube, Instagram and Tik Tok to present that information more dynamically.

This phenomenon may be partly due to the reported problem of poor quality information on the websites created by patient organizations (Pauer *et*

al., 2017) to help journalists publicise these diseases, obtain greater coverage, reach associate members better, and raise social awareness. These platforms can provide the virtual pressroom features suggested a decade ago by Castillo *et al.* (2015) as a space arranged by patient organizations to publish announcements, press releases, dossiers, artwork, video galleries and audio resources. Although a new question now arises: will automated services and the implementation of Artificial Intelligence in journalism be the spokespersons for health in the media?

3.2. Mental Health and Digital Media

In addition to the accuracy of online health information, there is growing concern about people's ability to use, understand, and evaluate it. In this regard, the relationship between mental health and digital communication can be viewed, for example, through how digital media promotes literacy: on one hand, literacy in the healthy use of digital media itself, and on the other, mental health literacy, considering digital media use disorders in adolescents as a growing phenomenon associated with psychological distress, comorbid mental disorders and a high burden on affected families (Paschke *et al.*, 2024).

It is evident that media coverage of depression and anxiety, as well as suicide, has been increasing, especially since the COVID-19 pandemic (Sánchez-Caicedo & Aguilar-Salazar, 2024), considering the type of information to which prevalence is given and the manner in which it is presented. Alongside this, digital health literacy is also a factor shaping the critical analysis of online health information and its influence on behaviours associated with a specific health problem, making digitally literate people less likely to be swayed by online influencers (de Oliveira *et al.*, 2024).

While studying how (digital) media presents health information has been very important, in addition to content and framing, electronic devices themselves are another type of influencers; for example, they provide convenience and potential anonymity when consuming certain kinds of mental health information (Musakuro, 2025), including where the internet connection is provided. These characteristics in turn influence content and how it is presented, and even how likely users are to adopt certain attitudes and behaviours in a health intervention. Therefore, how will this ouroboros evolve with instruments like ChatGPT?

4. Conclusions

Digital health has radically reconfigured healthcare paradigms, establishing an ecosystem where technological innovation, citizen participation and ethical challenges interact dynamically. Its evolution, marked by the integration of tools such as Artificial Intelligence, telemedicine and social networks, has democratized access to medical information, allowing patients to transition from passive recipients to active agents in the management of their health. This empowerment appears in the self-management of chronic diseases through mobile applications, the formation of virtual communities, and impact on public policies through digital platforms. However, this progress has not been homogeneous or free from contradictions, as it coexists with structural gaps that expand health inequities and challenge principles of equity.

Digital communication emerges as a transverse axis in this process, transcending its instrumental function to become a complex social phenomenon. Digital platforms not only facilitate the dissemination of information, but also modulate the construction of collective health meanings, influencing clinical perceptions, behaviours and decisions. This transformative power is evidenced in cases such as the Ice Bucket Challenge, where digital virality increased the visibility of rare diseases and mobilized resources on a global scale, overcoming the limitations of traditional campaigns. However, informational overabundance (infodemic) and the proliferation of unverified content pose systemic risks, such as erosion of institutional trust and promotion of pseudoscientific practices.

Specifically, in the field of rare diseases and mental health, digital health has demonstrated its potential to overcome historical barriers. Specialized platforms (Orphanet) and social media have mitigated patient isolation, accelerated diagnostics and facilitated community cohesion. However, language and communication challenges persist, from terminological ambiguity to symbolic representation of pathologies in digital media, factors that condition access to rights and resources. The migration of patient associations to cross-platform strategies reflects a pragmatic adaptation to digital environments, although it reveals tensions between the immediacy demanded by social networks and the rigour required in health information.

In social media, the emergence of influencers as key players in health communication underscores a paradigmatic shift: traditional medical authority now competes with content creators who prioritize engagement over scientific accuracy. While training initiatives have shown that it is possible to improve the quality of the information generated by these agents, the marketing of

health (exemplified in the promotion of supplements without clinical support) reveals the urgency for regulatory frameworks to adapt to the speed of technological innovation. Artificial Intelligence, particularly in the form of language models such as ChatGPT, introduces new layers of complexity: although it optimizes message customization and accessibility, it raises critical questions about authorship, veracity, and algorithmic bias in content generation.

4P medicine (predictive, preventive, personalized, participatory) embodies the highest expression of this transformation, where collaboration between patients, professionals and healthcare systems is supported by digital tools. However, its effective implementation requires overcoming technical (system interoperability), social (digital literacy), and ethical (data privacy) obstacles. The COVID-19 pandemic served as a catalyst for innovations, showing both the resilience of digitized systems and their vulnerability to cyberattacks and misinformation.

In this context, communication sciences face the challenge of transcending descriptive analyses to propose theoretical frameworks that integrate human and technological action. Building trust in digital environments demands strategies that combine algorithmic surveillance, community engagement, and ethical platform design. Future research should explore how cultural and linguistic dynamics modulate the adoption of health technologies, particularly in vulnerable populations. It is also crucial to analyse the differential impact of automation on equity, preventing Artificial Intelligence from reproducing or amplifying existing biases.

In short, digital health represents a constantly redefined frontier, where the balance between innovation and equity will determine its ability to transform healthcare systems. Its success will depend not only on technical progress, but on building an ethical model that prioritizes social justice, informative transparency and inclusive participation, ensuring that the benefits of the digital revolution reach all sectors of society.

Ethics and Transparency

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Conflict of Interest

The authors declare that there is no conflict of interest.



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Author Contributions

Contribution	Author 1	Author 2	Author 3	Author 4
Conceptualization	X	X	X	
Data curation				
Formal Analysis				
Funding acquisition				
Investigation				
Methodology				
Project administration	X			
Resources				
Software				
Supervision	X			
Validation				
Visualization	X	X	X	
Writing - original draft	X	X	X	
Writing - review & editing	X	X	X	

Data Availability Statement

For data availability, the authors of the research should be contacted.

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