

**Diverging views on healthcare co-creation:
The social representations of telemedicine in the Italian press**

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Abstract

Recent technological progress has led to several telemedicine services and tools. However, telemedicine is still in its early stages, and its potential has yet to be fully exploited. This study aims to analyse how telemedicine is represented by the Italian press, gauging its relevance in public discourse and investigating the frames used to communicate about telemedicine in the press. By examining social representations, the research defines the cultural context of telemedicine, highlighting its role in public health, the benefits and challenges it presents, and its impact on healthcare access. The methodology comprised qualitative and quantitative text analyses: (1) identifying the total number of Italian newspaper articles (1990–2022) on the topic through a salience analysis; (2) analysing 5,205 representative headlines from six Italian newspapers using frame analysis. Salience analysis shows that telemedicine remains an emerging topic, often discussed in correspondence with specific issues (e.g., in 2002 and 2014, in correspondence with surgical innovations and national guidelines; during COVID-19 and consequent healthcare access needs). Interest declined post-2020, reflecting normalization and reduced public health urgency. Framing analysis shows that telemedicine is represented through eight frames predominantly represented in terms of both clinical and economic advantages, with particular emphasis on its role in extending healthcare access and supporting public health. These frames also highlight its potential for fostering innovation, generating value co-creation among stakeholders and for the entire community, and addressing health system challenges, while acknowledging ongoing developmental hurdles and barriers to widespread adoption. Emerging representations of telemedicine within the Italian press emphasize its advantages, portraying it positively. However, as it often happens with emergent technologies, telemedicine encounters possible antecedents for resistance. Thus, the identified frames highlight how a segment of public opinion see telemedicine as a tool that improves collaboration through patients, healthcare professionals and providers to co-create value for the socio-cultural environment.

Keywords: Telemedicine; Media analysis; Social Representations; Value Co-Creation

1. Background

Due to the recent development and diffusion of electronic devices and digital data, a consistent part of healthcare services can be delivered using e-health technologies, namely telemedicine (Weißenfeld et al., 2021). By using information and communication technologies (ICT), this solution allows overcoming spatial and temporal constraints in healthcare practices. It potentially facilitates access to services for citizens in rural areas (Nicolini, 2007; Scott Kruse et al., 2018).

Telemedicine is applied in various medical fields, including cardiology or diabetology, and in several ways, such as round-the-clock tracking of patients' parameters (i.e., telemonitoring), online consultations, and remote rehabilitation (Eberle et al., 2021; Severino et al., 2023). Facilitating access to healthcare services and providing on-demand clinical data, telemedicine offers "the right treatment, to the right patient, at the right time" (Battineni et al., 2021).

While telemedicine has been expanding over the past two decades, its diffusion significantly increased with the Covid-19 outbreak (Mann et al., 2020; Massaro, 2023). To adjust to pandemic constraints, healthcare systems employed e-health technologies to ensure both continuity care and patient and personnel safety (Cannavacciuolo et al., 2023; Cobianchi et al., 2020; Dorsey & Topol, 2020). The growing use of telemedicine significantly contributed to reduce contagion risks and associated mortality rates (Patel et al., 2021; Saigí-Rubió Francesc & Borges do Nascimento, 2022).

Moreover, by improving treatment adherence and strengthening the relationship with the patient (Absolom et al., 2021; Antonacci et al., 2023), telemedicine has become a consolidated practice in managing chronic conditions (Severino et al., 2023; Waters & Graf, 2018). It ensures a persistent link between doctor and patient, often challenging to maintain with regular in-person visits. Overall, telemedicine enables continuous monitoring and timely therapeutic adjustments (Severino et al., 2023; Sosa Liprandi et al., 2023).

However, despite its numerous advantages, telemedicine's implementation is not yet pervasive (Singh et al., 2022). Various barriers hinder its adoption, including resistance to change (Plaete et al., 2015), healthcare professionals limited technical skills (El-Mahalli et al., 2012; Scholl et al., 2011), legal and regulatory limitations (Stroetmann et al., 2011), and inadequate e-Health and digital literacy (Scott Kruse et al., 2018; van Deursen & van Dijk, 2011). Among these, digital grey divide is a significant barrier, encompassing issues related to digital access such as internet connection and devices availability (Frydman et al., 2022), and the patients' and professionals' skills (Kamal et al., 2020; Rho et al., 2014).

In addition to material obstacles, several psychological barriers hinder telemedicine adoption, including the overall resistance to new technologies (Safi et al., 2018) and patients' preference for in-person visits. This preference often stems from struggle in expressing oneself clearly, while facing the potential for technical issues in online interaction and the peculiarity of communicating through a computer, characterised by the latency between communication and reply and the absence of physical body (Mizrachi et al., 2020). Moreover, patients often prefer in-person visits due to the belief that these provide better examination, diagnosis, and more accurate treatment (Moulaei et al., 2023). Furthermore, limited knowledge and perception of telemedicine leads patients to disregard its use (Gallè et al., 2023; Khotimah et al., 2022). Altogether, these barriers have helped explain the challenges faced by telemedicine in achieving widespread adoption (Moulaei et al., 2023).

However, despite a few studies (Dickey & Wasko, 2023; Khodadad-Saryazdi, 2021), most of the literature focus on individual barriers (e.g., attitudes, knowledge, skills, etc.), neglecting both broader socio-cultural explanations and relational aspects within the healthcare contexts, such as the power dynamic between healthcare professionals and patients. Khodadad-Saryazdi (2021) highlights that telemedicine is not a “ready-to-use” technology but requires organizational and actor-level restructuring for implementation. In healthcare, the adoption of telemedicine necessitates collaboration among the actors involved and – in turn – is inherently directed toward the enhancement

of value co-creation (Fusco et al., 2020; Marsilio et al., 2021). Value co-creation is the process through which each participant, especially the patient, actively engages in the care course, leading to concerted and positive health outcomes in terms of effectiveness and efficiency for both the healthcare system and the individuals involved (Dudau et al., 2019; Palumbo et al., 2018). Therefore, telemedicine not only improves healthcare access but also contributes to create novel outcomes in which all actors involved in the care path contribute. By constantly measuring parameters both patients and professionals can monitor the patient's daily clinical changes and adjust treatment in a timely manner (Fairbrother et al., 2014). This result is co-created since it involves both patients' and professionals' input. On the one hand, there is the patients' active effort to wear a device or actively report parameters (e.g., blood pressure, glycemia). On the other hand, it requires professionals' attention and input. In this way, co-creation assigns a more active and central role to the patients, often resulting in enhanced treatment adherence (Moretta Tartaglione et al., 2018).

To enable cooperation through different actors, it is essential to identify the antecedents that can facilitate or hinder value co-creation, including knowledge, skills, or expected benefits for both users and professionals (Fusco et al., 2023). A psychosocial perspective requires to understand the perspectives of all key stakeholders, such as patients, healthcare practitioners, providers, but also public opinion (Cannavacciulo et al., 2023).

1.1. Social representations theory: Understanding telemedicine through socio-cultural lenses

To move beyond a materialistic and individualistic approach in understanding telemedicine, we aim to draw on social representations theory (SRT). SRT (Moscovici, 2008) addresses how groups and communities make sense of new social objects. Through two psycho-social processes, anchoring and objectification, the unfamiliar is made familiar (Bauer & Gaskell, 1999; Zulato et al., 2023). Anchoring familiarises novelty by inserting it into known meaning-categories. For instance, in explaining GMOs, the British press deployed the “programming” metaphor, suggesting that genes are like bytes and organisms can be programmed like software (CASTRO & GOMES, 2005). On the

other hand, objectification makes the abstract concrete by describing uncanny social objects using images and metaphors. In attempting to describe GMOs, newspapers depicted a red “healthy-looking” tomato receiving an injection from a scientist (Wagner et al., 2010).

Anchoring and objectifications allow the construction of set of beliefs, norms and practices – namely, representations – around relevant social objects. In turn, representations constitute common sense knowledge that allow individuals to communicate about and deal with relevant phenomena in society (Sammut et al., 2015). Consequently, this approach has often been employed to investigate how different publics understand science, health, and technology (O’Connor & Joffe, 2014; Wagner et al., 2010; Zulato et al., 2021). For this very reason we employ SRT to understand how telemedicine, being both a novel technology and a relevant tool, is understood and dealt with by the public’s common sense.

1.2 Aims

A fruitful research area focuses on studying social representations (SRs) in the press outlets (see (Bauer & Gaskell, 2008). Studying SRs in mass-media allows mapping the representational content and cultural resources that laypeople use to understand relevant issue at stake (Zulato et al., 2021). The present study aims to investigate the SRs of telemedicine within the Italian press, describing the content of different representations and identifying different positionings around telemedicine. This approach seeks to delineate the cultural milieu surrounding telemedicine, informing public common-sense resources for understanding, accepting, or rejecting telemedicine.

2. Method

The methodology comprised two stages. First, to identify the total number of newspaper articles published in the Italian press on the topic and conduct a salience analysis (Zulato et al., 2021). Second, to select a representative set of headlines and – subsequently – analyse them through a frame analysis (Elo & Kyngäs, 2008; Gamson & Modigliani, 1989). The Ethics Committee of University of XXX

declared that no ethical approval was required for the review of secondary data published of publicly available material.

2.1 Corpus construction

Salience data. For salience analysis, the dataset was generated by retrieving all newspapers' articles on telemedicine published in Italy between January 1990 and December 2022 (N = 31,147). Articles were retrieved from the Factiva Database¹ by using the keyword "telemedicine", without specifying any newspaper but only defining geographical area (i.e., Italy) and language (i.e., Italian). The retrieved items consisted of digitalized newspaper articles, published in the online editions of national and local newspapers, which represent a major and widely accessed source of news in the Italian media landscape. All articles on this topic, published in all the available newspaper in the country and indexed in the Factiva database, were identified and counted. Moreover, in line with Okoroji and colleagues (2021)), a proxy was established for the total number of news published in Italy by searching for the word "the" (n = 62,767,219). The weighted relevance of telemedicine on the total number of articles in each year was assessed.

Frame analysis. For text analysis, six newspapers were chosen according to two stratification's dimensions: (a) national newspapers (Corriere della Sera, CdS; La Repubblica, LaR; Il Sole 24 Ore, Sole24Ore); (b) local newspapers (Florence, La Nazione, LaNa; Bologna, Il Resto del Carlino, ReCa; Bari, La Gazzetta del Mezzogiorno, GaMez).

Among national newspapers the two most widely read newspapers throughout Italy were selected (CdS, LaR; ADS², 2023), and one newspaper with an economic, politic, and financial focus (Sole24Ore). For local newspapers, the selection was based on their geographical locations (North, Central, and South Italy). These newspapers were chosen because they were the ones with the highest

¹ Factiva Database is a search engine, owned by Dow Jones & Reuters Company., and provided by ProQuest Library. This database aggregates contents from both licensed and free sources. It provides access to more than 32,000 sources among newspapers, journals, magazines, etc... from nearly every country worldwide in 27 languages.

² Accertamenti Diffusione Stampa (ADS) is the company whose purpose is the certification and dissemination of data on the circulation and/or distribution of daily and periodical press published in Italy.

number of published news on the topic, being the most representative in the Italian public sphere. Articles were retrieved following the same procedure used for the salience analysis but searching for “telemedicine” only within the six selected newspapers ($N = 5,205$). Subsequently, to detect potential misclassifications occurring within the corpus, the selected articles were checked to ensure they fitted the research topic and to exclude duplicates ($N = 772$). Final corpus for analyses consisted of 5,205 articles on telemedicine from national newspapers ($N = 3,141$; CdS, $N = 1,229$; Sole24Ore, $N = 1,211$; LaR, $N = 701$) and local newspapers ($N = 2,064$; Firenze, North Italy, LaNa, $N = 914$; Bologna, Central Italy, ReCa, $N = 836$; Bari, South Italy, GaMez, $N = 314$).

2.1 Data analysis

Quantitative salience analysis (Zulato et al., 2021) and qualitative frame analysis (Elo & Kyngäs, 2008; Gamson & Modigliani, 1989) were conducted. Telemedicine’s salience was calculated based on the ratio (S_r) between telemedicine articles in each year and the total number of articles for each year. Thus, the higher the ratio, the higher the salience of the topic in the press (Okoroji et al., 2021). Annual salience from 1990 to 2022 was calculated by standardizing the results so that the peak year equals 100. Following Bauer and Howard’s guidelines (2004), salience is assessed by considering the timing and peaks in news flow. We quantified these aspects by aggregating data annually from all newspapers.

Frame analysis was used to identify and quantify the frames through which telemedicine was represented in the press titles (see Zulato et al., 2021). Frames are hereby conceptualised as a selection mechanism in which certain aspects are prioritised over others in the description of an object or issue (Franks et al., 2013). Frames are a way to promote a particular representation over another, such as “a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation” (Entman, 1993; p. 52). For this reason, identifying frames allows us to explore the content of representation (Bauer et al., 2006).

Frames were identified through qualitative content analysis (Elo & Kyngäs, 2008), using newspaper titles as the analysis unit. On the one hand, titles are a convenient and identifiable unit for conducting the analysis. On the other, titles are functional to “present” and summarise the content of an article prior reading and – thus – they orient the readership towards what is most relevant for the understanding of the subject matter (Montali et al., 2013; van Dijk, 2015).

Therefore, the analysis was carried out by applying an inductively built codebook to the newspaper headlines ($N = 600$) (Elo & Kyngäs, 2008; see codebook in Appendix C in supplementary materials). First, three independent coders individually conducted exploratory bottom-up coding to identify frames within public discourse on telemedicine service and tools. Subcategories emerged and were assimilated into frames during this process. Frames were constructed by considering both internal homogeneity – contents that pertain to the same central idea – and external heterogeneity, which includes contents specific to each frame. Once consensus was reached on frames, their definition and coding rules, coders analyse titles following the codebook’s guidelines (see Appendix B and C).

3. Results

3.1 Media salience

Salience analysis shows the intensity of the news coverage of telemedicine (i.e., salience) in Italy across years (Figure 1 and Appendix A).

Figure 1. The salience of telemedicine in the press coverage across time (1996-2022).

[insert Figure 1]

Notes: Salience index (Sr) standardised to 0–100 (i.e., the relative peak year, the one in which the proportion of focal articles relative to general articles is highest = 100 in each country).

The press has shown growing attention to telemedicine, with salience slowly increasing over time. Despite being part of public debate for several years, interest in the topic remained on the sidelines until the last decade. Telemedicine entered the press discourse in 1996 with a few articles published

on the topic (n=2). Between 1996 and 2002, attention grew, peaking in 2002 (n=48). This first peak might be explained by the introduction of the first applications of telemedicine in surgery (e.g., “techno-surgeon”; Eadie et al., 2003). After 2002, salience decreased till 2014 (n=106) when telemedicine interest started gradually increasing, coinciding with the publication of the first telemedicine National guidelines in Italy, and in 2020 it is possible to notice the highest peak recorded (n=1183), driven by the outbreak of the COVID-19 pandemic³, which, among the preventive measure to reduce the risk of contagion, required several lockdowns with prolonged periods of stay indoors without the possibility of going outside. The focus on telemedicine remained high over the following two years, potentially explained by the fact that the COVID-19 pandemic continued to be a focal point of interest. However, a downward trend began after 2020, likely reflecting telemedicine’s normalisation in daily practice and a loss of interest at the end of the public health emergency. The raw frequencies of analysed titles per year is presented in Appendix B.

3.2 Media framing of telemedicine

According to framing analysis, the Italian press represented telemedicine through eight common frames (Figure 2, see Appendix B). News’ titles presented telemedicine by framing it into a different set of meanings. Some illustrative headlines for each frame are presented in Table 1, whereas a full list of all analysed newspaper titles is available in Appendix D.

Figure 2. Media framing of telemedicine.

[insert Figure 2]

Notes: Percentages (Y-axis) were calculated by dividing the frequencies of each frame by the total number of titles (n=5,205).

Table 1. Frames and illustrative headlines.

³ Key moments in the pandemic management in Italy:

First outbreak: March-Mary 2020. Second phase of restrictive measure: October 2020-January 2021. Third phase: March-April 2021.

| Frame | Illustrative headlines | Newspaper |
|----------------------------------|--|------------------|
| <i>Extensive function</i> | “After bypass surgery, it is possible to recover well even at home” | CdS |
| | “From community house to “community centers”: Proposal for the territory” | Sole24Ore |
| <i>Catalyst for development</i> | “Alzheimer’s: practising with a tablet at home to defeat “anomia”” | LaR |
| | “The lesson from COVID: rethinking and reorganising the healthcare system” | GaMez, Bari |
| <i>As a value generator</i> | “Faster neurology interventions with telemedicine” | GaMez, Bari |
| | “Innovation: An opportunity for employment and entrepreneurship” | LaR |
| <i>Telemedicine as a hype</i> | “Healthcare: New business accelerates with digital” | Sole24Ore |
| | “The telemedicine project is now ready to take off” | LaNa, Firenze |
| <i>As a work in progress</i> | “Telemedicine “lagging behind”” | LaNa, Firenze |
| | “Healthcare challenges in the coming months” | ReCa, Bologna |
| <i>Barriers to dissemination</i> | “Ultra-fast network and Recovery Funds are needed for the digital transformation” | CdS |
| | “The post-pandemic healthcare system. Innovation produces savings but more resources are needed” | Sole24Ore |
| <i>Scepticism</i> | “Telemedicine (alone) is not enough” | CdS |
| | “Telemedicine is an advantage, but the human relationship must be preserved” | LaR |
| <i>As a technological tool</i> | “Hi-Tech coming to the aid of future centenarians” | Sole24Ore |
| | “Informatics in the operating room” | LaR |

The majority of titles framed telemedicine through its *Extensive function* (25,0%), presenting it as a tool that extends access to traditional healthcare services, by overcoming spatial and temporal barriers, assisting people from home, and facilitating their return to a “normal” daily life despite illness. It also fosters a multidisciplinary approach that extends participation and dialogue among

various stakeholders, such as between patients and healthcare professionals, or between healthcare professionals and providers.

Another relevant section portrayed telemedicine as a *Catalyst for development* (21,7%), highlighting its potential to drive socio-economic and cultural development and holding potential for drastically change healthcare (e.g., creating new job opportunities, and coping with crisis such as COVID-19 pandemic emergency). This frame also introduces new care models reconfiguring the patient's role in the care process and disease management. Telemedicine was represented as promoting an emancipatory healthcare model in which patients actively participate in managing their own health.

Likewise, another significant portion of titles frames telemedicine *As a value generator* for the entire healthcare system (10,8%), emphasizing its role in promoting sustainability, reducing costs and risks, and enhancing care processes. It stressed the idea that telemedicine yields benefit through novel outcomes while cutting unnecessary expenses. Titles describe telemedicine as an opportunity to generate Big Data from citizen, facilitating new discoveries in scientific fields. Moreover, these titles highlight a reduction in hospitalisation durations, ensuring continuity of care at home through telemedicine tools, and a decreased workload for healthcare professionals.

In sum, these three frames portray telemedicine as offering significant advantages and driving positive social change. Telemedicine extends existing services, making them more capillary and accessible, while also generating new value by radically changing and developing procedures that were not yet present. Together, these frames account for a consistent portion of the press discourse, representing the 57,5 % of the analysed corpus.

On another note, the next two identified frames represent telemedicine by highlighting two opposite sides of an emerging phenomenon. On the one hand, titles expressed optimism, encouraging potential investors to catch a runaway train. On the other, titles expressed caution, representing telemedicine as still being in an embryonal stage, a developing but still “immature” opportunity.

Telemedicine as a hype frame (14,1%) described telemedicine as a increasingly spreading tool, and – thus – as an opportunity for financial investment by companies and private individuals. In particular, this category includes headlines that enthusiastically emphasize the benefits of telemedicine, thereby generating increased interest among audience and influencing the investment decision and trends of companies and service providers. The emerging idea is that telemedicine is a runaway train that needs to be capitalized on now.

Conversely, the latter frame represented telemedicine *As a work in progress* (10,3%), highlighting that – despite its potential – telemedicine is still developing. Titles in this category describe it as being in an experimental phase, awaiting approval and law regulation before broader use. Moreover, titles depicted telemedicine as challenge and a tool that is lagging behind.

Frames highlighted so far depict telemedicine as a potentially useful and innovative tool with the potential to spread widely, though it is not yet widely adopted. However, a small portion of titles that promoted a different perspective. A former frame presented telemedicine in terms of Barriers to its dissemination (8,5%). A latter frame highlighted Scepticism (3,1%), raising doubts and issues about telemedicine diffusion and benefits.

Titles within *Barriers to its dissemination* frame emphasised the hurdles telemedicine need to be overcome. On one side, telemedicine implementation and adoption are hindered by material barriers, such as funding, skilled workers and users, and broadband connectivity, particularly problematic in rural areas where telemedicine is most needed. On the other side, telemedicine is described as a temporary practice driven by contingencies of the COVID-19 pandemic.

Likewise, *Scepticism* presented telemedicine by raising open doubts concerning different dimensions of care: privacy and cybersecurity, patient-clinician relationship, and its role among other healthcare services. Titles in this frame raised doubts on possible data leaks, particularly sensitive in case of patients' health-related information. Moreover, telemedicine is described as a supplementary but not a substitute tool for the usual healthcare practices that involve face-to-face relationships. In

particular, telemedicine is described as incapable of replacing the traditional doctor-patient relationship.

Finally, the last identified frame – rather than explaining what telemedicine does – attempted to make telemedicine tangible, describing it *As a technological tool* (6,6%). This was done in a two-fold way. On the one hand, the technology enables the use of telemedicine. On the other, telemedicine is a technological artifact itself. Thus, this frame describes the antecedents of telemedicine, such as the scientific innovations and technological progress that enable its use.

Discussion

Technological innovation has led to a plethora of telemedicine tools, and it is now an institutionally recognised practice in Italy and overseas (Bestsennyy et al., 2021; Massaro, 2023). However, telemedicine is still taking off and its potential has not yet fully developed and deployed (Singh et al., 2022). While prior research has focused on individual barriers and facilitators in telemedicine adoption, few studies have examined its socio-cultural and historical dimensions. The present study addresses this gap by exploring how telemedicine was represented in national and local newspapers.

The salience analysis showed that SRs of telemedicine are still emergent (see (Brondi & Neresini, 2018), being telemedicine only recently discussed, having fluctuant interest, and being mostly a low-intensity news item if compared with other topics (see Bauer, 2015; Zulato et al., 2021). Media interest in telemedicine has primarily coincided with key events, such as the publication of national guidelines (2014) and the COVID-19 pandemic (2020), when telemedicine ensured continuity of care while minimizing contagion (Omboni et al., 2022; Severino et al., 2023). However, with the resolution of pandemic, media interest has declined, raising concerns about its capacity to attract both media attention and funding beyond contextual events, such as crisis and technological innovations. However, this trend resonates with other technological, or health topics resurface during new controversies (see Bauer, 2015; Zulato et al., 2021).

The frame analysis identified eight frames through which newspapers' titles represented telemedicine (see Figure 2). Telemedicine was mainly discussed in terms of advantages with the 57,5% of titles highlighting positive social change and novel beneficial outcomes. Title emphasised its *Extensive function*, describing telemedicine's potential to overcome spatial-temporal barriers and foster to the chronic diseases management. This was exemplified by headlines such as "*After bypass surgery, it is possible to recover well even at home*" (CdS), underlining the expansion of care beyond hospital boundaries and into local communities. As a *Catalyst for development*, the press stressed economic opportunities and development for both the private and public sector. For instance, "*Alzheimer's: Practicing with a tablet at home to defeat 'anomia'*" (LaR) highlighted the integration of technological innovation into rehabilitation, while "*The lesson from COVID: Rethinking and reorganizing the healthcare system*" (GaMez, Bari) reflected a systemic perspective, linking telemedicine to national health reform and economic innovation. Finally, as *Value generator*, titles identified a set of novel and co-created assets, such as the generation of big data. Examples like "*Faster neurology interventions with telemedicine*" (GaMez, Bari) and "*Innovation: An opportunity for employment and entrepreneurship*" (LaR) explicitly connected telemedicine to economic value and social progress. Thus, these three frames inform on what can be considered as positive antecedents and – in turn – on favorable and common-sense reasons to adopt telemedicine.

These frames partially resonate with previous empirical evidence, showing continuity between the positions expressed in the press and those of potential users. For instance, survey research (Benis et al., 2021; Call et al., 2015) evidenced that telemedicine is valued when considered convenient, highlighting that the acceptance is also based on its potential of overcoming physical barriers. Moreover, previous literature (Kindle et al., 2019) emphasised the pivotal role of the exponential growth in digitally shared, aggregated and anonymised clinical data. This surge has been crucial in fostering new clinical insights, facilitated by the application of artificial intelligence, and in enhancing patient adherence to treatment (see Lilly et al., 2011; 2017). These findings are in line with what emerged from the analysed headlines that focused on the role of big data in scientific and

medical development (e.g., disease prevention and screening through artificial intelligence trained algorithms; “*Hi-Tech coming to the aid of future centenarians*” by Sole24Ore).

Apart from indicating optimism, the frames also describe telemedicine as creating value: either expanding previous functions or creating new outcomes, such as big-data or 24/7 monitoring. In particular, some titles highlighted how this added value is co-created within a multidisciplinary and emancipatory relationship between stakeholders, patients, and caregiver. This is well exemplified by the title: “*From community houses to “community centers”*: *Proposal for the territory*” (Sole24Ore), where the notion of shared healthcare spaces conveys the co-production of health outcomes among multiple actors. Common sense describes telemedicine as a mediating transformative technology that both stems from and result in a relationship. This resonates with the value co-creation model (Fusco et al., 2023), which sees health outcomes as the result of resource integration and collaboration among various actors involved (e.g. laypersons, patients, healthcare professionals, stakeholders).

Conversely, a small proportion of the headlines are sceptical about telemedicine (11.6%). As is often the case with new technologies (Bauer, 2015), some question its feasibility and benefits, raising concerns like “where are we?”. For instance, titles such as “*Telemedicine (alone) is not enough*” (CdS) and “*Telemedicine is an advantage, but the human relationship must be preserved*” (LaR) explicitly voice HCPs’ hesitation and underline the fear that technology could undermine the clinician-patient relationship. It emerges that a minority of titles, about one in ten, view telemedicine with scepticism, suggesting that it may not take off or replace standard care. Again, it is possible to read these two frames through the value co-creation model. For instance, *scepticism and barriers to implementation* can be interpreted as antecedents hindering telemedicine (Fusco et al., 2023). According to these headlines, material barriers and concerns about both privacy and the doctor-patient relationship can prevent the adoption of telemedicine in everyday clinical practice and care services. Titles highlight how – despite potentially useful – telemedicine cannot replace the traditional doctor-

patient relationship. This evidence resonates with previous literature on the topic. Ebneter and colleagues (2022) have shown professionals' concerns about the impact of telemedicine on the doctor-patient relationship. Specifically, professionals working in palliative care, clinicians emphasised the importance of a warm and compassionate communication, elements that may be neglected and hindered when interacting through technology. However, literature on users shows a different scenario, Gordon and colleagues (2022) systematic review revealed satisfaction among most patients who had used telemedicine, showing no significant differences from standard care. This contrasting evidence highlights how the concerns on the doctor-patient relationship might be context-dependent, warranting further investigation of the impact of telemedicine in different relational contexts. Nevertheless, coherently with the co-creation model (Fusco et al., 2023) both the current study and prior research identify the relational element as a central dimension in *thinking of and using* telemedicine.

On another note, *Work in progress* and *Hype* frames (24.4%), rather than focusing on positive or negative aspects of telemedicine, provide information about telemedicine's diffusion and development stage. On one hand, telemedicine is depicted as promising but still under development, requiring further advancement before widespread adoption, a view supported by several studies (Cannavacciuolo et al., 2023; Massaro, 2023; Weißenfeld et al., 2021). Headlines such as "*Telemedicine 'lagging behind'*" (LaNa, Firenze) illustrate this perception of incompleteness and delay, while "*The telemedicine project is now ready to take off*" (LaNa, Firenze) presents the opposite narrative of imminent maturity. On the other, telemedicine is described as a ready-to-use tool. As in previous literature on novel technology, telemedicine can be described as a run-away train (see Bauer, 2015). These frames offer novel insights into the possible perception of telemedicine within common sense, emphasizing its development stage as a key antecedent for adoption. Before using telemedicine, potential users might want to make sure it is fully developed, as exemplified by titles: "*Telemedicine "lagging behind"*" (LaNa, Firenze).

Finally, a minority of headlines (6.6%) focus on explaining telemedicine recurring to two socio-cognitive processes that enable the construction of SRs (Sammut et al., 2015): objectification and anchoring. First, telemedicine is objectified through technological metaphors, such as the “robot dog” or “computer” indicating the teleconsultation. Second, telemedicine is understood through the rules of technology, such as the use of artificial intelligence for clinical insights or digital transformation. For instance, “*Informatics in the operating room*” (LaR) portrays telemedicine as an integrated digital environment rather than a separate tool, showing how medical practice itself is increasingly technologized. Thus, rather than being objectified through traditional medical imagery (e.g., doctor) or anchored in familiar concepts of medicine and patient-doctor relationship, telemedicine is placed in the realm of technology. In sum, telemedicine is framed within familiar technologies (e.g. computers, smartphones), enhancing accessibility and reducing abstraction (Wagner et al., 2010). On the one hand, placing telemedicine as a technology underlines its proximity, as users deploying technological devices daily. On the other, de-anchoring telemedicine from the doctor-patient relationship may increase a perceived distance, potentially undermining one of the most valued elements in the care path (Antonacci et al., 2023).

To conclude, emerging representations within the Italian press are predominantly positive, highlighting its advantages. However, as it often happens with emergent technologies (Bauer, 2015), also telemedicine encounters potential resistance due to scepticism and perceived barriers. The examples provided show that such resistance is not abstract but embedded in everyday professional and policy discourse. Beyond this judgments, common sense shows opposite positions on whether telemedicine is fully developed or holds future potential. All identified frames resonate with the value-cocreation model (Fusco et al., 2023) and highlight how telemedicine is not a technology appearing in a social vacuum. Instead, as results stress, telemedicine potential and resistance stems from and results in a complex socio-cultural environment.

Moreover, analysis showed that the Italian press has framed telemedicine within three overall topics: medical, economic and technological. However, Batel and Castro (2018) suggest highlighting what is missing in qualitative data. Neglected topics include its possible application in mental health (e.g., psychotherapy and online wellness interventions). A recent bibliometric analysis (Author 1, under review) shows a growing scientific focus on online psychological support interventions (e.g., treatments for PTSD, depression or anxiety). In line with SRT, this lack further corroborates how often there is a cleavage between common sense and expert knowledge. What is relevant for expert is not necessarily relevant for the broader public.

Implications for practice

Although this study primarily examined how telemedicine is portrayed in the Italian press, its findings have practical implications for those involved in the design, implementation and communication of telemedicine services. Understanding how telemedicine is framed by the media can provide useful insights into how telemedicine is collectively understood by different publics; thus, mapping potential enthusiasm and concerns that might potentially influence its adoption. This is particularly true for a society of “bio-mediatization” (see Briggs & Hallin, 2024) where health knowledge is co-produced in the dialogue between different actors, such as journalists, practitioners, and lay people. In turn, for HCPs and decision makers, identifying how the media portrays telemedicine can provide helpful insights for more effective actions to build trust, clarifying benefits and addressing common misconceptions. This can also be done by designing awareness campaigns and initiatives to engage laypeople. Here, engagement is a pivotal element, as considering lay perspectives – also expressed through the media – can help reconsider innovation projects critically. The main point here is that we need to shift away from a “deficit model” (see Bauer, 2015), where potential users irrationally resist innovation, to a “co-creation model” (Fusco et al., 2023), where innovation integrates plural perspectives.

In conclusion, researchers should recognise the socio-cultural and interpersonal dimensions of telemedicine. As with every technological innovation, scientific knowledge – and its supposed benefits – alone are insufficient for widespread adoption. Whether telemedicine is adopted sustainably depends on how it is socially represented, communicated and embedded in everyday care practices (see Bauer, 2015).

To enhance readability and provide an accessible synthesis of the main findings, Table 2 summarises the key take-home messages emerging from the discussion. The table translates the study's theoretical and empirical insights into actionable implications for research and practice, bridging the gap between media analysis and telemedicine implementation.

Table 2. Key findings and implications for research and practice

| Main finding | Theoretical insight | Implications for research and practice |
|---|--|---|
| Telemedicine as an expanding and value-generating innovation | The press predominantly frames telemedicine as a positive, transformative force that extends care beyond hospitals and fosters new value creation (e.g., data, accessibility, economic development). | Understanding this optimistic framing can help communicators and policymakers reinforce trust in telemedicine and highlight its tangible benefits. Developers can design user-centered systems that emphasize accessibility and value generation. |
| Co-creation and relational dimension of telemedicine | Headlines describe telemedicine as a collaborative process involving multiple actors (patients, caregivers, HCPs), consistent with the value co-creation model. | HCPs and decision makers should promote collaborative care models and communication strategies that emphasize shared responsibility and relational |

| | | |
|--|--|--|
| | | |
| Scepticism and perceived barriers | | |
| | | |
| Technological metaphors and anchoring in everyday devices | | |

| | | |
|--|---|--|
| Underrepresentation of psychological and mental health applications | <p>The absence of references to telepsychology or online therapy indicates a gap between expert knowledge and public discourse.</p> | <p>materials can reinforce this balance.</p> <p>Researchers should explore why some domains remain underrepresented in media coverage. Further research should investigate the effectiveness and applicability of telepsychology in different context. This should ensure that communication efforts are grounded in robust evidence and realistic expectations.</p> |
|--|---|--|

Limitations and future research

Our study brought a socio-cultural and relational perspective into analysing telemedicine through the Italian press but has limitations. First, while showing a temporal evolution of salience, we could not compare an evolution of frames over time due to limited articles available. Second, analysing newspapers titles maps SRs but doesn't reflect readers' opinions (Gamson & Modigliani, 1989). Future studies could focus on potential users to investigate how SRs are shaped in different contexts. Third, our focus on Italian public healthcare system, may differ from private models like the USA's. Comparative studies across different National Healthcare Systems could be insightful. Rather than investigating the content of representations in different countries, future research should compare salience and gauge whether the interest in the topic is synchronous or not in different geographical areas. Finally, implementing annual monitoring system could reveal changes in SRs of telemedicine, new phenomena and trends in newspapers content over time.

Ethics statement

The manuscript adheres to ethical guidelines specified in the APA Code of Conduct. The research was exempted from Ethics Review Board of University of XXX approval.

Declaration of contribution of authors

Author 1. Conceptualisation, investigation, writing – original draft and review & editing, methodology, formal analysis, data curation.

Author 2. Conceptualisation, investigation, writing – original draft and review & editing, methodology, formal analysis, supervision.

Author 3. Conceptualisation, writing – review & editing, formal analysis, supervision.

Data Availability Statement

The data used in this study is publicly available being newspapers titles. Additional meta-data from this study can be shared upon request.

Disclosure statement

The authors declare that they have no conflict of interest whatsoever that is relevant to the publication of the current article.

Competing interests

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