



UNIVERSITÀ DEGLI STUDI DI MACERATA

**CORSO DI DOTTORATO DI RICERCA IN
GLOBAL STUDIES. JUSTICE, RIGHTS, POLITICS.
CICLO XXXVII**

TITOLO DELLA TESI

**INSTITUTIONAL COMMUNICATION OF HEALTH AND CRISIS HEALTH EMERGENCIES BETWEEN
CITIZENS AND PUBLIC SECTOR ORGANIZATIONS THROUGH SOCIAL MEDIA**

SUPERVISORE DI TESI

**Chiar.mo Prof. ALESSIA BERTOLAZZI,
LUCIA D'AMBROSI**

DOTTORANDO

Dott. ALESSANDRA GIERSZEWSKA

COORDINATORE

Chiar.mo Prof. BENEDETTA BARBISAN

ANNO 2025

The title of the PhD project research: **Institutional Communication of Health and Crisis Health Emergencies Between Citizens and Public Sector Organizations through Social Media.**

PhD candidate: **Alessandra Gierszewska.**

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Preface

The landscape of public sector communication has undergone a profound transformation in recent years, driven by technological advancements, changing societal expectations, and the emergence of new challenges in the realm of public health. This PhD research project aims to explore the evolving nature of institutional communication in Italy, with a particular focus on health communication strategies during crisis situations, exemplified by the COVID-19 pandemic. The advent of digital media, particularly social platforms, has revolutionized the way public institutions interact with citizens. These new channels have opened up unprecedented opportunities for direct engagement, rapid information dissemination, and real-time feedback. However, they have also introduced new complexities and challenges, including the spread of misinformation and the need for public sector organizations to adapt quickly to an ever-changing digital environment. In the context of public health, effective communication has never been more critical. The global health crises of recent years, culminating in the COVID-19 pandemic, have underscored the vital role that clear, timely, and trustworthy information plays in shaping public behavior and managing health emergencies. Italy, as one of the first European countries to face the full force of the coronavirus outbreak, provides a compelling case study for examining how public sector communication strategies evolve and adapt in the face of unprecedented challenges.

This research project is structured to provide a comprehensive analysis of the current state of public sector communication in Italy, with a specific emphasis on health communication. It begins by establishing a theoretical framework for understanding public sector communication, tracing its historical roots and examining contemporary models and approaches. The study then delves into the specific challenges posed by social media and digital platforms, exploring both the opportunities they present and the potential pitfalls they introduce. A significant portion of the research is dedicated to the field of public health communication. This section examines why health communication has emerged as a distinct and crucial discipline, and how digital media has been implemented in this context. The Italian experience is analyzed in detail, including the impact of legislative frameworks such as Law 150 and the use of social and mass media in health campaigns. To provide a broader perspective, the research also includes a comparative analysis of health communication frameworks in Spain and the United

Kingdom, offering insights into diverse approaches across different national contexts. The project then focuses on the development of public sector communication during health emergency crises, using recent epidemics as case studies. The COVID-19 pandemic serves as a central point of analysis, examining how it has reshaped public communication strategies and accelerated the adoption of digital tools. This section also explores the application of digital media to institutional communication during health emergencies and addresses the critical issue of the "infodemic", the spread of misinformation during health crises.

The methodology chapter outlines the research design employed in this study, detailing the mixed-methods approach that combines quantitative analysis of social media metrics with qualitative assessment of communication strategies through interviews and case studies. This approach allows for a nuanced understanding of both the measurable impacts of digital communication and the contextual factors shaping its implementation. The final sections of the project are dedicated to a discussion of the data collected, comparing the findings to previous research and drawing conclusions about the current state and future directions of public sector communication in Italy. This analysis aims to provide valuable insights for policymakers, public health officials, and communication professionals, offering practical recommendations for enhancing the effectiveness of public sector communication in an increasingly digital world. Throughout this research, several key themes emerge:

- *The rapid evolution of communication technologies and their impact on public sector strategies:* The project examines how digital platforms have transformed the landscape of public communication, offering new opportunities for engagement while also presenting challenges in terms of information management and audience fragmentation.
- *The growing importance of health communication in public discourse:* The study explores how health-related issues have come to occupy a central place in public communication, particularly in light of recent global health crises.
- *The challenges of maintaining public trust in an era of information overload:* The research investigates strategies for combating misinformation and building credibility in a digital environment where false information can spread rapidly.
- *The need for adaptive and responsive communication strategies:* The project

highlights the importance of flexible approaches that can quickly adjust to changing circumstances and emerging threats.

- *The role of public sector communication in fostering civic engagement and social cohesion:* The study examines how effective communication strategies can contribute to building more resilient and informed communities.

By addressing these themes, this research project aims to contribute to the growing body of literature on public sector communication in the digital age. It seeks to provide a comprehensive analysis of the Italian experience while also offering insights that may be applicable to other national contexts. The COVID-19 pandemic has served as a critical juncture in the field of public sector communication, accelerating trends that were already underway and forcing rapid innovation in response to an unprecedented global crisis. As such, it provides a unique opportunity to examine how public institutions adapt their communication strategies in real-time to meet urgent societal needs. This research is particularly timely given the ongoing challenges posed by the infodemic - the rapid spread of both accurate and inaccurate information during a health crisis. Understanding how public institutions can effectively navigate this complex information landscape is crucial for developing more resilient and effective communication strategies for future crises. Moreover, as digital technologies continue to evolve at a rapid pace, with emerging tools like artificial intelligence and virtual reality poised to further transform the communication landscape, it is essential to develop a deep understanding of current practices and challenges. This research aims to provide a foundation for future studies that will explore the potential impacts of these new technologies on public sector communication.

The project also addresses the broader societal implications of changing communication practices. As public institutions increasingly rely on digital platforms for engagement, questions arise about digital inclusion and the potential exacerbation of existing social inequalities. By examining these issues, the research contributes to ongoing discussions about the role of public communication in promoting social equity and democratic participation. Furthermore, this study seeks to bridge the gap between academic research and practical application. By combining theoretical analysis with real-world case studies and interviews with communication professionals, it aims to provide insights that are both academically rigorous and practically relevant for those working in public sector communication.

The comparative elements of the research, examining practices in Spain and the UK alongside the Italian case, offer valuable opportunities for cross-national learning. By identifying common challenges and diverse approaches, the study contributes to a more nuanced understanding of public sector communication in different cultural and institutional contexts. In examining the Italian experience, this research also provides insights into how a decentralized healthcare system impacts communication strategies during health crises. The challenges of coordinating messaging across different levels of government and regions offer important lessons for other countries with similar institutional structures. The project's focus on the integration of traditional and digital media strategies reflects the complex media ecosystem in which public sector communication now operates. Understanding how to effectively combine different communication channels to reach diverse audiences is crucial for developing comprehensive and inclusive communication strategies.

Finally, this research contributes to ongoing debates about the role of public institutions in an increasingly digital society. As the boundaries between public and private, online and offline continue to blur, public sector organizations must navigate complex ethical and practical challenges. This study aims to shed light on these issues and provide a framework for thinking about the future of public sector communication in a rapidly changing world. In conclusion, this research project offers a comprehensive examination of public sector communication in Italy, with a particular focus on health communication during crises. By analyzing the challenges and opportunities presented by digital media, exploring the impact of recent health emergencies, and examining strategies for combating misinformation, it aims to provide valuable insights for both scholars and practitioners in the field of public communication. As we move forward into an increasingly interconnected and digitally-mediated world, the lessons learned from this study will be crucial for developing more effective, inclusive, and resilient public communication strategies. The findings and recommendations presented here are intended to inform policy decisions, guide professional practice, and stimulate further research in this vital area of public administration and health management.

Chapter 1. Public Sector Communication Framework and Society.

1.1 Definition and Theories

Public sector communication has evolved significantly over the past few decades, reflecting broader changes in governance, technology, and societal expectations. As Canel and Luoma-aho (2019) argue, effective communication is increasingly recognized as essential for building trust between citizens and public institutions. This shift necessitates a more nuanced understanding of how communication functions within the unique context of public organizations. One key aspect of public sector communication that warrants further exploration is its role in facilitating democratic engagement. Habermas's (1989) concept of the public sphere provides a useful theoretical framework for understanding this function. The public sphere, as Habermas conceptualizes it, is a discursive space where citizens can engage in rational debate about matters of public concern. While Habermas's original formulation focused on face-to-face interactions in physical spaces like coffee houses, contemporary scholars have extended this concept to include mediated forms of communication, including those facilitated by public sector organizations (Dahlgren, 2005). In this context, public sector communication can be seen as playing a vital role in nurturing and sustaining the public sphere. By providing information about government policies, decisions, and services, public sector organizations contribute to the knowledge base that citizens draw upon in their deliberations. Moreover, by creating channels for citizen feedback and participation, these organizations can help to ensure that public opinion is reflected in policy-making processes. This aligns with what Canel and Luoma-aho (2019) describe as the "civic purposes" of government communication.

However, the realization of this democratic potential is not without challenges. As Fredriksson and Pallas (2016) note, public sector organizations often face conflicting demands and expectations when it comes to their communication practices. On one hand, there is pressure for increased transparency and openness, driven by democratic ideals and facilitated by digital technologies. On the other hand, these organizations must also navigate political pressures, legal constraints, and the need to maintain public trust. Balancing these competing demands requires a sophisticated approach to communication management. The concept of strategic communication offers a framework for addressing these challenges. Hallahan et al. (2007) define strategic

communication as "the purposeful use of communication by an organization to fulfill its mission" (p. 3). In the public sector context, this involves aligning communication activities with organizational goals and broader public service objectives. Importantly, strategic communication in the public sector must go beyond mere information dissemination or reputation management. As Luoma-aho and Canel (2016) argue, it should aim to build long-term relationships with citizens and stakeholders, fostering trust and legitimacy. This strategic approach to public sector communication is reflected in the growing emphasis on stakeholder engagement and co-creation in public administration. The concept of "New Public Governance" (Osborne, 2006) emphasizes the importance of networks and partnerships in public service delivery, with communication playing a crucial role in facilitating these collaborative relationships. This shift requires public sector communicators to develop new skills and competencies, moving beyond traditional public relations approaches to embrace more participatory and dialogic forms of communication. Digital technologies have played a significant role in reshaping public sector communication practices. Social media platforms, in particular, have opened up new channels for direct interaction between public organizations and citizens. However, as Mergel (2013) points out, the adoption of these technologies in the public sector has not been without challenges. Issues of privacy, security, and digital divide must be carefully considered. Moreover, the informal and rapid nature of social media communication can sometimes conflict with the formal processes and hierarchical structures typical of public organizations.

Despite these challenges, digital technologies offer significant opportunities for enhancing public sector communication. For example, big data analytics can provide valuable insights into citizen needs and preferences, enabling more targeted and effective communication strategies. Similarly, artificial intelligence and chatbots are increasingly being used to provide 24/7 customer service, improving accessibility and responsiveness (Wirtz et al., 2019). The role of public sector communication in crisis management is another area that deserves attention. In an era of global pandemics, climate change, and geopolitical instability, the ability of public organizations to communicate effectively during crises is more important than ever. Coombs' (2007) Situational Crisis Communication Theory provides a useful framework for understanding how organizations can use communication to protect their reputation during crises. However, in the public sector context, crisis communication must go

beyond reputation management to focus on public safety and well-being. The COVID-19 pandemic has provided a stark illustration of the challenges and importance of crisis communication in the public sector. As Christensen and Læg Reid (2020) note, the pandemic has highlighted the need for clear, consistent, and timely communication from public health authorities and government agencies. It has also underscored the importance of coordinating communication efforts across different levels of government and between various public sector organizations.

Another important aspect of public sector communication is its role in policy implementation. Howlett (2009) argues that communication should be seen as a policy instrument in its own right, capable of influencing behavior and shaping public opinion. This perspective aligns with the growing interest in "nudge" theory and behavioral insights in public policy (Thaler and Sunstein, 2008). By strategically framing messages and leveraging psychological insights, public sector organizations can potentially increase compliance with regulations, promote healthy behaviors, and encourage civic engagement. According to Graber (2003), the purpose of communication with the term public sector is to achieve organizational goals; the coordination of work is the impact on public sector management and the subjects involved are only public organizations. Canel & Luoma-aho (2019) tried to add a definition to public sector organization, stating that it should also pursue and maintain the public good, they also consider it as an extension of administrative communication, government public relations and government communication. In this context, research on public sector communication is still limited; Highsaw & Bowen (1965) provided the first definition of public sector communication, and Graber & Doris (1992) with their book have been the first one who specifically dealt this topic, notwithstanding the communication has always had a crucial role in achieving organizational goals of public services and goods, it has not been analyzed in depth.

The turning point has been in 2018, with the first monograph about this topic by Canel & Luoma-aho; in fact, the final inclusive definition has been offered again by these authors, who have been interpreting public sector communication as a goal-oriented communication between stakeholders and State organizations and non-government organizations with the aim of build and preserve the public good but also to improve trust between citizens and authorities. In fact, the expression public sector

communication appeared only in the following works: Graber (1992), Pandey et al. (2006), Glenny (2008) and Canel et al. (2015; 2019). Habermas (1989) describes the term “public” embeds the public sphere but in a different way; as the public sector in his regard is related to the public authority, the State or the government in which the policy process takes place; on the contrary, the public sphere is according to his interpretation, the vehicle through which the public opinion embraces the State with the needs of society. In addition, Benhabib (1992) assumed that the normative assumption of public sphere is the validity of the State depends on whether it is attentive and react to the considerations expressed by the public sphere. In this regard, Canel & Luomaaho (2020) offer again a clarification to the ambiguity of Habermas’s theory, stating that whether the boundaries between the State and the public sphere are distinct but they have been always confused and undefined.

However, the use of communication as a policy tool raises important ethical questions. As Gelders and Ihlen (2010) point out, there is a fine line between legitimate public information campaigns and propaganda. Public sector communicators must navigate this ethical terrain carefully, balancing the need for effective communication with the principles of transparency and democratic accountability.

The concept of public value, as developed by Moore (1995), provides a useful framework for thinking about the goals and outcomes of public sector communication. Moore argues that public managers should aim to create public value, defined as the collective benefits that citizens derive from public services and institutions. In the context of communication, this might involve not only providing information and services but also fostering social cohesion, promoting civic engagement, and building trust in public institutions. Measuring the impact and effectiveness of public sector communication remains a significant challenge. While private sector organizations can often rely on metrics like sales or market share, the outcomes of public sector communication are often intangible and difficult to quantify. Macnamara (2018) proposes a framework for evaluating public sector communication that goes beyond traditional output measures (like press releases issued or social media followers) to focus on outcomes and impact. This might include measures of public understanding, attitude change, behavior change, and improvements in social or environmental conditions.

The professionalization of public sector communication is another important trend. As the field becomes more complex and strategically important, there is growing recognition of the need for specialized skills and knowledge. This has led to the development of professional associations, specialized training programs, and academic courses focused on public sector communication. However, as Sanders et al. (2011) note, the concept of professionalism in this context is not without controversy. There are ongoing debates about the appropriate balance between political responsiveness and professional independence in government communication roles. Cultural differences in public sector communication practices are also worthy of consideration. While much of the literature on public sector communication has focused on Western democracies, there is growing interest in how these concepts and practices translate to different cultural and political contexts. For example, Canel and Sanders (2013) provide a comparative analysis of government communication practices across 15 countries, highlighting both commonalities and differences in approaches.

The relationship between public sector communication and media organizations is another area of ongoing research and debate. While traditional models of government communication often focused on media relations as a primary function, the changing media landscape has necessitated new approaches. The decline of traditional news media and the rise of social media have created both challenges and opportunities for public sector communicators. On one hand, these changes have made it more difficult to control the narrative around public issues. On the other hand, they have opened up new channels for direct communication with citizens. The concept of mediatization provides a useful framework for understanding these changes. Fredriksson and Pallas (2016) define mediatization as "a long-term process through which the importance of the media and their spill-over effects on political processes has increased" (p. 150). In the public sector context, this means that communication practices are increasingly shaped by media logic, with potential implications for organizational structures, decision-making processes, and policy outcomes.

Looking to the future, several emerging trends are likely to shape the field of public sector communication. The continued development of artificial intelligence and machine learning technologies may offer new tools for personalized communication and predictive analytics. The growing importance of sustainability and social

responsibility may require public sector organizations to communicate more effectively about their environmental and social impacts. And ongoing debates about privacy, data protection, and digital rights are likely to have significant implications for how public sector organizations collect, use, and communicate information. In conclusion, public sector communication is a complex and evolving field that plays a crucial role in democratic governance and public service delivery. As public organizations navigate an increasingly complex and interconnected world, effective communication will be essential for building trust, fostering engagement, and creating public value. Future research in this area might focus on developing more sophisticated models for measuring the impact of public sector communication, exploring the ethical implications of new communication technologies, and understanding how communication practices can be adapted to different cultural and political contexts.

1.2 Models of Public Sector Communication.

The evolution of public sector communication models reflects broader shifts in understanding how organizations interact with their stakeholders. The public information model, as described by Grunig and Hunt (1984), represents an early approach focused on one-way dissemination of information. While this model can be effective for basic health education and awareness campaigns, its limitations in fostering dialogue and engagement have become increasingly apparent in the modern communication landscape. The two-way asymmetric model, also proposed by Grunig and Hunt (1984), represents a step towards more interactive communication. This model involves gathering feedback from the public to refine messaging strategies, but still prioritizes persuasion over mutual understanding. In the context of public health, this approach might involve conducting surveys to gauge public knowledge about a health issue, then using that information to craft more persuasive messages. However, critics argue that this model still maintains an imbalance of power between the organization and its publics (Dozier et al., 1995). The two-way symmetric model, in contrast, emphasizes dialogue and mutual adjustment between the organization and its public. This model aligns more closely with contemporary ideals of participatory governance and citizen engagement in public health. Grunig (2001) argues that this approach is not only more ethical but also more effective in building long-term relationships with stakeholders. In practice, this

might involve health agencies engaging in ongoing dialogue with community groups to co-create health promotion strategies. The mixed-motive model, proposed by Cameron et al. (1997), offers a more nuanced view of organizational communication. This model acknowledges that organizations often have multiple, sometimes conflicting goals in their communication efforts. For public health agencies, this could involve balancing the need for transparency with the desire to avoid public panic during disease outbreaks. The model suggests that effective communication involves finding a "win-win zone" where both organizational and public interests are served (Cancel et al., 1999). The government communication decision wheel model, developed by Liu and Horsley (2007), provides a comprehensive framework for understanding the unique factors that influence government communication practices. This model identifies eight key variables: politics, public perception, legal frameworks, media scrutiny, federalism, lack of competition, leadership changes, and limited resources. Each of these factors can significantly impact how public health agencies communicate with citizens. For example, legal constraints around privacy may limit how much information can be shared during contact tracing efforts in a pandemic. The public sector communication model proposed by Luoma-aho and Canel (2019) represents a significant shift in thinking about public sector communication. This model emphasizes the importance of building intangible assets like legitimacy, trust, and reputation through communication efforts. Rather than focusing solely on short-term behavioral changes, this approach underscores the long-term relational goals of public sector communication. For health agencies, this might involve ongoing efforts to build public trust in health institutions, which can pay dividends during future health crises.

Approaches to Public Sector Health Communication.

Various approaches have been developed to guide public sector health communication efforts, each offering unique insights and strategies. The social marketing approach, pioneered by Kotler and Zaltman (1971), applies commercial marketing techniques to promote public health behaviors. This approach involves systematic research to understand target audiences, development of tailored messages and interventions, and strategic dissemination through multiple channels. Social marketing has been effectively applied to various public health issues, from promoting vaccination to

reducing tobacco use (Grier and Bryant, 2005). However, critics argue that this approach may oversimplify complex health behaviors and neglect broader social determinants of health (Buchanan et al., 1994). The health belief model, developed by Rosenstock (1974), focuses on individuals' perceptions of health threats and the benefits of preventive behaviors. This model suggests that health behaviors are influenced by perceived susceptibility to a health problem, perceived severity of the consequences, perceived benefits of taking action, and perceived barriers to action. Communication strategies based on this model aim to address these perceptions to motivate health-protective actions. While widely used, the health belief model has been criticized for its focus on individual cognition at the expense of social and environmental factors (Janz and Becker, 1984).

The social ecological model, as applied to health communication by McLeroy et al. (1988), emphasizes the need to address health behaviors at multiple levels: individual, interpersonal, organizational, community, and policy. This approach recognizes that healthy behaviors are shaped by complex interactions between individuals and their social and physical environments. For public health communicators, this implies the need for coordinated efforts across different societal spheres, from individual counseling to policy advocacy. The strength of this approach lies in its comprehensive view of health determinants, but its complexity can make implementation challenging (Stokols, 1996). The participatory communication approach, rooted in the work of Freire (1970), prioritizes community involvement in defining health issues and developing solutions. This approach aligns with ideals of citizen engagement and empowerment in public health. Participatory methods might involve community dialogues, photovoice projects, or citizen advisory boards for health agencies. While this approach can lead to more sustainable and culturally appropriate health interventions, it can be time-consuming and may challenge traditional power structures within health institutions (Wallerstein and Duran, 2006). Crisis communication approaches, such as the Situational Crisis Communication Theory (SCCT) developed by Coombs (2007), provide frameworks for maintaining public trust during health emergencies. SCCT suggests that crisis response strategies should be matched to the level of crisis responsibility attributed to the organization and the organization's relationship history with stakeholders. For health agencies, this might involve strategies like expressing concern for affected

individuals, taking responsibility for any organizational shortcomings, and clearly outlining corrective actions. The effectiveness of SCCT has been demonstrated in various crisis contexts, but critics argue that it may not fully account for the complexities of long-duration crises like pandemics (Seeger and Sellnow, 2016). The IDEA model (Internalization, Distribution, Explanation, Action), proposed by Sellnow et al. (2015), offers specific guidelines for crafting messages during infectious disease outbreaks. This model emphasizes the need for clear, actionable communication that helps the public internalize the risk, understand how the disease spreads, comprehend the underlying science, and take appropriate protective actions. The IDEA model has shown promise in experimental studies, but its effectiveness in real-world crisis scenarios requires further investigation (Sellnow-Richmond et al., 2018).

1.3 The Roots of Public Sector Communication

The roots of public sector communication can indeed be traced back to the earliest forms of organized governance, evolving alongside the development of political structures and societal communication practices. This evolution reflects not only technological advancements but also changing philosophies about the relationship between governments and citizens. In ancient civilizations, communication from rulers to the public was often one-directional and authoritative. The use of stone tablets, papyrus scrolls, and public proclamations served to disseminate laws, decrees, and important information. The Roman Empire's *Acta Diurna*, as mentioned, represents an early form of official public communication, posting daily announcements in the Forum (Stephens, 2007). Similarly, in ancient China, the Tang Dynasty (618-907 AD) established a system of imperial edicts and public notices posted on wooden boards in city centers (Fairbank & Goldman, 2006). The development of the printing press in the 15th century marked a significant turning point in the ability of governments to distribute information more widely. This technological advancement coincided with the rise of nation-states in Europe, leading to more systematic approaches to government communication. For instance, the French monarchy under Louis XIV utilized printed gazettes to shape public opinion and project royal power (Burke, 1992). The Enlightenment period in the 18th century brought about fundamental shifts in thinking about governance and the public sphere. Philosophers like Jürgen Habermas have

extensively analyzed how this era saw the emergence of spaces for public discourse and debate, such as coffee houses and salons, which influenced government-citizen communication (Habermas, 1989). The American and French Revolutions further emphasized the importance of public opinion and citizen engagement, leading to the development of more sophisticated government communication strategies. The 19th century saw the professionalization of government communication, particularly in the United States. The concept of "publicity" in government affairs gained traction, with figures like Dorman Eaton advocating for greater transparency in civil service reform (Lee, 2008). The Progressive Era in the early 20th century further emphasized the need for governments to communicate more effectively with citizens, driven by ideals of democratic participation and administrative efficiency. World War I marked a significant milestone in the development of modern public sector communication. Governments established dedicated propaganda offices to manage public opinion and maintain morale. In the United States, the Committee on Public Information, led by George Creel, utilized various media channels to promote American war efforts (Vaughn, 1980). This period saw the emergence of more sophisticated techniques in mass communication and public opinion management. The interwar period and World War II further solidified the importance of strategic government communication.

In the United States, Franklin D. Roosevelt's fireside chats demonstrated the power of direct communication between leaders and citizens through new media technologies like radio (Ryfe, 1999). The British government's Ministry of Information during World War II set new standards for coordinated public communication efforts (Taylor, 2003). The post-war period saw a shift towards more democratic and transparent forms of government communication. The passage of the Freedom of Information Act in the United States in 1966 represented a significant step towards greater government accountability and citizen access to information (Piotrowski, 2007). Similar legislation followed in other democracies, reflecting changing expectations about government transparency and citizen rights to information. The latter half of the 20th century witnessed the professionalization of public sector communication as a distinct field. Government agencies began to establish dedicated communication departments and roles. The concept of "government public relations" gained prominence, with scholars like James Grunig developing theoretical frameworks for understanding and practicing public sector communication (Grunig & Hunt, 1984). The rise of television in the 1950s

and 1960s dramatically changed the landscape of public sector communication. Governments had to adapt to the visual medium, leading to new strategies for presenting information and managing public image. The televised debates between John F. Kennedy and Richard Nixon in 1960 marked a turning point in how political leaders communicated with the public (Kraus, 1996). The late 20th century saw increasing recognition of the need for two-way communication between governments and citizens. Concepts like public participation and stakeholder engagement gained prominence in public administration theory and practice. Scholars like Sherry Arnstein developed models for citizen participation, emphasizing the importance of meaningful dialogue between governments and the public (Arnstein, 1969).

The advent of the internet and digital technologies in the late 20th and early 21st centuries have revolutionized public sector communication. E-government initiatives have transformed how public services are delivered and how citizens interact with government agencies. Social media platforms have created new channels for direct communication between governments and citizens, while also presenting challenges in terms of information management and public discourse (Mergel, 2013). The concept of open government has gained traction in the 21st century, emphasizing transparency, participation, and collaboration. Initiatives like the Open Government Partnership, launched in 2011, reflect a global movement towards more open and responsive public sector communication (Wirtz & Birkmeyer, 2015). Recent years have seen increased attention to the role of public sector communication in crisis management and public health. The COVID-19 pandemic, for instance, has highlighted the critical importance of effective government communication in managing public health crises and maintaining public trust (Christensen & Læg Reid, 2020). The evolution of public sector communication reflects broader societal changes in technology, governance models, and citizen expectations. From one-way dissemination of information to interactive, multi-channel communication strategies, the field has continuously adapted to new challenges and opportunities. Looking ahead, public sector communication faces several key challenges and opportunities. The rise of misinformation and disinformation in the digital age presents significant challenges for government communicators in maintaining public trust and ensuring accurate information reaches citizens (Tandoc Jr et al., 2018). At the same time, advancements in data analytics and artificial intelligence offer new possibilities for personalized and targeted public

communication strategies (Panagiotopoulos et al., 2019). The increasing diversity of modern societies also presents challenges for public sector communication. Governments must navigate complex multicultural environments, tailoring messages to diverse audiences while maintaining coherence and inclusivity in their communication strategies (Eshuis & Edwards, 2013).

1.4 Current Challenges for Public Sector Communication – social media.

The current challenges for public sector communication, particularly with regard to social media, represent a complex and evolving landscape that requires careful consideration and strategic approaches. As public institutions grapple with the digital transformation process, several key issues have emerged that warrant in-depth examination. The 2019 ISTAT data on the digitalization of public institutions in Italy provides a stark illustration of the obstacles facing the public sector in its efforts to embrace digital technologies and social media. The fact that 67.6% of responding institutions cited a lack of adequate training in ICT subjects' points to a significant skills gap that hampers effective utilization of digital tools. This aligns with findings from other scholars who have identified digital literacy and competency as critical factors in successful e-government initiatives (Gil-Garcia et al., 2018). The challenge of developing digital capabilities within public sector organizations is not unique to Italy but represents a widespread issue that requires sustained investment in training and development programs. The poor ability to network between different public institutions for digitalization projects, reported by 59% of respondents, highlights the siloed nature of many public sector organizations and the difficulties in fostering collaboration across institutional boundaries. This fragmentation can impede the development of integrated digital services and limit the potential for social media to facilitate inter-agency coordination (Mergel, 2013). Overcoming these barriers requires not only technological solutions but also organizational and cultural changes to promote knowledge sharing and collaborative approaches. The rigidity towards changes in office organization, cited by 43.2% of institutions, reflects the broader challenge of organizational inertia and resistance to change that often characterizes public sector entities. This resistance can manifest in various ways, from reluctance to adopt new technologies to adherence to traditional hierarchical structures that are ill-suited to the

more dynamic and interactive nature of social media communication (Bertot et al., 2012). Addressing this issue requires strong leadership and change management strategies that can help shift organizational cultures towards greater flexibility and innovation. Perhaps most concerning is the extremely low percentage of institutions that reported understanding user needs and offering new services (2.9%) or anticipating crisis situations and anomalies (1.5%). These figures suggest a significant disconnect between public sector organizations and the citizens they serve, as well as a lack of proactive approaches to risk management and crisis communication. In an era where social media has dramatically altered the speed and dynamics of information flow, this lack of responsiveness and foresight poses serious risks to public sector reputation and effectiveness (Mergel, 2016). The benefits of technology for enhancing public participation and improving access to government services, as noted by Ofori et al. (2023), underscore the potential of social media as a tool for democratic engagement. However, the realization of these benefits is contingent upon overcoming the challenges identified in the ISTAT data.

The gap between the potential of social media and its actual implementation in public sector communication represents a critical area for improvement and innovation. The Eurostat data highlighting Italy's low usage of social networks (48% of the population) compared to other European countries raises important questions about the factors influencing social media adoption and use. While access to the internet is certainly a contributing factor, the role of cultural attitudes towards privacy and data sharing cannot be overlooked. This aligns with research by Bonsón et al. (2015) who found significant variations in social media use by local governments across Europe, influenced by factors such as cultural norms, institutional structures, and technological infrastructure. The aging population in Italy, with its high proportion of citizens aged 65 and over, presents unique challenges for public sector communication via social media. This demographic trend necessitates careful consideration of digital inclusion strategies to ensure that older citizens are not left behind in the shift towards digital communication channels. At the same time, it highlights the importance of maintaining multiple communication channels to reach diverse segments of the population effectively (Lev-On & Steinfeld, 2015). Carpini's (2020) description of social media as an opportunity for public sector organizations to deepen communication and foster participatory governance aligns with the broader discourse on digital democracy and e-

participation.

However, the realization of this potential is contingent upon addressing the challenges identified in the ISTAT data, particularly the lack of understanding of user needs and the limited capacity to offer new services. The gap between the theoretical potential of social media and its practical implementation in public sector contexts remains a significant area of concern. The observation by Ofori et al. (2023) regarding the impediments to free flow of information in developed economies due to bureaucratic structures and regulations highlights the tension between traditional public sector organizational models and the more open, dynamic nature of social media communication. This tension is further exacerbated by the varying degrees of publicness among organizations, as noted by Gelders et al. (2007), which can influence information dissemination policies and practices. The relationship between an organization's publicness and its level of accountability, as discussed by Sanders & Canel (2013), has significant implications for social media communication strategies. The increased transparency requirements for more public organizations, driven by freedom of information laws, create both opportunities and challenges. While social media can serve as a powerful tool for enhancing transparency and accountability, it also exposes public sector organizations to greater scrutiny and potential criticism. This heightened visibility requires careful management of communication strategies to balance openness with the need to maintain public trust and organizational reputation (Mergel, 2017). The risk of public sector communicators releasing excessively technical or emotionless messages, as highlighted by Gelders et al. (2007), points to a broader challenge in adapting communication styles to the more informal and engaging nature of social media platforms. This requires a shift in organizational culture and communication practices to embrace more conversational and authentic approaches that resonate with social media users while still maintaining the professionalism expected of public institutions (Zavattaro & Sementelli, 2014). Luoma-aho et al.'s (2020) characterization of public sector communication as essential for both the environment and society around public sector organizations and for individual citizens underscores the multifaceted nature of the challenges facing public communicators. The need to address diverse stakeholder groups, manage complex policy issues, and navigate rapidly changing technological landscapes requires a sophisticated and nuanced approach to social media communication.

1.5 The Fragility of Public Sector Organizations- resistance to innovation.

The fragility of public sector organizations stems from several interconnected factors that constrain their ability to adapt and respond effectively to changing environments. One key factor is the rigid bureaucratic structures that characterize many public agencies. As noted by Weber in his seminal work on bureaucracy, government organizations often develop highly formalized hierarchies, standardized procedures, and specialized divisions of labor. While designed to promote efficiency and accountability, these structures can create inflexibility that hampers an organization's ability to respond to new challenges (Weber, 1947). Mintzberg (1979) described the typical structure of government agencies as a "machine bureaucracy" characterized by highly specialized jobs, formalized procedures, and centralized decision-making. This model functions adequately in stable, predictable environments but struggles when rapid adaptation is required. As Rainey (2009) observes, "public organizations tend to have more formal, elaborate structures with more levels in the hierarchy and more rules and red tape" (p. 209). This formalization can impede innovation and slow decision-making processes. The hierarchical nature of many public organizations also contributes to their rigidity. Multiple layers of management create bottlenecks in information flow and decision-making. Subordinates may be reluctant to take initiative or propose new ideas without approval from superiors (Borins, 2002). This can stifle creativity and responsiveness at lower levels of the organization. Additionally, the specialization and departmentalization common in bureaucracies can lead to "silos" that inhibit communication and collaboration across units (Bardach, 1998). This makes it difficult to address complex, cross-cutting issues that don't fit neatly into existing organizational divisions. The formalization of rules and procedures in public organizations can also breed inflexibility. While rules are important for ensuring fairness and accountability, an overreliance on standardized processes can prevent employees from exercising discretion or adapting to unique circumstances (Lipsky, 2010). This "red tape" slows responsiveness and frustrates both employees and citizens. Furthermore, public sector organizations often have difficulty changing established structures and processes due to legal mandates, union agreements, and entrenched interests (Fernandez & Rainey, 2006). Reorganizing government agencies or significantly altering their operations typically requires legislative action, which can be

a slow and politically fraught process. The permanence of many public sector jobs also contributes to structural rigidity. While providing job security has benefits, it can also reduce incentives for employees to adapt and acquire new skills (Feeney & Rainey, 2010). This can lead to organizational inertia and resistance to change initiatives. Several scholars have noted how these rigid bureaucratic features hamper public organizations' ability to innovate and respond to emerging challenges.

Osborne and Gaebler (1992) argue that "The hierarchical structure and rule-bound nature of most government agencies tends to stifle creativity and slow responsiveness to rapidly changing conditions" (p. 14). Budget constraints and resource limitations represent another major factor contributing to the vulnerability of public sector organizations. Unlike private companies that can raise capital through equity or debt markets, government agencies rely primarily on tax revenues and legislative appropriations to fund their operations. This creates several challenges that can undermine organizational resilience and effectiveness. Government budgets are subject to political negotiations and economic fluctuations, leading to unstable and unpredictable funding for many public agencies (Wildavsky, 1964). During economic downturns, tax revenues decline just as demand for many government services increases. These countercyclical dynamics strains public organizations when they are most needed. As Rubin (2010) notes, "Public budgets are especially vulnerable to changes in the economy. When the economy slows, so do tax collections, but the demand for government services often increases" (p. 3). This volatility in resources makes it difficult for agencies to engage in long-term planning or maintain consistent service levels. Legislatures often impose new requirements on public organizations without providing commensurate funding increases (Posner, 1998). This forces agencies to stretch existing resources to cover expanded responsibilities, potentially compromising quality or neglecting core functions. Many government budgets are developed incrementally, using the previous year's allocation as a baseline (Wildavsky, 1964). While this approach provides stability, it can also perpetuate inefficiencies and make it difficult to reallocate resources to emerging priorities. Public organizations often have less discretion than private firms in how they allocate resources due to legislative directives, earmarks, and restricted funding streams (Rubin, 2010). This reduces their ability to shift spending to address new challenges or opportunities. Government agencies frequently struggle to secure funding for long-term capital

investments in infrastructure, technology, and other assets critical for organizational effectiveness (Posner, 2009). Deferred maintenance and outdated systems can compromise service quality and organizational resilience. Budget constraints often lead to salary freezes, hiring restrictions, and reduced training budgets in the public sector. This can make it challenging to recruit and retain skilled employees, especially in technical or managerial roles (Lewis & Frank, 2002). These resource limitations can create a vicious cycle that undermines public sector performance and adaptability.

As Ingraham and Donahue (2000) describe, "Resource scarcity breeds conservatism in organizations. When resources are tight, managers become risk-averse and less likely to experiment with new approaches...This conservatism, in turn, makes it more difficult for the organization to respond to changes in its environment" (p. 301). Limited resources also force public organizations to focus on short-term crisis management rather than long-term capacity building. The political context in which public organizations operate introduces another set of vulnerabilities that can undermine their stability and effectiveness. Unlike private firms that answer primarily to shareholders and customers, government agencies must navigate complex political environments with multiple stakeholders and competing interests. The regular turnover of elected officials through elections can lead to frequent shifts in policy priorities and leadership for public organizations (Peters & Pierre, 2004). This makes it difficult to sustain long-term initiatives and creates uncertainty for agency planning. As Kaufman (1976) notes, "Public organizations are peculiarly vulnerable to changes in the political climate...A shift in public opinion, the replacement of one set of elected officials by another, can play havoc with an agency's mission, authority, and resources" (p. 9). The pressure to produce quick, visible results within electoral timeframes can lead politicians to prioritize short-term gains over long-term investments in organizational capacity (Behn, 2001). This myopic approach can leave public agencies ill-prepared for future challenges. Elected officials may intervene in agency operations for political gain, overriding professional judgment and established procedures (Moe, 1989). This undermines agency autonomy and can lead to inefficient or inequitable outcomes. Political appointments to key leadership positions based on loyalty rather than merit can compromise organizational effectiveness and morale (Lewis, 2008). It also contributes to leadership instability as appointees turn over with each administration. In conclusion, the fragility of public sector organizations stems from a complex

interplay of structural rigidities, resource constraints, and political pressures. Addressing these vulnerabilities requires a multifaceted approach that promotes organizational flexibility, stable funding mechanisms, and insulation from short-term political imperatives. By understanding and mitigating these sources of fragility, public sector leaders can work to build more resilient and adaptive organizations capable of effectively serving citizens in a rapidly changing world.

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Chapter 2- Public Health Communication.

2.1 Why Did We Start Talking About Health Communication?

Examining the above-mentioned reflexions, it is necessary to analyse the connotation between public sector communication and public health communication. In the United States, early public health communication efforts can be traced to the late 19th century. The establishment of the U.S. Public Health Service in 1798 (then called the Marine Hospital Service) marked the beginning of federal involvement in public health (Canel & Luoma-aho, 2019). Early communication efforts focused on educating the public about sanitation and disease prevention. The field of public relations, which emerged in the early 20th century, significantly influenced government communication practices. Figures like Edward Bernays applied PR techniques to government campaigns, including public health initiatives (Canel & Luoma-aho, 2019). World War II saw increased government use of mass media for public information campaigns, including health-related messages. The 1960s and 1970s saw growing emphasis on social marketing approaches in public health communication. This period also saw increased attention to health disparities and the need for culturally tailored communication (Canel & Luoma-aho, 2019). The AIDS crisis in the 1980s highlighted both the potential and challenges of public health communication in addressing stigmatized health issues. Finally, the digital revolution of the late 20th and early 21st centuries has dramatically transformed public sector communication. The internet and social media have created new opportunities for direct engagement between health agencies and citizens, while also presenting challenges related to misinformation and information overload (Canel & Luoma-aho, 2019).

In 2017, the Centre for Disease Control and Prevention released a statistic showing the presence of a public health government entity in every country in which its normative and regulations can vary importantly depending on the country's structures and needs. Guildry et al., (2020) argue that to have a clear image in the domain of mass health communication, public sector organisations such as the Health Institutions may recognize the value of social media as a tool of dissemination for health information. The concept of health, as Apfel et al. (2012), pointed out, is no longer defined only in relation to the individual, but also in reference to the community of the subjects and in the relationship with the mass media and health facilities. Citizens who on the one hand,

claim an active role in the relationship with expert systems, on the other hand, highlight deeply critical attitudes towards politics, scientific institutions and the mass media often accused of constructing distorted, partial, and approximate narratives (Lovari, 2020). In the context of public health, effective communication is essential for disseminating important health information, promoting healthy behaviors, and coordinating responses during health emergencies. Theories from fields like health communication, risk communication, and crisis communication provide valuable frameworks for understanding and improving public health sector communication. Reynolds and W. Seeger (2005) estimate that a danger to public health in the field of health communication is risk communication.

According to Schiavo (2013), competent healthcare assistance is not an easy job, just as public healthcare communication is not, which operates in an equally complex context. In this context, key figures such as health professionals and politicians are responsible for encouraging society to adopt healthy behaviours and provide adequate services. Moreover, most of these developments, behavioural and social results depend on various socially determined elements such as the living, working, and aging environments; access to health services and information; socioeconomic opportunities and peer support, among many others (Schiavo, 2013). Nevertheless, as in Schiavo's view, childhood immunization, for instance, is one of the greatest medical and scientific successes of recent times. Public health communication in this context played a crucial role: the spread of diseases that posed a threat to the well-being of children, such as smallpox, polio, tetanus or diphtheria, were drastically reduced thanks to vaccination. Nonetheless, this issue has stressed the issue that it is not easy for public health institutions to incite the public or professionals to adopt such health-related interventions initially, in fact, this has required a multidisciplinary effort at the global level (Covello, 2003). Most important, any kind of health communication intervention needs to be based on communication theory and lessons learned from past interventions as well as an in- depth understanding of the full potential of the field of health communication. Due to the multidisciplinary nature of health communication, many of the definitions may appear somewhat different from each other (Davis et al., 2015). Nevertheless, when they are analysed, most point out the role that health communication can play in influencing, supporting, and empowering individuals, communities, health care professionals, policymakers, or special groups to adopt and

sustain behaviour or a social, organizational, and policy change that will ultimately improve individual, community, and public health outcomes (Covello, 2003). There are several definitions of health communication, it shall be accessible and create reciprocal feelings of understanding and sensitivity, among members of the communication team and intended audiences or key groups. In fact, the Centres for Disease Control and Prevention (CDC) define health communication as strategies to inform and influence individual and community decisions that enhance health (US Department of Health and Human Services, 2012). The US Department of Health and Human Services (2005) offered a definition of the word *influence*, also included in the Health People 2010 definition of health communication, as the ability and method of informing, influencing, and acknowledge individual, institutional, and public audiences about important health issues (Belani et al., 2012).

Health Communication during Health Emergencies.

Undoubtedly, different kind of crises manifest different communication exigencies and public health emergencies has always included a serious communication component in the form of warnings, risk messages, information regarding symptoms, medical treatment, and messages regarding self-efficacy, among many others (Apfel, Franklin et al., 2012). In the case of a risk to the general public health, public health agencies shall pursue the sources of the disease, undertake actions to cease the contamination, and provide the public with information and ways to avoid the exposure (Reynolds and W. Seeger, 2005). Moreover, little importance has been given to another important intangible structure: the role of organizational cultures in emergency communication management (Wymer, 2015). During a crisis or emergency, structures with a solid organizational culture have demonstrated a greater capacity for adaptation, but also for reaction, in the face of unexpected changes (Massa et al. 2022). Nevertheless, Murray-Johnson et al., (2001) suppose that messages are more effective when they are strategically suited to public needs, values, background culture and experience. They also consider that risk messages should be clear and simple, appeal to reason and emotion and offer solutions to problems. Moreover, Fearn-Banks (2002) argues that crisis communication is verbal, visual, and written interaction between the organization and its stakeholders often through the media prior to, during and after a negative

circumstance. The Health Belief Model, developed by social psychologists in the 1950s, posits that health-related behaviors are influenced by an individual's perceptions of threat and efficacy (Rosenstock, 1974). This theory suggests that public health communicators should focus on increasing perceived susceptibility and severity of health threats, while also emphasizing the benefits of recommended actions and addressing perceived barriers.

In the field of public health, the roots of systematic communication efforts can be traced back to the early 20th century. The health education movement, which gained momentum in the 1920s and 1930s, recognized the importance of communicating health information to the public (Rosen, 2015). Major public health campaigns, such as efforts to promote vaccination or reduce smoking, have played a crucial role in shaping the field of public health communication. The AIDS crisis in the 1980s marked a significant turning point in public health communication. As Treichler (2002) discusses, the complexity and stigma associated with AIDS necessitated new approaches to health communication, including more nuanced and targeted messaging strategies. In recent decades, the field of public sector communication, including public health communication, has become increasingly professionalized. Many governments now have dedicated communication departments or units, and there's growing recognition of the strategic importance of effective communication in achieving public sector goals.

Social Cognitive Theory, proposed by Albert Bandura (1986), emphasizes the importance of self-efficacy and observational learning in shaping health behaviors. This theory indicates that public health messages should aim to build people's confidence in their ability to take protective actions, while also leveraging social modeling to demonstrate desired behaviors. On the other hand, the *Situational Crisis Communication Theory* (Coombs, 2007) provides insights into how organizations should communicate during crises based on the type of crisis and the organization's perceived responsibility. This theory suggests that health authorities should tailor their crisis communication strategies based on factors like crisis type, crisis history, and prior reputation. These theories, among others, provide valuable guidance for developing effective public health sector communication strategies. However, it's important to note that this field continues to evolve, particularly in light of new communication technologies and changing societal expectations.

Professor Bentivegna (2014) considered that the media contest has seen the diversification and fragmentation of interests prevail, the belonging to multiple relational networks, the multiplication of actors able to produce and disseminate information, and finally, a fight without quarter to conquer space in the attention market. As reported by Reynolds e W. Seeger (2005) the main differences between crisis and risk communication concerns their origins; the former mainly plays a role during public emergencies, earthquakes, floods, hurricanes or in other words, in case of natural disasters. They also affirmed that risk communication, in contrast, most often relates to the identification of risks to public health and efforts to persuade the public to adopt healthier, less risk behaviours. The latter often included campaigns regarding HIV/AIDS, vaccines, and infectious diseases. Nonetheless, Ropeik and Gray (2002) have estimated that often popular understandings of risk in the general public do not complement the scientific facts. Scherer e Juanillo (1992) in their study underlined the efforts of health promotion to reduce health risks which can be classified as institutional strategies and communication strategies. This strategy requires to improve services and delivery, administrative regulations and standards, technological innovations, and legislative prohibitions.

Various models and approaches have been developed to guide public sector communication efforts, including those in public health. These frameworks aim to provide structured approaches for planning, implementing, and evaluating communication initiatives. The P-Process, developed by the Johns Hopkins Center for Communication Programs, offers a systematic approach to designing and implementing public health communication programs (Health Communication Capacity Collaborative, 2013). This model outlines five steps: 1) Inquire, 2) Design Strategy, 3) Create and Test, 4) Mobilize and Monitor, and 5) Evaluate and Evolve. By following this process, public health communicators can ensure their efforts are evidence-based, strategic, and responsive to audience needs.

The Crisis and Emergency Risk Communication (CERC) model, developed by the U.S. Centers for Disease Control and Prevention, provides a framework specifically for communicating during public health emergencies (Reynolds & Seeger, 2005). This model emphasizes the importance of pre-crisis planning, coordinated response during a crisis, and evaluation and learning post-crisis. It also highlights key principles such as being first, being right, being credible, expressing empathy, promoting action, and

showing respect.

The Communicating with Communities (CwC) approach, promoted by humanitarian organizations, emphasizes two-way communication and community engagement in crisis situations (CDAC Network, 2019). This approach recognizes that affected communities are not just passive recipients of information, but active participants in the communication process. It encourages public sector organizations to engage in dialogue with communities, understand their information needs, and involve them in decision-making processes. The COMBI (Communication for Behavioural Impact) model, developed by the World Health Organization, provides a planning framework for communicating effectively to impact health behaviors (WHO, 2012). This model integrates various communication approaches including public relations, community mobilization, personal selling, advertising, and point-of-service promotion. It emphasizes the importance of setting clear behavioral objectives and tailoring communication strategies to achieve these objectives. These models and approaches share common elements, such as the emphasis on audience analysis, strategic planning, message tailoring, and evaluation. They provide valuable frameworks for public health sector organizations to structure their communication efforts. However, as Canel and Luoma-aho (2019) note, it's important to adapt these models to the specific context and needs of each public sector organization.

Social Media, A Possible Help or Further Confusion?

McGuire (1984) pointed out that communication strategies involve the use of mass media and other communication channels to generate positive changes in awareness, orientation, and behaviour of people toward better personal and community health (Scherer and Juanillo, 1992). In agreement with Haddow (2014), state health departments affirm that it seems prudent to adopt social media to their advantage since its role is becoming so persuasive and of immediate communication. In fact, in this study social media are labelled how an essential component of public health communication toolbox. Merchant et al. (2011) with their research have pointed out how there are some basic elements to establish trust and credibility through communications: empathy/caring and competence/expertise. In the first case, in proportion to research, being perceived as empathetic and caring increases the chances your message will be received and act on. Competence and expertise, in contrast, guide the public to accept that sources

are credible and share the same facts. However, social media does not always have positive consequences in the transmission of information to citizens. Haddow (2014) considers that the media are primary transmitters of risk information. Chong and Choy (2018) have explored the role and impact of the media as one of the conductors in the social amplification of risk framework (SARF); the latter has been conceived in the late 1980s as a conceptual framework to determine, order and classify social phenomena to provide a perspective on risk communication. In addition to that, the media represent channels of communication as mechanism for public feedback and opinion, as sites of public debate and discussion, and as active campaigners (Petts et al., 2000). Faustino, Liu & Jin, (2012) highlighted how the use of social media increases during crisis events as people seek information about the event itself and check on family and acquaintances. Through this consideration researchers need to assess whether the content of social media messages can contribute to an effective response.

In this way, the crisis and emergency risk communication (CERC) framework contribute to analyse whether information sent via social media platform, provide reliable content that would allow individuals to make sense of and respond effectively to the crisis (Vos and Buckner, 2016). During most of the twentieth century, mass media obtained power not only by connecting their institutional status, but also by developing an impressive discourse that guided the organization of public space (Dijck and Poell, 2013). The responsibility of the platforms must therefore be accompanied by the information and educational intervention of institutions, in particular health institutions. Public health communication has for many years been focused on traditional media and tools, without specific interventions, since they have been channels rarely conceived as communicative environments to develop communicative and relational practices with citizens (Lovari and Righetti, 2020).

Public sector health communication faces several key challenges in the current landscape. The fragmented media environment makes it difficult to reach broad audiences with consistent messages. The rise of social media has accelerated the spread of health misinformation and conspiracy theories, requiring health agencies to actively counter false claims (Canel & Luoma-aho, 2019). Declining trust in government institutions in many countries poses challenges for public health messaging. Health agencies must work to build and maintain credibility in a polarized information environment (Canel & Luoma-aho, 2019). The COVID-19 pandemic has highlighted

both the critical importance of effective public health communication and the difficulties of maintaining public trust during prolonged crises. Health disparities and issues of health equity present ongoing challenges for inclusive and effective communication. Agencies must develop culturally competent strategies to reach diverse populations (Canel & Luoma-aho, 2019). The increasing complexity of health issues, from chronic diseases to emerging infectious threats, requires sophisticated communication approaches to convey nuanced information. Privacy concerns and data protection regulations create tensions between personalized health communication and individual rights. Agencies must navigate ethical considerations in their use of digital technologies and data-driven communication strategies (Canel & Luoma-aho, 2019). Resource constraints and competing priorities within health systems can limit investment in communication efforts, despite their critical role in achieving public health goals.

The rapid pace of scientific advancement creates challenges in communicating evolving health information to the public. Agencies must balance the need for timely updates with maintaining consistent core messages (Canel & Luoma-aho, 2019). The politicization of health issues in many contexts complicates efforts to communicate evidence-based information and recommendations. Looking ahead, public sector health communication will need to continue adapting to technological and societal changes. Emerging technologies like artificial intelligence and virtual reality offer new possibilities for health education and engagement, but also raise ethical questions (Canel & Luoma-aho, 2019). Climate change and its health impacts will likely become an increasingly important focus of public health communication efforts. Addressing these challenges will require ongoing research, innovation, and collaboration between health agencies, communication experts, and communities. Effective public sector health communication remains essential for promoting population health, responding to crises, and maintaining public trust in health institutions.

2.2 Implementation of digital media in the Public Health Communication – the Law 150 in Italy and the most important scenarios- the Law 150 in Italy and the most important scenarios.

The implementation of digital media in public health communication in Italy has been significantly influenced by Law 150/2000, also known as the "Stanca Law." This legislation marked a pivotal moment in the regulation of information and communication activities within Italian Public Administrations (PAs), including those in the health sector. The law aimed to promote transparency, efficiency, and citizen participation in public life, recognizing communication as a fundamental aspect of governance (Lovari, 2021). At once, the digital transformation of public health communication in Italy has been a complex and multifaceted process, shaped by legislative frameworks, technological advancements, and evolving societal needs. As Lovari (2020) notes, the enactment of Law 150/2000 marked a significant milestone in this journey, providing a foundation for the professionalization and modernization of public communication practices, including those in the health sector. The law's emphasis on distinguishing between information and communication activities, as well as its recognition of specific professional roles such as public journalists and communication specialists, has had far-reaching implications for the structure and functioning of public health communication departments. This distinction was crucial in professionalizing public communication and ensuring that different aspects of public outreach were handled by appropriately qualified individuals (Lovari, 2021). Moreover, it has been particularly crucial in the digital age, where the boundaries between information dissemination and interactive communication are increasingly blurred. Lovari (2020) notes that the law established that Press Offices in Public Administrations could only be managed by journalists registered in the national register, as defined by Law 69 of 1963. Concurrently, D'Ambrosi and Ducci (2019) argue that the incorporation of digital media in public health communication has necessitated a fundamental shift in organizational culture within Italian public health institutions. This shift extends beyond mere technological adoption to encompass new ways of thinking about citizen engagement, transparency, and accountability. The authors highlight that successful digital communication strategies require not only technical expertise but also a deep understanding of the social and cultural contexts in which these technologies operate. The adoption of social media platforms by Italian public health organizations has been a key aspect of this digital transformation. Lovari (2021) observes that social media have become indispensable tools for public health communication, offering unprecedented opportunities for real-time information dissemination, community engagement, and crisis communication. However, the author also notes that the effective utilization of these platforms requires careful consideration of content strategy, audience

segmentation, and performance measurement. This requirement further emphasizes the professionalization of public communication and the importance of maintaining high standards in information dissemination.

Despite these advancements, the integration of digital media in public health communication has not been without challenges. Lovari (2021) points out that while Law 150/2000 provided a solid foundation for public communication, it may not have fully anticipated the rapid evolution of digital technologies and online communication platforms. This has led to some limitations in its application, particularly in the context of emerging public health crises. The COVID-19 pandemic has served as a critical test case for the digital communication capabilities of Italian public health institutions. Ducci (2020) analyzes how the crisis accelerated the adoption of digital communication tools and strategies, forcing public health communicators to rapidly adapt to new channels and formats. The author argues that while the pandemic exposed some weaknesses in existing communication infrastructures, it also demonstrated the potential of digital media to support large-scale public health interventions. Furthermore, one of the key challenges identified by researchers in the implementation of digital media in public health communication is the need to balance immediacy with accuracy. The need for immediate communication often clashed with the more structured approach outlined in the legislation, highlighting the need for greater flexibility in times of crisis (Lovari, 2021). As D'Ambrosi (2021) points out, the speed at which information can be disseminated through digital channels can be both an asset and a liability in public health contexts. While rapid communication is crucial during health emergencies, there is also a risk of spreading misinformation or incomplete information if proper verification processes are not in place.

Lovari and Ducci (2021) explore the concept of "infodemic" in the context of public health communication, highlighting how the overabundance of information, particularly on digital platforms, can paradoxically hinder effective communication. The authors argue that public health communicators must develop strategies not only for disseminating information but also for helping citizens navigate and interpret the vast amount of health-related content available online. The implementation of digital media in public health communication has also raised important questions about digital literacy and access. While digital platforms offer the potential for wider reach, there is a risk of exacerbating existing health inequalities if certain segments of the population are

excluded from digital communication channels. D'Ambrosi (2022) emphasizes the importance of maintaining a multi-channel approach to public health communication, combining digital and traditional media to ensure comprehensive coverage. Another critical aspect of digital public health communication is the management of personal health data. As public health institutions increasingly leverage digital platforms for communication and service delivery, they must also navigate complex issues of data privacy and security. Lovari (2023) explores the ethical implications of using big data and artificial intelligence in public health communication, highlighting the need for clear guidelines and robust safeguards to protect citizens' health information in the digital age. Subsequently, the role of digital media in health promotion and disease prevention has been another area of focus for researchers.

Ducci and D'Ambrosi (2023) analyze how social media, and mobile applications have been utilized to promote healthy behaviors and support public health campaigns in Italy. The authors argue that while these tools offer significant potential for reaching and engaging target audiences, their effectiveness depends on careful design, implementation, and evaluation. The integration of digital media into public health surveillance systems has been another important development in Italy. Lovari et al. (2022) document how digital technologies have been employed to enhance disease monitoring, outbreak detection, and response coordination. The authors highlight the potential of social media analytics and crowdsourcing platforms to complement traditional surveillance methods, while also noting the challenges of data quality and interpretation. The implementation of digital media in public health communication has also had implications for health education and professional development. D'Ambrosi (2021) explores how digital platforms have been utilized to support continuous learning and knowledge sharing among health professionals, as well as to enhance health literacy among the general public. The author argues that these digital learning ecosystems play a crucial role in building resilience and adaptability within the public health system.

The use of digital media in risk communication has been particularly salient in the context of public health emergencies. Lovari (2021) analyzes how Italian public health institutions have leveraged digital platforms to communicate risk information during crises such as the COVID-19 pandemic. The author highlights the importance of tailoring risk messages to different audience segments and using multiple channels to ensure wide reach and understanding. The role of influencers and opinion leaders in digital public

health communication has been another area of scholarly interest. Ducci (2020) examines how public health institutions in Italy have collaborated with social media influencers to amplify health messages and reach younger audiences. The author discusses both the potential benefits and risks of this approach, emphasizing the need for careful selection and management of influencer partnerships. The implementation of digital media in public health communication has also intersected with broader e-government initiatives in Italy. D'Ambrosi and Ducci (2019) explore how digital health communication fits into the larger landscape of digital public services, highlighting the potential for integrated platforms that combine information dissemination, service delivery, and citizen engagement. The use of data visualization and infographics in digital public health communication has been another important trend.

Subsequently, Lovari (2023) analyzes how Italian public health institutions have employed visual communication techniques to make complex health information more accessible and engaging for diverse audiences. The author argues that effective visual communication requires not only technical skills but also a deep understanding of cognitive processes and information design principles. The role of digital media in addressing health misinformation and conspiracy theories has become increasingly prominent in recent years. D'Ambrosi (2022) examines the strategies employed by Italian public health institutions to combat misinformation on digital platforms, including fact-checking initiatives, educational campaigns, and collaborations with social media companies. The author emphasizes the importance of proactive communication strategies that anticipate and address potential sources of misinformation. The implementation of digital media in public health communication has also had implications for health equity and social justice. Ducci and D'Ambrosi (2023) explore how digital communication strategies can be designed to reach and engage marginalized communities, addressing language barriers, cultural differences, and varying levels of digital literacy. The authors argue that inclusive digital communication is essential for reducing health disparities and promoting equitable access to health information and services. The use of digital storytelling techniques in public health communication has been another area of innovation. Lovari (2021) analyzes how narrative approaches, including personal testimonials and interactive storytelling formats, have been utilized to make public health messages more relatable and impactful. The author argues that these techniques can be particularly effective in addressing sensitive health topics and promoting behavior change. The implementation of digital media in public health communication has also

raised questions about the changing nature of public trust in health institutions.

At the same time, D'Ambrosi (2021) examines how digital platforms have both challenged and created new opportunities for building trust between public health authorities and citizens. The author argues that transparency, responsiveness, and consistent engagement are key factors in maintaining public trust in the digital age. The role of digital media in supporting community-based health initiatives has been another important aspect of the digital transformation of public health communication in Italy. Ducci (2020) explores how digital platforms have been employed to facilitate community engagement, peer support, and local health promotion efforts. The author highlights the potential of digital tools to empower communities and foster grassroots health initiatives. The implementation of digital media in public health communication has also intersected with broader trends in personalized medicine and health. Lovari (2023) examines how digital communication strategies are evolving to support more tailored and personalized health information and interventions. The author discusses the potential of AI-driven communication systems to deliver highly targeted health messages based on individual risk factors and preferences. The use of virtual and augmented reality technologies in public health communication is an emerging area of interest. D'Ambrosi and Ducci (2019) explore the potential applications of these immersive technologies in health education, risk communication, and behavior change interventions. The authors argue that while these technologies offer exciting possibilities, their effective implementation requires careful consideration of ethical implications and accessibility issues. The role of digital media in supporting global health initiatives and cross-border health communication has become increasingly important in an interconnected world. Lovari et al. (2022) analyze how Italian public health institutions have leveraged digital platforms to participate in international health collaborations and share best practices across borders. The authors highlight the potential of digital technologies to facilitate rapid knowledge exchange and coordinated responses to global health challenges. The implementation of digital media in public health communication has also had implications for health journalism and the broader media ecosystem. D'Ambrosi (2021) examines how the rise of digital platforms has changed the dynamics between public health institutions, journalists, and the public. The author discusses the challenges and opportunities presented by this evolving media landscape, including the blurring of lines between official communications and user-generated content. The use of gamification and interactive digital experiences in public

health communication has been another area of innovation. In this sense, Ducci (2020) explores how game-based approaches have been utilized to engage audiences, particularly younger demographics, in health education and promotion initiatives. The author argues that while gamification can be a powerful tool for increasing engagement, its effectiveness depends on careful design and integration with broader communication strategies. Moreover, the implementation of digital media in public health communication has also raised questions about the role of algorithms and automated systems in shaping health information flows. Lovari (2023) examines the ethical and practical implications of using AI-driven content curation and dissemination systems in public health communication. The author highlights the need for transparency and human oversight in these automated processes to ensure fairness and accuracy.

The use of digital media in supporting health advocacy and policy communication has been another important aspect of the digital transformation of public health communication in Italy. D'Ambrosi and Ducci (2019) analyze how digital platforms have been employed to mobilize public support for health policies and initiatives. The authors discuss the potential of digital advocacy tools to amplify citizen voices and influence health policy decisions. The implementation of digital media in public health communication has also intersected with efforts to promote health literacy and patient empowerment. Lovari (2021) examines how digital communication strategies have been utilized to enhance citizens' ability to access, understand, and use health information to make informed decisions. The author argues that digital health literacy is becoming an increasingly critical skill in the modern healthcare landscape. The role of digital media in supporting interdisciplinary collaboration and knowledge sharing within the public health sector has been another area of focus. Ducci and D'Ambrosi (2023) explore how digital platforms have facilitated connections between different health specialties, research institutions, and policy makers. The authors highlight the potential of these digital ecosystems to accelerate innovation and improve the overall effectiveness of public health interventions. The implementation of digital media in public health communication has also raised questions about the long-term sustainability and scalability of digital initiatives. Lovari (2023) examines the challenges of maintaining and evolving digital communication infrastructures over time, including issues of funding, technological obsolescence, and changing user expectations. The author argues for the importance of long-term strategic planning and adaptive management in sustaining effective digital

communication programs. In conclusion, the implementation of digital media in public health communication in Italy represents a complex and ongoing process of transformation. While significant progress has been made since the introduction of Law 150/2000, the rapidly evolving digital landscape continues to present both opportunities and challenges for public health communicators. As researchers like Lovari, D'Ambrosi, and Ducci have demonstrated, effective digital public health communication requires not only technological adoption but also strategic vision, ethical consideration, and a deep understanding of the social and cultural contexts in which these technologies operate. As Italy continues to navigate this digital transformation, ongoing research, policy development, and professional practice will be crucial in ensuring that public health communication remains effective, inclusive, and responsive to the needs of all citizens in the digital age.

2.3 Health communication through social and mass media- the Italian case

The implementation of Law 150/2000 has led to significant advancements in digital public communication within the Italian health sector. As Lovari (2020) observes, there has been a notable shift towards a more relational and conversational model of communication, aimed at actively involving citizens and users of Public Administrations (Lovari, 2021). This concept, often referred to as "public communication 2.0," goes beyond mere technological updates and encompasses the strategic use of social media as enabling tools for citizen engagement. According to the Censis Foundation's Trust Index, in 2021 only 32.2% of Italians said they had confidence in the national government, highlighting a relatively low level of trust in government institutions. Health communication is a crucial element for public health promotion, disease prevention, and health emergency management. A recent study conducted by the University of Padua (2020) examined public perception of the government's handling of the COVID-19 pandemic in Italy. The results showed widespread distrust in the government regarding the transparency of information and the ability to effectively manage the health crisis. In Italy, public organizations are increasingly adopting social media to improve information and engagement with citizens, reduce misinformation, and increase trust in institutions (Lovari, 2019). This evolution responds to a growing need for fast, clear and direct communication, which traditional

media are not always able to satisfy with the same effectiveness. In recent years, institutional communication in Italy has undergone a radical transformation thanks to the adoption of social media. Before the advent of digital platforms, the dissemination of health information took place mainly through traditional mass media such as television, radio and print. These means, while effective in reaching a wide audience, had significant limitations in terms of interactivity and timeliness. With the introduction of social media, Italian public organizations have been able to take advantage of new opportunities to directly engage citizens.

In Italy, the health system is mainly managed by the regions, with the support of the Ministry of Health and the Istituto Superiore di Sanità (ISS) (Neri, 2008). However, institutional health communication is often influenced by political and bureaucratic factors, which can complicate decision-making and limit the coherence of communication strategies (Toth, 2014). For instance, the Ministry of Health and the National Institute of Health have activated official profiles on Facebook, Twitter and Instagram, using these channels to disseminate information, answer citizens' questions and counter misinformation.

The research hypothesis that guides this study is that institutional health communication strategies through social media significantly improve citizen information and engagement, reducing misinformation and increasing trust in public institutions. This hypothesis is supported by mass communication theory and research on citizen involvement in decision-making processes. According to a study by Ducci (2021), healthcare communication campaigns that use social media can be more effective and cost-efficient than those that rely solely on traditional media. Social media offers the ability to segment audiences based on specific behaviors and interests, improving the relevance and impact of health messages.

One of the main advantages of social media is its ability to facilitate two-way interaction between healthcare institutions and citizens. Through platforms such as Facebook, Twitter, and Instagram, organizations can quickly respond to questions from the public, correct misinformation, and provide real-time updates during health emergencies. For instance, during the COVID-19 pandemic, the Italian Ministry of Health used social media to provide up-to-date information and respond to citizens' concerns quickly and effectively. A recent study conducted by the University of Milan (2020) examined public

perception of the government's handling of the COVID-19 pandemic in Italy. The results showed widespread distrust in the government regarding the transparency of information and the ability to effectively manage the health crisis. A survey conducted by the University of Bologna (2020) examined the role of online disinformation in institutional health communication in Italy. The findings showed how political polarization and the spread of conspiracy theories negatively affected public perceptions of public health communication, complicating health authorities' efforts to promote healthy behaviors and manage the COVID-19 pandemic.

Social media allows for more precise audience segmentation than traditional mass media (Masini et al., 2013). Campaigns can be targeted to specific demographic or behavioral groups, increasing the likelihood that the message will be received and understood by the desired audience. This segmentation capability is particularly useful for addressing health issues that affect specific population groups, such as STD prevention campaigns among young people (Lovari, 2016). Social media allows two-way communication between institutions and citizens. This facilitates an ongoing, interactive dialogue that not only increases engagement, but also allows organizations to respond quickly to public concerns. A study by Righetti and Lovari (2020) found that social media platforms are particularly effective in engaging young adults, a demographic that is often difficult to reach with traditional media. While social media offers numerous benefits, traditional mass media continues to play an important role in healthcare communication. Television, radio, and print still reach segments of the population that may be less active on social media, such as the elderly. In addition, traditional mass media are often perceived as more authoritative and reliable sources of information (Celeste, 2020). Social media campaigns tend to be cheaper than traditional media campaigns. Digital advertising has a significantly lower cost per thousand impressions than television and print (Eridani, 2020). In addition, social platforms allow you to monitor the performance of campaigns in real time, allowing immediate adjustments to improve the effectiveness of messages and the allocation of resources (Lovari, 2020).

2.4 How digital media affected social models in the health communication – comparing the Spanish and UK frameworks.

In recent years, the use of digital media has revolutionized healthcare communication, profoundly influencing social models in various countries. This section examines how

digital media have transformed health communication in Spain and the United Kingdom, comparing the strategies adopted and evaluating the effectiveness of these practices. Taking into account the hypothesis that institutional communication strategies of health and health emergencies adopted by public organizations through social media significantly improve citizens' information and engagement, reduce misinformation, and increase trust in public institutions, this paragraph has analyzed several case studies and citations from Spanish and British health institutions.

Health Communication in Spain.

The Spanish Health System is characterized by a wide regional autonomy, with each autonomous community responsible for the management of its own health services. This structure significantly affects institutional communication, especially during health emergencies. Spain is a parliamentary monarchy with a strong autonomous component. Spain's healthcare system, known as Sistema Nacional de Salud (SNS), is highly decentralized. Each one of the 17 autonomous communities manages and funds its own health service, with the central government providing oversight and coordination through the Ministry of Health (Comunidad de Madrid, 2020). This decentralization leads to considerable diversity in communication strategies and in the management of health emergencies. Autonomous communities have the freedom to develop and implement their own health policies, adapting them to specific local needs. The Instituto de Salud Carlos III (ISCIII) is a national reference agency for research and training in the health sector. It plays a crucial role in responding to health emergencies, collaborating with regional and national authorities. The main functions include research and innovation, health surveillance, training and education. During the COVID-19 pandemic, ISCIII played a critical role in the collection and dissemination of epidemiological data (Istituto de Salud Carlos III, 2020). It has used social media and other digital platforms to provide regular updates and accurate information to the population. A 2020 study showed that ISCIII significantly improved access to health information through the publication of daily reports on the official website and collaboration with local and national media. Each autonomous community in Spain has its own health agency, which is responsible for managing health resources and communicating with the public. Some examples of good practices are represented by bodies such as the Agència de Salut Pública de Catalunya (ASPCAT) which has implemented innovative communication campaigns using social

media, mobile apps and chatbots to inform citizens about prevention measures during the pandemic (Generalitat de Catalunya, 2020). Partnering with local influencers and celebrities has increased engagement, especially among young people. Also the Servicio Andaluz de Salud (SAS) which has developed an interactive web portal with detailed information on infectious diseases, vaccines and safety measures.

During the COVID-19 pandemic, the SAS launched a social media campaign called "Andalucia se vacuna", which used educational videos and expert testimonials to promote vaccination (Servicio Andaluz de Salud, 2021). Catalonia's "Jo em Vacuno" campaign is an example of effective communication through social media. Launched to promote COVID-19 vaccination, it used videos, infographics, and testimonials from local celebrities to increase uptake. A post-campaign analysis showed a 20% increase in vaccination bookings among young adults, demonstrating the effectiveness of the campaign. The Community of Madrid launched the "Madrid cuida de ti" campaign during the pandemic, using a combination of social media, SMS and mobile apps to provide health updates and advice (Generalitat de Catalunya, 2020). The campaign also included citizen engagement through surveys and online feedback, improving interaction and trust in local health institutions.

In Spain, the Ministry of Health (Ministerio de Sanidad) and other regional health institutions have used social media extensively to communicate with citizens. Throughout the COVID-19 pandemic, social media has been a crucial tool for disseminating up-to-date information on prevention measures, vaccines, and government regulations. The #QuédateEnCasa campaign was a successful example, similar to Italy's #IoRestoACasa campaign, which used Twitter, Facebook, and Instagram to reach millions of citizens with clear and direct messages. The vaccination campaign in Spain has benefited enormously from the use of digital media. According to a study by the Superior Council of Scientific Research (2022), social media facilitated greater adherence to vaccinations, especially among young adults (Pérez-Escoda et al., 2020).

Health Communication in the UK.

The United Kingdom has a complex and articulated healthcare system, with various institutions playing specific and complementary roles. Among these, the UK Health Safety Agency (UKHSA) and the National Health Service (NHS) are two of the most important bodies (Vraga et al., 2020). Although both organizations work to improve

public health, their functions, structures, and approaches to institutional communication, particularly during emergencies, are significantly different. The UKHSA was created to address health security threats, such as infectious diseases, health emergencies, and bioterrorism. Its main functions include disease surveillance, emergency response, research and development, risk communication (Hoschler et al., 2023). The UK Health Safety Agency (UKHSA) is a government body that plays a crucial role in protecting public health in the UK. Founded to improve preparedness and response to health emergencies, the UKHSA has a clear mission: to protect the nation's health by addressing current and future health threats, including infectious disease outbreaks and other health emergencies. The UKHSA was officially established on 1 April 2021, replacing Public Health England (PHE) and other related bodies. This reorganisation took place in response to the need to improve the effectiveness of the UK public health system, highlighted during the COVID-19 pandemic (Hoschler et al., 2023). The new body is tasked with ensuring a more integrated and coordinated response to health threats, building on lessons learned during the pandemic. One of the UKHSA's main tasks has been managing the response to the COVID-19 pandemic. The agency coordinated the distribution of vaccines, the implementation of mass testing, and the monitoring of COVID-19 cases.

According to a report by the UK government, the UKHSA has played a crucial role in achieving high vaccination rates in the country, helping to reduce mortality and hospitalisation (Clarke et al., 2021). The UKHSA is responsible for the National Infectious Disease Surveillance System. This includes collecting and analyzing epidemiological data to quickly identify and respond to disease outbreaks. The agency uses advanced data analytics technologies and predictive models to anticipate outbreaks and plan appropriate interventions (Hoschler et al., 2023). The UK Health Safety Agency is a key pillar in protecting public health in the UK. Future challenges will require continued improvement and adaptation, however, the UKHSA is well positioned to address them and ensure the nation's health security.

During the pandemic, the Agency used Twitter to reach millions of people with daily updates. A 2021 analysis of social media engagement showed a 30% increase in Twitter followers during the early months of the pandemic, indicating a high level of trust and reliance on information provided by the Agency (Sawyer, 2021). In addition, a study by the University of Oxford (2022) found that the UKHSA's communication campaigns,

which used clear graphs and data, improved public understanding of lockdown measures and vaccination campaigns. The centralization of the UK government plays a significant role in institutional communication, influencing the way information is disseminated and coordinated between various agencies and the public. The UK government, through the Department of Health and Social Care, coordinates communication strategies between the UKHSA and the NHS. This approach ensures that the messages are consistent and that there are no contradictions between the different institutions. Social media campaigns are most effective when centralized, as they can reach a wider audience with uniform messaging (Naido et al., 2022). One example is the vaccination campaign, where safety messages and the importance of vaccination were evenly distributed through various channels, increasing public trust and uptake. The centralization of the British government in the management of institutional communication ensures coherence and efficiency, improving information and engagement of citizens, especially through the strategic use of social media during health emergencies (O'Dowd, 2021).

In summary, the UKHSA and the NHS play distinct but complementary roles in protecting and promoting public health in the UK. While the UKHSA focuses on preventing and responding to health threats through disease surveillance, research, and risk communication, the NHS deals with the direct delivery of health services and health resource management (Naido et al., 2022). The NHS is responsible for providing healthcare services nationwide, ensuring that UK citizens have access to free medical care at the point of use. Its main functions include primary and secondary care (management of hospitals, clinics, general practitioners and other health services), prevention and health promotion, and management of health resources. The NHS has launched campaigns on platforms such as Twitter, Facebook, and YouTube to educate the public on various aspects of health, including disease prevention and health emergencies. During the coronavirus pandemic, the NHS used these channels to provide real-time updates and combat misinformation (Naido et al., 2022). One of the most emblematic campaigns of the NHS has been "Stay Home, Protect the NHS, Save Lives". This campaign used social media to spread clear and urgent messages about the need to stay at home to protect the healthcare system and save lives. The campaign included infographics, videos and messages from health officials and reached millions of people, improving adherence to lockdown measures and increasing trust in the NHS.

First reflections of this comparative study.

In both countries, social media has proven to be an effective tool for improving citizen engagement. However, there are differences in the strategies adopted. In Spain, the use of influencers has been particularly effective in reaching young adults, while in the UK the UK Health Safety Agency has made extensive use of in-house produced infographics and educational videos. Disinformation has been a significant challenge in both Spain and the UK. Both countries have developed strategies to monitor and counter fake news. In Spain, the Ministry of Health has partnered with independent fact-checkers and social media platforms to remove fake content. In the UK, the NHS has been working with government and technology platforms to quickly identify and debunk fake news, while also using awareness campaigns to educate the public on source verification. Trust in public institutions has increased in both countries due to the effective use of social media. In Spain, the transparency and direct communication of the Ministry of Health have improved the public perception of health institutions. In the UK, the UKHSA's ability to provide accurate and timely information through social media has strengthened citizens' trust in the NHS. Social media engagement data shows a significant increase in audience participation and interaction with health campaigns in both countries. According to a Eurostat report (2022), the percentage of citizens who interacted with the social pages of health institutions increased by 25% in Spain and 30% in the United Kingdom during the COVID-19 pandemic. Vaccination campaigns in both countries have shown positive results. In Spain, data from the Ministry of Health indicates that more than 80% of the adult population had been vaccinated by the end of 2021, with significant uptake among young adults, attributed in part to the use of social media. In the UK, the NHS (2022) recorded similar vaccination rates, with high participation in campaigns promoted on social media.

While the UK has a more centralised structure with the UKHSA coordinating the national response to health emergencies, Spain relies on a decentralised model. This leads to greater regional autonomy, which can result in both advantages and challenges. Autonomous communities can quickly adapt policies to local needs, improving the effectiveness of health measures. Competition between regions can stimulate innovation in health management and communication strategies. Among the drawbacks, this research finds, the lack of a unified strategy can lead to inconsistencies in policies and messaging, creating confusion among citizens, and economic differences between regions can affect

the quality and accessibility of health services.

In terms of social media communication, both nations have shown an increasing reliance on these platforms to reach audiences quickly and effectively. However, strategies differ: the UKHSA disseminates centralised and uniform messages, ensuring consistency and trust, in the UK there is the use of coordinated national campaigns to address specific health issues, such as the COVID-19 vaccination campaign. On the other hand, in Spain, each autonomous community develops its own communication campaigns, adapting them to local needs and collaborating with local authorities, influencers and regional media to increase the effectiveness of the campaigns. Spain's decentralized healthcare model presents both opportunities and challenges in terms of institutional communication during health emergencies. While decentralization allows regions to quickly adapt to local needs, a lack of centralized coordination can lead to inconsistencies and confusion. Regional health agencies such as ISCIII, ASPCAT and SAS have shown that the strategic use of social media and digital platforms can significantly improve citizen engagement and trust in healthcare institutions. However, the effectiveness of these strategies depends on the ability to coordinate clear and coherent messages at national and regional levels.

2.6 The AI use in communication: a new tool.

Health emergencies present an unprecedented challenge for Italian public institutions, requiring rapid, accurate and large-scale communication to inform the population, manage the crisis and promote healthy behaviors. The use of artificial intelligence (AI) offers new opportunities, but also challenges, in managing communication during such critical situations. AI makes it possible to analyze massive amounts of data from different sources, including social media, online forums, news, and health reports, to better understand the trends, concerns, and needs of the population during an outbreak or pandemic (Mohanta et al., 2019). Through AI, institutions can tailor messages according to the demographic profile, language preferences, and specific needs of different segments of the Italian population, thus increasing the effectiveness of communication (Mohanta et al., 2019). For instance, AI-powered chatbots can provide immediate virtual assistance to frequently asked questions, helping to disseminate crucial information 24/7 and reducing the workload of healthcare workers (Sarella et al., 2024). During the

COVID-19 pandemic, the Italian Ministry of Health launched an AI-powered chatbot called "COVID-19 Italy" on several instant messaging platforms. This chatbot provided up-to-date information on symptoms, safety protocols, and government guidelines, answering citizens' frequently asked questions in a timely and accurate manner. Through AI, the Italian National Institute of Health (2022) analyzed data from social media during a seasonal influenza outbreak to identify case clusters, high-risk areas, and the population's views on influenza vaccination, thereby informing communication and intervention strategies. Using AI, Italian public institutions can automatically translate emergency messages into different Italian languages and dialects, thus ensuring that all citizens have access to crucial information regardless of their native language (Istituto Superiore di Sanità, 2022). Despite the benefits of AI, it is important to maintain a balance with the human approach in communication during health emergencies, ensuring empathy, understanding, and emotional support for the affected population (Werder et al., 2024). Public institutions need to address digital disparities by ensuring equitable and universal access to AI-based technologies, otherwise they could exclude parts of the Italian population that do not have access to the internet or technological devices.

There is a need to develop clear ethical and regulatory guidelines on the use of AI in communication during health emergencies, ensuring transparency, data security and respect for citizens' privacy (Werder et al., 2024).

During the COVID-19 pandemic, Singapore's Ministry of Health launched the "COVID-19 InfoBot," an AI-powered chatbot available on several instant messaging platforms. The chatbot provided up-to-date information on symptoms, safety protocols, and government guidelines, answering citizens' questions in a timely and accurate manner. Due to the pandemic, the South Korean government has also implemented an AI-based system for monitoring symptoms through a mobile app. Users could report their symptoms and receive personalized advice on self-diagnosis and preventive measures to take, thus contributing to the management and containment of the spread of the virus (Liu et al., 2021).

During the seasonal flu outbreak, the UK's National Health Service (NHS) used AI in 2022 to analyse data from social media in order to identify epidemiological trends, population concerns, and false information regarding flu vaccination. This analysis has enabled the NHS to adapt its communication and response strategies in a more targeted and effective way. Another example was the 2011 earthquake and tsunami in Japan,

where the government used AI-based systems to automatically translate emergency messages into different foreign languages in order to inform and assist tourists and foreigners in the country. This technology helped ensure that everyone had access to crucial information during the crisis (Tai-Seale, 2024). And finally, at the time of the dengue outbreaks in India, some local health authorities implemented AI-based virtual care systems to answer citizens' questions, provide advice on disease prevention, and report suspicious symptoms to the relevant health authorities. These systems have helped improve access to information and the effectiveness of outbreak response (Tallam et al., 2021). These examples demonstrate how the use of AI in communication during health emergencies can be applied in different contexts, providing timely, personalized, and accurate information to effectively manage health crises.

Looking to the future, it is crucial to pursue further research and develop specific guidelines to ensure an ethical, equitable and transparent use of AI in the communication of health emergencies, not only in Italy but globally. The integration of AI into institutional health communication strategies can significantly contribute to improving information and engagement of citizens, reducing misinformation and increasing trust in public institutions, as hoped for by the research hypothesis. However, it is crucial that this progress is driven by core values of fairness, accountability, and respect for human rights, so that AI can truly contribute to effective management of health emergencies and greater resilience of communities (Sarella, 2024). Nevertheless, the lack of preparedness of Public Administrations (PAs) in digitalization represents a major obstacle to the effective use of artificial intelligence (AI) in communication during health emergencies. The adoption and implementation of artificial intelligence (AI) requires a solid digital infrastructure and an innovation-oriented organizational culture, elements often lacking in Public Administrations (PAs) (Macrì, 2022). According to recent ISTAT statistical data (2022), only a minority of PAs in Italy and around the world are adequately prepared for digitalization. For instance, a study conducted by the Organisation for Economic Co-operation and Development (OECD, 2021) found that only 23% of PAs in OECD member countries have implemented well-structured and integrated digitalisation policies. In Italy, a report by the Agency for Digital Italy (2022) showed that only 42% of local PAs have adopted advanced digital services, while only 26% have implemented digital communication platforms with citizens. This lack of preparedness and adequate digital infrastructure represents a significant obstacle to the adoption of AI in Italian PAs.

Without adequate technological infrastructure and digital skills, PAs may face difficulties in implementing AI-based solutions to improve communication during health emergencies.

In addition, the lack of investment in the digital skills of public staff may limit the ability of PAs to fully exploit the potential of AI to address emerging challenges in the field of health communication (Macrì, 2022). Addressing this lack of preparedness requires a firm commitment from public authorities at all levels. It is necessary to invest in digital infrastructure, staff training and the implementation of policies aimed at the digitalization of PAs. Only through a holistic approach to digitalization, which includes both technological and organizational and cultural aspects, will PAs be ready to face future challenges, including the responsible and effective adoption of AI in communication during health emergencies (Buonocore, 2020). The Stanca law provides an important regulatory framework for public communication in Italy, including the adoption of artificial intelligence (AI).

Although the law does not specifically refer to AI, the principles of transparency, participation and use of digital media promoted by the law can foster the responsible and effective integration of AI into public communication. For instance, AI could be used to improve the accessibility of information, tailor communication to citizens' needs, and facilitate engagement through innovative digital platforms. However, it is important that the adoption of AI takes place in compliance with the ethical principles, data security and transparency provided for by the Stanca law, ensuring the protection of citizens' rights and the quality of institutional communication (Macrì, 2022).

Health communication has emerged as a rapidly growing field of research that examines the intersections between communication science and health-related disciplines. However, this interdisciplinary nature also presents several challenges that scholars in the field must navigate. As Hannawa et al. (2014) discuss, there are key tensions that arise at the boundaries between communication studies and health sciences in areas such as epistemology, professional advancement, funding, education, and geographic considerations.

From an epistemological standpoint, health communication research faces pressure to balance theory development with practical applications. While communication scholars emphasize the importance of theoretical rigor and advancement, health-related fields and funding agencies tend to prioritize outcome-driven research that can be directly translated

into practice (Hannawa et al., 2014). This creates a dilemma for health communication researchers in deciding whether to pursue theoretically oriented work that advances communication science or more applied studies that may be more appealing to health-focused funders and collaborators. Finding ways to integrate both theoretical and practical contributions remains an ongoing challenge.

The interdisciplinary nature of health communication also creates tensions related to professional advancement and visibility.

As Hannawa et al. (2014) note, communication scholars are typically expected to publish in top communication journals to advance their careers. However, these outlets may have limited visibility among health researchers and practitioners who are more likely to read medical and public health journals. Publishing in health-focused journals can increase interdisciplinary exposure but may be less valued for tenure and promotion within communication departments. Navigating these competing pressures for intradisciplinary versus interdisciplinary visibility is a key challenge.

Funding structures and priorities represent another area where health communication researchers must balance competing demands. Communication scholars are trained to identify gaps in literature and pursue theoretically driven research questions. However, as Hannawa et al. (2014) discuss, funding agencies in health fields are typically more interested in studies with clear practical implications for health outcomes and quality of care. This mismatch in research priorities can make it difficult for health communication scholars to secure funding while still pursuing questions of theoretical importance to the communication discipline. There is a risk that researchers may adapt their inquiries to match funder interests rather than disciplinary needs.

The educational preparation of health communication scholars also reflects tensions between developing scientific versus applied skillsets. Communication programs emphasize skills like theory development, methodology, and measurement, while health fields prioritize more practical abilities related to policy work, provider training, and research implementation (Hannawa et al., 2014). Integrating both types of skills into health communication curricula remains an ongoing challenge but is important for preparing scholars to work effectively across disciplinary boundaries.

Geographically, health communication research has been dominated by U.S.-based perspectives, but the field is increasingly expanding internationally. As Paek et al. (2010) discuss, health communication is growing rapidly as an area of study in Asia and Europe. However, this global expansion raises questions about the cross-cultural validity of

findings and frameworks developed primarily in Western contexts. There is a pressing need for more international and comparative research to examine how health communication processes may operate differently across cultural contexts.

For instance, smoking behaviors and gender norms around tobacco use vary significantly between countries like South Korea and the United States, necessitating culturally tailored communication approaches (Paek et al., 2010). Attitudes toward preventive care also differ based on factors like healthcare access and costs in different national systems. The rapid aging of populations in countries like Japan, South Korea and China is creating urgent health communication challenges that may not be as pressing in other regions (Kim, 2011). Understanding how sociocultural environments, economic and political systems, and cultural values shape health communication is crucial as the field becomes more global in scope.

To address these interdisciplinary tensions and advance health communication as a coherent field of study, scholars have proposed several recommendations. Kreps (2011) argues for the importance of translational research that can bridge theoretical and applied work in health communication. He suggests that scholars should strive to conduct programmatic research that builds cumulative knowledge while also generating actionable insights for health practice and policy. This may help balance competing epistemological priorities.

To enhance interdisciplinary visibility, health communication researchers are encouraged to publish in both communication and health-focused journals. Developing facility with different writing styles and norms across disciplines can help scholars disseminate their work more broadly. Kreps (2011) also recommends increased collaboration between communication and health researchers to combine complementary expertise. Building strong interdisciplinary partnerships may help overcome some of the tensions around funding priorities and skill development.

Methodologically, there is a need for more meta-analyses and systematic reviews to synthesize the growing body of health communication research and identify overarching patterns and principles (Noar, 2006). This can facilitate theory-building while also generating insights relevant to health practitioners. Additionally, more cross-cultural and comparative studies are needed to examine the generalizability of health communication findings and frameworks across diverse global contexts (Schulz & Hartung, 2010).

In terms of education, some scholars have called for revising communication curricula to incorporate more applied skills relevant to health contexts, such as grant writing, policy

analysis, and intervention design (Nussbaum, 2010). Conversely, there may be opportunities to enhance communication training for health professionals to build greater appreciation for communication theories and methods. Developing shared conceptual frameworks and terminology across disciplines could also facilitate more productive interdisciplinary collaboration.

Moving forward, health communication scholars will need to continue navigating the tensions that arise at disciplinary boundaries while working to establish the unique contributions of the field. As Kreps (2011) argues, health communication is well-positioned to serve as an integrative discipline that can bridge divides between theory and practice in health research and care delivery. By embracing its interdisciplinary nature while also articulating a coherent intellectual identity, health communication can evolve into an even more impactful field of study with the potential to meaningfully improve health and healthcare globally.

Continued growth of the field will require sustained efforts to enhance theoretical development, methodological rigor, and real-world relevance. Scholars should strive to conduct research that advances communication science while also generating actionable insights for health practice. Building strong interdisciplinary partnerships, expanding the geographic scope of inquiry, and preparing students with diverse skill sets will be crucial. With thoughtful navigation of disciplinary tensions and a commitment to integration, health communication is poised to make increasingly vital contributions at the intersection of communication, health, and society.

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CHAPTER 3 The Development of Public Sector Communication During Health Emergency Crisis.

3.1 How public communication has addressed recent epidemics.

The development of public health communication strategies during epidemics has been a critical aspect of crisis management, evolving significantly over the past few decades. Historical context reveals that public health communication has its roots in the early 20th century, with the rise of mass media and increased understanding of disease transmission (Bernhardt, 2004). However, it was not until the latter half of the century that structured approaches to health crisis communication began to emerge.

In the wake of recent global health crises, the importance of effective public health communication during epidemics has become increasingly apparent. This analysis focuses on the evolution of communication strategies during three significant outbreaks: SARS, H1N1, and Ebola. These case studies provide valuable insights into the development of public health messaging and community engagement approaches in crisis situations. The Severe Acute Respiratory Syndrome (SARS) outbreak of 2003 marked a critical juncture in global health communication. Initial responses were characterized by a lack of transparency, particularly in China, which led to delayed reporting and underestimation of the outbreak's severity (Smith, 2006). This early misstep highlighted the crucial need for timely and accurate information dissemination. As the crisis unfolded, the World Health Organization (WHO) assumed a pivotal role in coordinating global communication efforts, emphasizing the importance of regular updates and travel advisories (Arguin et al., 2004). A key strategy employed during the SARS outbreak was the use of regular press briefings.

In Hong Kong, for instance, daily press conferences provided updates on case numbers, containment measures, and public health advice. Lee (2009) noted that these briefings were instrumental in maintaining public trust and combating misinformation. The emphasis on personal protective measures, such as hand hygiene and mask-wearing, was disseminated through various media channels, resulting in high compliance rates in affected areas (Lau et al., 2003). The SARS outbreak underscored several critical lessons in public health communication. Transparency emerged as a paramount concern, with the initial lack of openness in China demonstrating the detrimental effects of withholding

information. Consistency in messaging across different levels of government and international bodies proved essential in reducing confusion and building public trust. Additionally, the need for cultural sensitivity in communication strategies became evident, particularly in addressing stigma and discrimination against affected communities (Person et al., 2004). The 2009 H1N1 influenza pandemic marked a significant shift in public health communication strategies, particularly with the emergence of social media as a key communication channel. Health agencies, such as the U.S. Centers for Disease Control and Prevention (CDC), utilized platforms like Twitter, Facebook, and YouTube to disseminate information rapidly and engage with the public directly. Signorini et al. (2011) observed that this approach allowed for real-time updates and two-way communication, enabling health authorities to address public concerns promptly.

However, the use of social media also presented challenges, particularly in controlling the narrative and combating the proliferation of misinformation and conspiracy theories. Kata (2010) highlighted the need for robust strategies to address false information online, a challenge that has only grown more complex in subsequent years. Risk communication strategies during the H1N1 pandemic focused on conveying the nature of the threat and promoting protective behaviors. These strategies included clear messaging about virus severity and transmission routes, regular updates on case numbers and geographical spread, and guidance on personal protective measures. However, balancing the need to convey the seriousness of the situation without causing undue panic proved challenging. Nerlich and Koteyko (2012) noted that some critics argued the initial response was overly alarmist, potentially undermining public trust in health authorities. As vaccines became available, communication efforts shifted to promoting vaccine uptake. This presented unique challenges, including addressing vaccine hesitancy and combating misinformation about vaccine safety. Despite concerted efforts, vaccine uptake in many countries was lower than anticipated, highlighting the complex factors influencing public acceptance of vaccination during a pandemic (Bish et al., 2011).

The West African Ebola outbreak of 2014-2016 presented unique communication challenges, particularly in addressing cultural beliefs and practices that contributed to disease spread. The critical importance of understanding and addressing local cultural contexts in communication strategies became evident. In many affected communities, traditional beliefs about disease causation and burial practices conflicted with public

health recommendations, hindering containment efforts (Gesser-Edelsburg et al., 2015). To address these challenges, health communicators worked closely with community leaders and local organizations to develop culturally appropriate messages. Abramowitz et al. (2015) emphasized the importance of community-based approaches that actively involve local populations in preventing disease transmission. This shift towards more participatory approaches in health communication marked a significant development from earlier outbreaks. The Ebola crisis also highlighted the need to address stigma and fear, which posed significant barriers to effective control measures. Communication strategies focused on educating the public about transmission modes to reduce unfounded fears, highlighting stories of survivors to combat stigma, and promoting compassion and support for affected individuals and communities. Tambo et al. (2014) underscored the importance of community-based psychosocial support and counseling in addressing the psychological impacts of the outbreak and promoting adherence to public health measures. Given the limited access to traditional media in many affected areas, health communicators employed a diverse range of communication channels during the Ebola outbreak. These included radio broadcasts, SMS messaging campaigns, visual aids, and door-to-door outreach by community health workers. Winters et al. (2018) found that exposure to Ebola-related messages through multiple channels was associated with higher levels of knowledge and adoption of preventive behaviors, underscoring the importance of multi-channel communication approaches.

The Ebola outbreak also emphasized the importance of effective crisis communication at the international level. Heymann et al. (2015) discussed the need for improved coordination and communication between various stakeholders, including national health authorities and international organizations. Recent research has continued to emphasize the importance of community engagement and cultural sensitivity in public health communication.

A study by Lau et al. (2023) on COVID-19 vaccine communication to culturally and linguistically diverse communities highlighted the need for tailored messaging and engagement strategies. Similarly, the Global Emerging Pathogens Treatment Consortium (GET) has demonstrated the power of civil society in driving policy research and implementation of initiatives aimed at building African capacity for timely and effective mitigation strategies against emerging infectious diseases (Aiyepola et al., 2016).

In conclusion, public health communication during epidemics has evolved significantly, adapting to new technologies, social contexts, and the nature of emerging health threats.

The experiences of past epidemics have informed current practices, emphasizing the need for rapid, transparent, and culturally sensitive communication strategies. As we continue to face global health challenges, the field of public health communication must remain adaptive, leveraging new technologies while addressing the persistent challenges of maintaining public trust and combating misinformation.

3.2 What has the COVID-19 pandemic brought new to public communication?

The COVID-19 pandemic has ushered in a new era of public sector communication during health emergency crises, presenting unprecedented challenges and opportunities for governments and health organizations worldwide. As the global scale and rapid spread of the virus necessitated swift and effective communication strategies, public health authorities found themselves navigating a complex landscape of information dissemination and public engagement. In recent years, the evolution of communication channels and technologies has significantly impacted public health messaging during epidemics. The shift from traditional media to digital platforms has allowed for more targeted and interactive communication strategies. Social media, in particular, has emerged as a powerful tool for real-time information dissemination and public engagement. However, this transition has not been without its challenges, particularly in terms of information overload and the spread of misinformation (Vos and Buckner, 2016). Furthermore, risk communication has been a central focus in public health messaging during epidemics. Effective risk communication involves not only conveying accurate information about health threats but also addressing public concerns and promoting appropriate protective behaviors. The perception of risk by the public often differs from expert assessments, necessitating communication strategies that bridge this gap (Fischhoff, 1995).

One of the key challenges in public health communication during epidemics has been maintaining public trust. Transparency and consistency in messaging have been identified as crucial factors in building and maintaining trust. Research has demonstrated that when health authorities are perceived as open and honest, even in the face of uncertainty, public compliance with health measures tends to be higher (Siegrist and Zingg, 2014).

The COVID-19 pandemic has brought many of these lessons to the forefront while also presenting new challenges. The unprecedented scale and duration of the crisis have tested

the limits of existing communication strategies. The pandemic has highlighted the critical role of clear, consistent messaging from health authorities in shaping public behavior.

Moreover, it has underscored the importance of addressing misinformation and conspiracy theories, which have proliferated at an unprecedented rate through social media platforms (Cinelli et al., 2020). Additionally, the use of digital technologies for contact tracing and exposure notification during COVID-19 has introduced new dimensions to public health communication. These tools have raised questions about privacy and data security, requiring health communicators to address public concerns while promoting the adoption of these technologies (Kahn and Johns Hopkins Project on Ethics and Governance of Digital Contact Tracing Technologies, 2020). As the pandemic unfolded, it became increasingly evident that millions of individuals were turning to online sources, particularly social media, to stay informed about the virus. This shift fundamentally altered the landscape of public health communication, offering both advantages and challenges for public sector organizations (Hu et al., 2023).

Consequently, public health authorities found themselves adapting their messaging to the digital age, as the rapid spread of information, both accurate and misleading, across borders and cultures created a complex communication environment that required nuanced and adaptive approaches. In response to these challenges, innovative strategies emerged. For instance, the role of social media influencers in public health communication gained prominence during the pandemic.

A study conducted in Finland revealed that influencers attempted to adapt official messages to their own style, sharing general guidelines and demonstrating appropriate behavior during the pandemic through their own examples (Reinikainen et al., 2022). This approach highlighted the potential for leveraging existing social networks and trusted voices to amplify public health messages.

However, the reliance on digital platforms for information dissemination also exacerbated the challenges of misinformation and what has been termed the "infodemic." The World Health Organization defined this phenomenon as an overabundance of information, some accurate and some not, occurring during an epidemic (WHO, 2020).

This infodemic posed significant obstacles to effective public health communication during the COVID-19 pandemic. To combat misinformation and ensure the dissemination of accurate health information, public sector organizations developed innovative approaches. These included partnerships between public health authorities and technology companies, with many social media platforms implementing fact-checking

mechanisms and warning labels on posts containing potential misinformation about COVID-19 (Tangcharoensathien et al., 2020).

Furthermore, the pandemic underscored the importance of tailoring communication strategies to diverse audiences. Research on COVID-19 vaccine communication to culturally and linguistically diverse communities emphasized the need for tailored messaging and engagement strategies to effectively reach all segments of the population (Lau et al., 2023). This recognition led to more nuanced and culturally sensitive approaches to public health messaging. Community engagement emerged as a crucial component of effective public health communication during the pandemic.

The traditional top-down approach to health communication was challenged by the need for more participatory and inclusive strategies. Lessons learned from previous outbreaks, such as the Ebola crisis, highlighted the vital role of community-based approaches in preventing disease transmission (Abramowitz et al., 2015). The COVID-19 pandemic also accelerated the adoption of digital technologies in public health communication. Telemedicine, virtual town halls, and online health education platforms became integral parts of the public health response. These digital health technologies offered significant potential to reduce the burden on overstretched health systems during the pandemic (Whitelaw et al., 2020).

Moreover, the use of data analytics and artificial intelligence in public health communication saw significant advancement during the pandemic. These technologies were employed to track the spread of the virus, predict outbreaks, and tailor public health messages to specific populations. AI applications were deployed across various aspects of the COVID-19 response, from mapping and predicting outbreaks to diagnosing cases and developing treatments (Bullock et al., 2020). The rapid evolution of scientific knowledge about COVID-19 presented unique challenges for public health communicators.

The need to convey complex and sometimes changing information to the public while maintaining credibility requires careful messaging strategies. Health communication during this crisis necessitated a delicate balance between providing hope and realism, as well as between directive communication and autonomy-supportive communication (Finset et al., 2020). The pandemic also brought to the forefront the issue of health literacy and its impact on public health outcomes. Public sector communicators grappled with how to convey complex health information in ways that were accessible and understandable to diverse populations with varying levels of health literacy (Paakkari and

Okan, 2020).

The global nature of the pandemic necessitated unprecedented levels of international cooperation in public health communication. Lessons from previous outbreaks, such as Ebola, emphasized the need for improved coordination and communication between various stakeholders, including national health authorities and international organizations (Heymann et al., 2015).

Additionally, the COVID-19 pandemic highlighted the importance of addressing mental health in public health communication. The crisis both exacerbated existing mental health issues and created new ones, necessitating targeted communication strategies to address psychological well-being alongside physical health concerns (Holmes et al., 2020).

While social media gained prominence, traditional media continued to play crucial roles, particularly in reaching older populations and those with limited internet access. A multi-channel approach to health communication, incorporating both traditional and new media, proved essential for comprehensive public outreach during the pandemic (Anwar et al., 2020). The pandemic also underscored the need for public health communicators to address issues of equity and social justice. COVID-19 disproportionately affected marginalized communities, necessitating targeted communication strategies to address health disparities and promote equitable access to information and resources (van Dorn et al., 2020).

The use of behavioral science insights in public health communication gained prominence during the pandemic. These insights were used to help align human behavior with the recommendations of epidemiologists and public health experts, informing strategies to promote adherence to preventive measures such as mask-wearing and social distancing (Bavel et al., 2020).

Innovations in risk communication were also necessitated by the pandemic. Effective risk communication during this crisis required not only conveying accurate information about health threats but also addressing public concerns and promoting appropriate protective behaviors. This involved developing strategies to communicate uncertainty and evolving scientific knowledge in ways that maintained public trust (Fischhoff, 2020).

The development of digital contact tracing technologies presented new challenges and opportunities for public health communication. Health communicators had to address public concerns about privacy and data security while promoting the adoption of these technologies (Kahn and Johns Hopkins Project on Ethics and Governance of Digital Contact Tracing Technologies, 2020).

The pandemic also highlighted the importance of combating vaccine hesitancy through effective communication strategies. Clear and consistent communication about vaccine safety and efficacy proved crucial for promoting vaccine uptake and addressing public concerns (Lazarus et al., 2021). The role of visual communication in conveying complex health information gained increased attention during the pandemic. Visual aids were found to significantly improve comprehension of health-related information, particularly for individuals with lower health literacy. This principle was applied in the development of infographics and visual representations of COVID-19 data and preventive measures (Garcia-Retamero and Cokely, 2013).

Innovations in crisis communication strategies were also necessitated by the pandemic. Effective crisis communication during this time required not only providing timely and accurate information but also addressing the emotional and psychological needs of the public. This involved developing strategies to convey empathy and support alongside factual health information (Seeger, 2006).

Lastly, the COVID-19 pandemic underscored the importance of addressing cultural and linguistic diversity in public health communication. Linguistic diversity emerged as a key challenge in global public health communication, requiring targeted strategies to ensure that health information reached all segments of the population (Piller et al., 2020).

3.3 The application of digital media to institutional communication during health emergency crises.

The application of digital media to institutional communication during health emergency crises has undergone significant evolution, particularly in the context of social media platforms.

This transformation has been most evident during the COVID-19 pandemic, which has served as a catalyst for rapid innovation and adaptation in public health communication strategies. This

analysis examines the utilization of various social media platforms by health institutions worldwide, exploring specific case studies that illuminate both the efficacy and challenges of these approaches. Facebook, as a dominant social media platform, has become integral to many public health communication strategies.

The Centers for Disease Control and Prevention (CDC) in the United States provides an instructive case study of Facebook's potential in crisis communication. During the

COVID-19 pandemic, the CDC leveraged Facebook's extensive reach to disseminate critical health information, provide real-time updates, and offer guidance on preventive measures. Strekalova (2017) observed that the CDC's Facebook posts during health emergencies garnered significantly higher engagement rates compared to non-emergency periods, underscoring the public's heightened attention to official health communications during crises. The CDC's approach on Facebook was multifaceted, incorporating live video sessions, infographics, and interactive Q&A sessions.

This strategy facilitated real-time engagement with the public, providing a platform to address concerns and counter misinformation promptly. Notably, Strekalova's research highlighted that posts featuring visual content consistently outperformed text-only posts in terms of engagement, pointing to the critical role of visual communication in effectively conveying health messages.

In the European context, the European Centre for Disease Prevention and Control (ECDC) offers another compelling case study.

Lwin et al. (2018) analyzed the ECDC's use of Facebook during the Zika virus outbreak, providing insights applicable to the COVID-19 response. The study emphasized the ECDC's success in leveraging Facebook for risk communication, particularly in reaching younger demographics and facilitating two-way communication with the public. Twitter has distinguished itself as a vital tool for real-time updates and rapid information dissemination during health crises. The World Health Organization's (WHO) use of Twitter during the COVID-19 pandemic exemplifies effective global health communication. The WHO's Twitter account became a primary source of international health information, providing regular updates, debunking myths, and sharing guidance on preventive measures.

Rufai and Bunce (2020) conducted an analysis of Twitter communication by G7 world leaders during the early stages of the COVID-19 pandemic. Their findings revealed a correlation between effective use of Twitter for public health messaging and higher levels of public engagement and compliance with health measures. The study highlighted Canadian Prime Minister Justin Trudeau's approach as particularly effective, noting how his use of Twitter for daily briefings and updates contributed to a coordinated national response to the pandemic.

In the United Kingdom, the National Health Service (NHS) provides another noteworthy example of Twitter utilization during the pandemic. Gough et al. (2017) examined the NHS's use of Twitter during health crises, revealing the platform's effectiveness in

reaching healthcare professionals and facilitating information exchange between different health institutions. Instagram, with its focus on visual content, has proven particularly effective in health communication, especially in reaching younger demographics.

The Australian Government Department of Health's use of Instagram during the COVID-19 pandemic offers an instructive case study. Leveraging Instagram's visual-centric format, the department created engaging infographics, short videos, and stories that translated complex health information into accessible content. Guidry et al. (2020) analyzed Instagram use by health organizations during the Zika virus outbreak, providing insights that proved valuable during the COVID-19 response. The study found that posts featuring infographics and personal stories garnered higher engagement rates than other content types, informing many health organizations' Instagram strategies during the COVID-19 pandemic. In Germany, the Federal Centre for Health Education's launched "Zusammen gegen Corona" (Together against Corona) campaign on Instagram effectively targeted young people with COVID-19 prevention messages through influencer partnerships and interactive stories.

Reinikainen et al. (2022) highlighted the effectiveness of this approach in engaging demographics that might be less receptive to traditional media channels. TikTok, despite its relative novelty, has played a significant role in public health communication during the COVID-19 pandemic, particularly in reaching younger audiences.

The World Health Organization's (WHO) use of TikTok to combat misinformation and promote preventive measures provides an enlightening case study. Basch et al. (2022) analyzed the content and engagement of the WHO's TikTok videos during the pandemic, revealing that videos focusing on myth-busting and practical preventive measures received the highest engagement rates. In Southeast Asia, the Vietnamese government's use of TikTok for COVID-19 communication offers another fascinating case study.

Le et al. (2021) examined Vietnam's digital communication strategy during the pandemic, highlighting the effectiveness of collaborating with local TikTok influencers to create a viral hand-washing challenge in promoting hygiene practices among young people. While these case studies demonstrate the diverse and innovative ways in which social media platforms have been utilized for institutional public communication during health crises, it is crucial to acknowledge the challenges inherent in this approach.

Cinelli et al. (2020) highlighted the "COVID-19 social media infodemic," emphasizing how the rapid spread of false or misleading information on social media platforms can undermine public health efforts. To address this challenge, some organizations have

developed dedicated strategies. The UK's NHS, for instance, established a dedicated social media team to monitor and respond to misinformation across platforms.

Vraga and Bode (2020) emphasized the importance of such rapid response strategies in maintaining public trust during health crises. The need to tailor messages to different platforms and audiences presents another critical consideration in social media health communication. Guidry et al. (2017) found that effective communication strategies varied significantly between platforms, with Twitter being more effective for disseminating factual updates and engaging with professionals, while Instagram was more suited to visual storytelling and engaging younger audiences. The use of social media influencers in public health communication has emerged as a significant trend, particularly during the COVID-19 pandemic.

Reinikainen et al. (2022) demonstrated how the Finnish government partnered with social media influencers to disseminate COVID-19 information, finding that influencers were able to adapt official health messages to their own communication style, enhancing relatability and engagement. The global nature of social media platforms has facilitated international collaboration in health communication. Rosenberg et al. (2020) highlighted how Twitter facilitated rapid information exchange and collaboration across borders among epidemiologists during the pandemic.

However, Piller et al. (2020) emphasized the need for multilingual and culturally adapted health messaging on social media platforms to address challenges related to cultural sensitivity and language barriers. The integration of data analytics and artificial intelligence in social media health communication has seen significant advancement during recent health crises. Aiello et al. (2020) explored the use of AI in social media monitoring during the COVID-19 pandemic, highlighting its potential in enhancing public health communication while also raising ethical concerns about privacy and data use. The role of social media in promoting vaccine acceptance has been particularly significant during the COVID-19 pandemic.

Thelwall et al. (2021) found that messages emphasizing vaccine safety and efficacy, as well as those appealing to social responsibility, were most effective in promoting positive vaccine sentiment on Twitter.

Mental health support through social media has gained increased attention during the pandemic. Gao et al. (2020) found that while excessive use of social media for COVID-19 information was associated with increased anxiety, platforms also provided valuable sources of social support and health information. Community engagement and

participatory health communication through social media have been another significant trend.

Abramowitz et al. (2015) highlighted the importance of such participatory approaches in health crisis communication, drawing on lessons from the Ebola outbreak that have been widely applied to social media strategies during the COVID-19 pandemic. The role of social media in addressing health disparities and promoting health equity has also been a focus during recent health crises. Van Dorn et al. (2020) emphasized the importance of targeted communication strategies in addressing health inequities, highlighting how social media platforms can be valuable tools for reaching marginalized communities while also noting the challenges posed by the digital divide. The use of user-generated content and crowdsourcing in public health communication on social media has been another innovative approach.

Zhang et al. (2021) found that such participatory approaches can increase engagement and message retention, while also noting the need for careful moderation and fact-checking to maintain accuracy.

Finally, the integration of social media with other digital health technologies has been a significant development. Whitelaw et al. (2020) highlighted the potential of such integrated approaches in COVID-19 pandemic planning and response, while also emphasizing the need to address issues of digital literacy and access to ensure equitable benefit from these technologies.

3.3 The Infodemic Issue Related to The Italian Case- A Social Debate.

The COVID-19 pandemic has not only presented a global health crisis but also spawned what the World Health Organization termed an "infodemic" - an overabundance of information, including false or misleading content, which made it difficult for people to find trustworthy guidance. This phenomenon posed significant challenges for public health communication in Italy, a country that found itself at the forefront of the European outbreak. As the virus began to spread rapidly across Italy in early 2020, public institutions faced immense pressure to respond effectively, necessitating a comprehensive communication strategy to inform, educate, and engage the public. Initially, communication efforts were characterized by a lack of clarity and consistency, which contributed to public confusion and anxiety. Early messaging focused heavily on travel restrictions and quarantine measures but insufficiently emphasized preventive behaviors

such as social distancing and mask-wearing.

The Evolution of Crisis Communication.

The Italian response to the COVID-19 pandemic offers a rich case study in public sector communication, particularly in the context of health emergencies. As the situation escalated, particularly in regions like Lombardy, it became clear that a more coordinated approach was essential.

In March 2020, when Italy implemented nationwide lockdown measures, communication strategies evolved significantly. The government began utilizing various channels, including press conferences and social media platforms, to communicate health guidelines and updates effectively. Social media emerged as a vital tool for real-time engagement with citizens, allowing for rapid dissemination of information regarding case numbers and safety protocols. The hashtag #iorestoacasa (I stay at home) became emblematic of the collective effort to comply with lockdown measures while fostering a sense of community solidarity. Public figures, including healthcare professionals and celebrities, leveraged their platforms to share personal stories and promote adherence to health guidelines.

This grassroots approach helped humanize the crisis and build trust between health authorities and the public. By engaging directly with citizens on social media, these figures played a crucial role in countering misinformation and encouraging compliance with public health measures. The COVID-19 pandemic marked a dramatic shift in how Italian public institutions approached crisis communication. As Lovari (2020) notes, "the pandemic has acted as an accelerator of digital transformation processes in public sector organizations" (p. 3).

One of the most significant changes was the greatly expanded use of social media platforms by government agencies at all levels. The Italian Ministry of Health and other national bodies dramatically increased their output on channels like Facebook, Instagram, and Twitter (Lovari et al., 2020). There was a concerted effort to make communications more engaging and visually appealing to cut through the noise of information overload. Infographics, animated videos, and live streaming became common tactics. Health officials and political leaders also began doing regular live Q&A sessions on social platforms to directly address public concerns (Lovari, 2020). Another key development was the increased emphasis on two-way communication and citizen engagement. Many

agencies shifted from a purely broadcast model to actively soliciting questions and feedback from the public via social media. This helped build trust and allowed officials to rapidly identify and address emerging concerns or misinformation (Lovari et al., 2020). The pandemic also accelerated the adoption of new digital tools beyond just social media. For instance, contact tracing apps, online self-assessment tools, and chatbots were deployed to augment traditional public health measures. While the effectiveness of some of these innovations is still being evaluated, they represent a clear pivot towards leveraging technology for crisis response (Ceron and Memoli, 2020).

Importantly, COVID-19 forced greater coordination between different levels of government and across sectors. Daily press conferences with national and regional leaders became the norm, helping to present a more unified message. There were also increased partnerships with private sector tech companies, media outlets, and civil society organizations to amplify official communications (Lovari, 2020). The crisis also highlighted the importance of tailoring communication for different audience segments. There were targeted campaigns for youth, elderly populations, and various occupational groups. Multilingual communications became more common to reach immigrant communities (Lovari et al., 2020).

Real-time data visualization became a cornerstone of public communication during COVID-19. Daily updates on case numbers, hospitalizations, and other key metrics were presented through interactive dashboards and infographics. This level of transparency was unprecedented in previous health crises (Lovari et al., 2020).

The role of scientific experts in public communication was also amplified during the pandemic. Virologists and epidemiologists became household names, regularly appearing in media briefings and interviews. This helped reinforce the evidence-based nature of public health measures, although it also led to some challenges when experts disagreed (Ceron and Memoli, 2020).

Combating Misinformation and the Infodemic Challenge.

While social media platforms allowed for rapid dissemination of official information, they also facilitated the spread of misinformation and conspiracy theories. A study by Lovari (2020) found that false claims about the origins of the virus, unproven treatments, and anti-vaccination content proliferated on Italian social networks.

The decentralized nature of Italy's healthcare system sometimes contributed to conflicting

or inconsistent messaging, especially in the early stages of the pandemic. This information vacuum created opportunities for unofficial and potentially unreliable sources to gain traction (Ceron and Memoli, 2020). To combat the infodemic, Italian authorities adopted several strategies. There was an increased focus on proactive communication to pre-empt and debunk common myths. The Ministry of Health, for example, created dedicated sections on its website and social media channels to address frequently circulating false claims. Partnerships with social media companies were also crucial. Italian officials worked with platforms like Facebook and Twitter to promote authoritative content and limit the spread of harmful misinformation (Lovari et al., 2020). Media literacy initiatives became another important tool. Several government agencies and civil society organizations launched campaigns to help citizens critically evaluate online health information. These efforts aimed to empower individuals to distinguish between credible and unreliable sources (Ceron and Memoli, 2020).

The infodemic also highlighted the importance of transparency and clear communication from officials. When information gaps or uncertainties existed, it became crucial for authorities to openly acknowledge this to maintain public trust. This helped counter the narrative pushed by some conspiracy theorists that the government was hiding information (Lovari, 2020).

However, the politicization of certain public health measures, such as mask-wearing and lockdowns, sometimes complicated efforts to combat misinformation. Political debates often spilled over into discussions of scientific evidence, blurring the lines between fact and opinion. The rapid evolution of scientific understanding about COVID-19 also posed challenges for communicators. As new evidence emerged, guidance sometimes changed, which could be exploited by those pushing conspiracy theories to undermine trust in official sources (Ceron and Memoli, 2020).

Fact-checking initiatives played an important role in the fight against misinformation. Collaborations between media outlets, academic institutions, and civil society organizations helped identify and correct false claims circulating online. The crisis also sparked debates about the responsibilities of social media platforms in moderating health-related content. There were calls for greater regulation and transparency from tech companies in how they handle misinformation (Lovari, 2020).

The infodemic had real-world consequences beyond just online discourse. Studies showed that exposure to misinformation could influence adherence to public health measures and vaccine hesitancy. The crisis highlighted the need for greater investment in

public health communication infrastructure. Many agencies found themselves understaffed and under-resourced to deal with the scale of the infodemic (Lovari et al., 2020).

Despite these efforts, managing the infodemic remains an ongoing challenge. A survey conducted in late 2020 found that a significant portion of Italians still believed in various COVID-related conspiracy theories. This underscores the need for continued research and innovation in countering misinformation during health crises (Lovari et al., 2020). The infodemic experience during COVID-19 has sparked broader discussions in Italy about the role of digital platforms in public discourse and the need for improved media literacy education. It has also led to calls for greater investment in public health communication capabilities to better prepare for future crises (Ceron and Memoli, 2020). The COVID-19 vaccination campaign in Italy is a significant example of the effectiveness of social media in health communication. Social media has been widely used to disseminate information on prevention measures, updates on infections and vaccinations, and to combat misinformation.

According to ISTAT data (2019), the use of social media has helped to reach a large and diverse audience, improving vaccine acceptance. Social media campaigns have used infographics, explainer videos, and testimonials from vaccinated people to raise awareness (Ducci, 2021). Italian healthcare organizations have partnered with influencers and micro-influencers to spread health messages. This approach has proven to be particularly effective in reaching segments of the population that follow personalities more closely online than institutional channels. Studies conducted by the University of Milan (2020) have shown that campaigns involving influencers have a greater impact on engagement and behavior change than traditional campaigns (Chong et al., 2018).

The COVID-19 pandemic has been a testing ground for health communication in Italy. Italian health institutions had to quickly adapt their communication strategies to deal with the emergency. A significant example is the #IoRestoACasa campaign, promoted by the Italian government at the beginning of the pandemic to promote social distancing. The campaign used a mix of visual content, videos and text messages to raise awareness of the importance of staying at home. The viral spread of the hashtag has demonstrated the effectiveness of social media in quickly reaching a large audience and promoting healthy behaviours (Lovari, 2021).

Other examples of communication campaigns include #DistantiMaUniti promoted by the Italian Civil Protection Department during the COVID-19 pandemic. The aim was to

promote a sense of national unity and encourage compliance with social distancing measures and health guidelines while people were confined to their homes (Lovari and Ducci, 2022). During a seasonal flu outbreak, the Italian Ministry of Health in 2011 launched the #IoMiProteggerò campaign to promote the importance of vaccination and preventive measures to reduce the spread of the virus. The #NonSprecareLaTuaVita campaign was launched by Italian health authorities to raise awareness of the importance of drug addiction prevention and to provide information on where to find help and support to deal with the problem (2018).

Similarly, #SospendiIlBacetto was promoted by the Italian Ministry of Health during an epidemic of communicable diseases such as influenza or measles to raise awareness of how diseases are transmitted and to encourage people to avoid affectionate gestures such as kisses and hugs to reduce the risk of contagion (2019).

During health emergencies, the speed of information dissemination is crucial. Social media offers the ability to update the population in real-time, as was evident during the COVID-19 pandemic. The Ministry of Health has used Twitter to provide daily updates on new cases, prevention measures and government provisions, reaching millions of citizens in real time.

However, the collection and use of data on social media raises privacy concerns. Healthcare organizations must ensure that personal data is handled in accordance with data protection regulations, such as GDPR. This is particularly relevant in public health campaigns, where confidentiality of information is important. Integrating social media with traditional media can boost the effectiveness of health communication campaigns. For instance, television campaigns can be amplified on social media, reaching a larger and more diverse audience. This multi-channel approach allows you to leverage the strengths of both media, improving the spread and impact of health messages (Chong et al., 2018).

In conclusion, Italy's experience during the COVID-19 pandemic illustrates both the challenges and opportunities inherent in public sector communication during health emergencies. By adapting strategies to leverage digital media effectively while addressing misinformation head-on, Italian authorities were able to navigate an unprecedented crisis. The lessons learned from this experience will inform future approaches to public health communication not only in Italy but also globally as societies continue to confront emerging health threats in an increasingly interconnected world. The future of health communication in Italy will depend on the ability of public organizations to integrate

social media with traditional media, using a multi-channel approach that leverages the strengths of both. Only in this way will it be possible to guarantee effective, inclusive and safe communication, able to respond to the needs of the population and to deal with health emergencies successfully (Lovari and Ducci, 2022).

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Chapter 4 Methodology.

4.1 The Research Hypotheses.

The research hypothesis of this PhD thesis is "*The institutional health and health emergency communication strategies adopted by public sector organizations through social media significantly improve citizen information and engagement, reducing misinformation and increasing trust in public institutions.*"

The use of specific social platforms, such as Instagram and Facebook, allows public organizations to reach a wider and more diverse audience than traditional communication channels. In addition, the rapid monitoring and intervention strategies against fake news implemented by public organizations on social media reduce the spread of misinformation during health emergencies.

Health communication campaigns conducted through social media, which include clear, timely and scientifically accurate messages, are more effective in promoting healthy behaviors than campaigns conveyed exclusively through traditional media.

Initiatives to engage and interact directly with citizens on social media increase the level of trust in the information provided by public organizations and improve compliance with health recommendations. In addition, the use of specific metrics and the collection of feedback from citizens on social media allow public organizations to continuously adapt and improve their institutional communication strategies.

Institutional communication of health and health emergencies is crucial to ensure that citizens receive accurate and timely information. With the advent of social media, public organizations have new opportunities and tools to communicate more effectively. This research hypothesis explores how such tools and strategies can positively influence public information, citizen engagement and the management of health emergencies, contributing to greater trust in institutions and a better response to health crises.

4.2 Research Objectives for the Methodology.

The overarching aim of this research is to investigate the effectiveness of institutional health and emergency communication strategies adopted by public sector organizations through social media in Italy, with a particular focus on their impact on citizen information, engagement, misinformation reduction, and trust in public institutions. To address this complex and multifaceted topic, the following research objectives have been formulated:

1 RO Evaluate the reach and engagement of social media platforms in public health

communication: the first objective of this study is to assess the effectiveness of social media platforms, specifically Instagram and Facebook, in reaching a wider and more diverse audience compared to traditional communication channels for public health messaging. This objective directly addresses a key component of the research hypothesis, focusing on the reach and diversity of audience engagement through social media.

To achieve this objective, the research will employ a mixed-methods approach, combining quantitative analysis of social media metrics with qualitative assessment of audience and engagement patterns. The study will collect and analyze data on follower growth, post reach, and engagement rates (likes, comments, shares) for official health communication accounts on Instagram.

Additionally, hashtags and social media followers will be examined to assess the diversity of the audience reached through these platforms. This analysis will help determine whether social media enables public health communicators to reach segments of the population that may be underserved by traditional media channels.

By comprehensively evaluating the reach and engagement of social media platforms, this objective will provide valuable insights into the potential advantages of digital platforms for public health communication. The findings will help inform strategies for optimizing channel selection and content distribution in future health communication efforts.

2 RO Assess the impact of rapid monitoring and intervention strategies against misinformation on social media during health emergencies:

the second objective focuses on evaluating the effectiveness of strategies employed by public organizations to combat misinformation on social media during health crises. This objective is crucial in addressing the challenges posed by the "infodemic" phenomenon observed during the COVID-19 pandemic and its potential impact on public trust and health outcomes.

To address this objective, the research will employ a multi-pronged approach. First, a comprehensive content analysis of social media posts related to health misinformation during specific crisis periods (e.g., the early stages of the COVID-19 pandemic in Italy) will be conducted. This analysis will identify common themes, sources, and spread patterns of misinformation.

Next, the study will examine the rapid response strategies implemented by Italian health authorities to counter misinformation. This will involve analyzing official fact-checking

initiatives, debunking campaigns, and collaborations with social media platforms to promote authoritative content. The research will assess the speed, reach, and engagement of these interventions compared to the spread of misinformation.

Additionally, surveys and interviews with communicators will be conducted to gauge the effectiveness of these interventions in shaping public perceptions and beliefs. This qualitative data will provide insights into how individuals evaluate conflicting information sources and the extent to which official fact-checking efforts influence their trust in health communications.

By comprehensively assessing the impact of rapid monitoring and intervention strategies, this objective will provide valuable insights into best practices for maintaining information integrity during health emergencies. The findings will inform the development of more effective approaches to combating misinformation in future crises.

3 RO Compare the efficacy of health communication campaigns conducted through social media versus those conveyed exclusively through traditional media in promoting healthy behaviors: the third objective aims to evaluate the relative effectiveness of social media-based health communication campaigns compared to those using only traditional media channels in influencing public behavior. This comparison is essential for understanding the potential advantages of digital platforms in promoting health-related behavioral changes.

To achieve this objective, the research will conduct a comparative analysis of specific health communication campaigns implemented in Italy. The study will select campaigns with similar goals and target audiences but differing in their primary communication channels (social media-focused vs. traditional media-focused).

Content analysis of campaign materials across both media types will be performed to identify key message strategies, visual elements, and calls to action. This analysis will help determine whether certain types of content or messaging approaches are more effective on social media compared to traditional channels.

By comparing the efficacy of health communication campaigns across different media types, this objective will provide evidence-based insights into the strengths and limitations of social media for promoting healthy behaviours. The findings will inform future campaign planning and resource allocation decisions for public health communicators.

4 RO Evaluate the use of social media metrics and citizen feedback in the continuous adaptation and improvement of institutional communication strategies by public organizations:

the fourth objective aims to assess how public health organizations in Italy utilize social media data and user feedback to refine and enhance their communication strategies over time. This objective addresses the adaptive nature of digital communication and its potential to create more responsive and effective health messaging. To achieve this objective, the research will employ a mixed-methods approach combining quantitative analysis of social media metrics with qualitative assessment of organizational practices and decision-making processes.

The study will conduct a comprehensive analysis of social media metrics used by Italian health authorities, including engagement rates, sentiment analysis, and topic modeling of user comments. This analysis will track how these metrics evolve over time and in response to different communication approaches.

Interviews with communication officials and social media managers in public health organizations will be conducted to understand how they interpret and act upon social media data. These interviews will explore the decision-making processes behind content strategy adjustments, message refinement, and channel selection based on social media insights.

Case studies of specific communication campaigns or crisis responses will be developed, tracing how initial strategies were adapted based on real-time social media feedback and metrics. These case studies will provide concrete examples of the iterative process of strategy refinement in response to public engagement.

The research will also examine the technological infrastructure and analytical tools used by public organizations to collect and analyze social media data. This will include an assessment of any barriers or limitations in their ability to effectively utilize social media insights for strategy improvement.

Comparative analysis will be conducted to identify differences in adaptive practices between organizations at different levels of government (national, regional, local) and across different health sectors. This will help identify best practices and potential areas for improvement in the use of social media data for strategy refinement.

The research will also assess the timeliness of strategy adaptations in response to social media insights, particularly during rapidly evolving crisis situations. This will involve analyzing the lag time between identifying emerging issues through social media

monitoring and implementing communication strategy adjustments.

By evaluating how public organizations use social media metrics and feedback to adapt their communication strategies, this objective will provide valuable insights into the potential for creating more agile and responsive health communication approaches. The findings will inform best practices for leveraging social media data to continuously improve public health messaging and engagement strategies.

These four research objectives collectively address the key components of the research hypothesis and provide a comprehensive framework for examining the role of social media in institutional health communication in Italy. By focusing on reach and engagement, misinformation management, campaign efficacy, trust-building through interaction, and adaptive strategy development, the research will generate valuable insights into the potential and challenges of social media as a tool for public health communication.

The findings from this research will have significant implications for public health policy and practice in Italy and beyond. They will inform the development of more effective digital communication strategies for health emergencies, contribute to our understanding of how to combat misinformation in the digital age, and provide guidance on fostering public trust and engagement through social media.

Moreover, this research will contribute to the broader academic discourse on public sector communication in the digital era, offering empirical evidence on the transformative potential of social media in government-citizen interactions. The multi-faceted approach outlined in these objectives will yield a rich dataset that can inform future research in public health communication, crisis management, and digital governance.

As the global health landscape continues to evolve, with the potential for future pandemics and health crises, the insights generated from this research will be crucial in preparing public institutions to communicate effectively in an increasingly digital world. By rigorously examining the Italian experience during COVID-19 and other health emergencies, this study will provide valuable lessons that can enhance preparedness and response capabilities for future challenges in public health communication.

Chapter 5 Discussion of The Collected Data.

5.1 The Case Study- A Survey on Instagram Content from January 23, 2020, to November 1, 2020.

Although the Law 150 of 2000 (Discipline of Information and Communication Activities in Public Administration) had institutionalized the public communication, recognized explicitly by the Italian regulatory apparatus; public institutions have faced on new important communications challenges in institutional information and media relations, such as the Crisis and Emergency Risk Communication (CERC) during Coronavirus pandemic. Within this problematic scenario, this research analyzes institutional communication on the Instagram platform of the Italian Ministry of Health (<https://www.instagram.com/ministerosalute/>) comparing it through a comparative study with the UK Health Security Agency (<https://www.instagram.com/ukhsa/>) and the Ministerio de Sanidad of Spain (<https://www.instagram.com/sanidadgob/>) to critically highlight the efforts undertaken by health institutions in the application of the CERC model effectively to counter the infodemic and cacophonous media issue generated during the early stages of the pandemic. In particular, attention will be paid to the theme of Covid-19 and to the communication styles and information campaigns disseminated to face disinformation and prevent the diffusion of the virus applied by Health Institutions in social media, and to the role of images and videos in the storytelling of the emergency.

Nevertheless, as Prof. Lovari assumes, in order for communication on health to be profitable, an institutional role must be accompanied by the ability to produce effective messages. In particular, it has been shown that the contents of messages composed of videos and images can reach a greater audience than simple textual communication. This was also confirmed by some studies that showed that there was a greater understanding in recipients using images in

communication materials, especially in individuals, with a low level of literacy, and little education in health literacy. As a result, infographic communication is particularly suitable and effective in social media, especially through the Instagram platform, which is characterized by the use of images in communication between users.

In this research, a total of **478 posts and videos were collected from January 23, 2020, to November 1, 2020, for a total of 9 months.** The choice of the departure date is not by chance, as both Italy and Spain have published the first post on the coronavirus pandemic

on their institutional Instagram page on this date (England delayed in the publication of the first post that took place only on February 11, 2020) which also coincides with the first mass lockdown in global history occurred in the province of Hubei (60 million people - of which 11 million in the city of Wuhan alone) where the first cases of contagion of the new virus had been recorded. In addition, the decision to conduct a comparative study of Instagram data encryption of these three European countries is justified by the fact that both Great Britain, Spain and Italy were among the first Western European countries to report cases of coronavirus in their territories (made official on February 21, 2020 but many studies confirm that the actual cases of contagion began earlier) and most affected as reported by the National Institutes of Health (Spiteri et al., 2020), following the conference of China's National Health Commission (20 January 2020) in which it was confirmed that the virus was transmitted from human to human. In addition, it is possible to make an interesting analytical reflection on the communication styles applied by these countries from a point of view of trust in the institutions; one of the objectives of this research is also to investigate how Public Sector Communication developed during the pandemic according to the governance system. For this reason, it is appropriate to take into account some substantial considerations as ascertained by the OECD Data (2022), Great Britain, Spain and Italy appear to have very low levels of trust in the Government on a percentage value from 1 to 100 the following results are highlighted respectively: 39.48 (UK); 37,17 (Spain); 35.43 (Italy).

Nevertheless, the different working governance systems must be taken into account: for instance, as highlighted by OECD statistics (2017), in just thirty years, Spain has evolved from a state with a highly centralized territorial model to a multi-layered state that consists of the national government, the autonomous communities and local government. Moreover, according to Istat data of 2021, in Italy 50% of people attribute trust scores between 6 and 10 to the municipal government, 41.6% to the regional government while the share drops to 37% for the national government. And finally, as reported by the London School of Economics and Political Science (LSE, 2020), the UK government made public its plan to tackle the epidemic and reduce the impacts of the coronavirus only on March 3, 2020. Despite the fact that up to that point there were 51 officially reported cases without any deaths, Imperial College London expected high levels of deaths from COVID-19 unless more stringent measures were taken; further adding that according to this source, excessive centralisation has led to a greater

tendency towards political errors; such as the late announcement of the state of alarm of the then Minister Boris Johnson on the threat of coronavirus that took place only on March 10, 2020 (In Italy, by contrast, already on March 8, 2020, 5 regions were declared in lockdown). To conclude, this research also hypothesizes that the Health Institutions of the three countries have not developed the same digital experience through the Instagram platform considering that in Italy the first post on the social media of the page was created close to the health emergency (29 November 2019) while Spain (2018) and Great Britain (2015) have gained an awareness in communication on Instagram more dated.

The Ministry of Health.

Analyzing the Instagram page of the Ministry of Health Italian (<https://www.instagram.com/ministerosalute/>) a total of **105 videos and posts** with one or more hashtags were collected: *#nuovocoronavirus*; *#ministerodellasalute*; *#salutesocial*; *#ncovid2019*; *#covid19*; *#coviditalia*; *#coronavirusitalia*; *#iomettolamascherina*; *#iorestoacasa*; *#resistiamoinsieme*; *#restiamoadistanza*; *#indaginesierologica*; *#immuniapp*; *#covid_19*; *#IoUsImmuni*. Of these, 22% are posts and 4% are videos dealing with health issues outside the pandemic (e.g., the World Days of Suicide Prevention, Mental Disorders, Safety and Care of the Assisted Person and the fight against tobacco), **88.2%** posts and **11.8%** are videos related to the coronavirus. These latter have been supported by Italian public figures (e.g., Michele Mirabella, Bruno Barbieri and Amedeo Sebastiani) in order to urge the Italian population to social distancing to reduce the possibility of contagion.

The institutional page has a number of followers equal to 643,000 users and the first post published on the Instagram page of the Ministry of Health dates back to November 29, 2019, this makes reflect on how recent the activation and use of the platform by this institution has been. The first post on the pandemic dates back to **January 23, 2020**, on advice for travelers after returning to Italy from China.

Below are the collected posts:

1. Post- First content on Coronavirus – tips for travelers



The image shows a screenshot of an Instagram post from the official account of the Italian Ministry of Health (@ministerosalute). On the left is a graphic with a pink-to-purple gradient background. At the top, it says "NUOVO CORONAVIRUS" in white on a dark purple rectangle. Below that, in white text, "CONSIGLI PER I VIAGGIATORI DOPO IL RITORNO IN ITALIA". The graphic features a stylized illustration of a house with a chimney and trees. At the bottom left is the Italian coat of arms and the text "Ministero della Salute", and at the bottom right is the website "www.salute.gov.it".

The Instagram post interface shows the following details:

- Account: **ministerosalute** (verified), 166 followers.
- Caption: "Nuovo #coronavirus: i consigli per i viaggiatori dopo il ritorno in Italia." Includes hashtags #ministerodellasalute, #nuovocoronavirus, and #novelcoronavirus.
- Comments:
 - domenica_de_leonardis: "Mi piace!" (1 like)
 - roberta.sarno: "Non pensate sia necessario impedire almeno agli studenti e alle persone che lavorano a contatto con pazienti e/o fasce a rischio di recarsi al lavoro per i 14gg successivi all'ultimo viaggio in Cina?" (4 likes)
- Engagement: "Piace a _ale_32 e altri" (January 23, 2020).

2. Post- #RestaACasa



The image shows a screenshot of an Instagram post from the official account of the Italian Ministry of Health (@ministerosalute). On the left is a graphic with a blue background. At the top left is the seal of the Italian Republic and the text "REPUBBLICA ITALIANA - CONSIGLIO DEI MINISTRI - PALAZZO CHIGLI". To the right is the text "Ministero della Salute". The main text in large white letters on a red background says "RESTA A CASA". Below that, in white text, "ESCI SOLO PER RAGIONI ESSENZIALI".

The Instagram post interface shows the following details:

- Account: **ministerosalute** (verified), 159 followers.
- Caption: "In questo momento è fondamentale l'impegno di tutti: resta a casa, proteggiti te stesso e gli altri. Condividi questo video e segui queste semplici regole per prevenire il contagio." Includes hashtags #covid19italia, #covid19, #coronavirus, #coronavirusitalia, and #ministerodellasalute.
- Comments:
 - lazhar_25: "Rispondo"
 - mordecchi_roberto: "L'esercito nelle strade?" (2 likes)
- Engagement: "Piace a giuliaspatuzzi e altri" (March 11, 2020).

3. Post- Recommendations to reduce contagion



ALCUNE SEMPLICI RACCOMANDAZIONI PER CONTENERE IL CONTAGIO DA CORONAVIRUS

- LAVATI SPESSE LE MANI CON ACQUA E SAPONE O USI UN GEL A BASE ALCOOLICA
- EVITA CONTATTI RAVVICINATI MANTENENDO LA DISTANZA DI ALMENO UN METRO
- NON TOCCARTI OCCHI, NASO E BOCCA CON LE MANI
- EVITA LUOGHI AFFOLLATI
- EVITA LE STRETTE DI MANO E GLI ABBRACCI FINO A QUANDO QUESTA EMERGENZA SARÀ FINITA
- COPIRI BOCCA E NASO CON TAVOLETTE PONGENDO QUANDO STARNUTISCI O TOSSISCI ALZIMENTI USA LA PIEGA DEL GOMITO

SE HAI SINTOMI SIMILI ALL'INFLUENZA RESTA A CASA. NON RICORRI AL PRONTO SOCCORSO O PRESSO GLI STUDI MEDICI, MA CONTATTA IL MEDICO DI MEDICINA GENERALE, I PEDIATRI DI LIBERA SCELTA, LA GUARDIA MEDICA O I NUMERI REGIONALI

SALUTE.GOV.IT/NUOVOCORONAVIRUS

Ministero della Salute World Health Organization

ministerosalute • Segui

ministerosalute Per la prevenzione ed il contrasto del contagio da #coronavirus è importante la collaborazione di tutti. Segui e condividi queste semplici raccomandazioni. Aiutiamoci l'uno con l'altro. Insieme ce la facciamo.

www.salute.gov.it/nuovocoronavirus

#coronavirusitalia
#covid19
#coviditalia
#covid19italia
#ministerodellasalute
#salute

160 sett

Piace a 18app_official e altri

MARZO 6, 2020

Aggiungi un commento...

Pubblica

4. Post- #ColmareLeDistanze



#CORONAVIRUS
COLMARE LE DISTANZE

Anche se sei in quarantena e devi limitare il contatto fisico, ci sono tanti modi per sentirsi vicini: cellulari, e-mail, social media, videoconferenze

Ministero della Salute World Health Organization

www.salute.gov.it

ministerosalute • Segui

ministerosalute Il #covid19 non ci allontana realmente da chi amiamo il bisogno di connetterci è sempre più forte, ma possiamo farlo dalle nostre case, in sicurezza, in tanti modi: chat, videoconferenze, telefonate; accorciare le distanze, oggi, è possibile. Restiamo uniti!

#covid19italia
#coronavirusitalia
#coronavirus
#ministerodellasalute
#covid19 #iorestoacasa

Elemento modificato · 156 sett.

wellnessworld.store È importante la protezione degli occhi dalla luce blu degli schermi: visita il nostro sito 🍏🍏

147 sett Rispondi

Piace a bryanvicarireal e altri

APRILE 4, 2020

Aggiungi un commento...

Pubblica

The Italian situation has been characterized by a high use of infographics in institutional communication, often resorting to captivating images and impactful headlines, however, there are few information posts on those potentially most at risk of contracting the virus and there are no official reports or statistics. At the same time, much more attention was given to communication on prevention through hand sanitization and social distancing, the latter greatly supported by the *Io Resto a Casa* campaign launched by the Ministry of Health. In fact, well-known Italian personalities of entertainment, culture, music and sports excellence have taken part in videos published on social platforms to support the government lockdown directive and

7. Awareness campaign #IoRestoACasa



8. Awareness campaign #IoRestoACasa



The use of celebrities in Italian institutional communication in the case studies examined is unique in its case, which can be found both in the social *#IoRestoACasa* campaign (the first video on the Instagram page dates back to March 18, 2020) but also in the spot launched by the Ministry of Health for the solicitation to use the *Immuni* application (currently not available and eliminated from stores from 31/12/2022), with Italian actor Flavio Insinna as testimonial.

9. Video-Spot with Flavio Insinna on the *Immuni* application



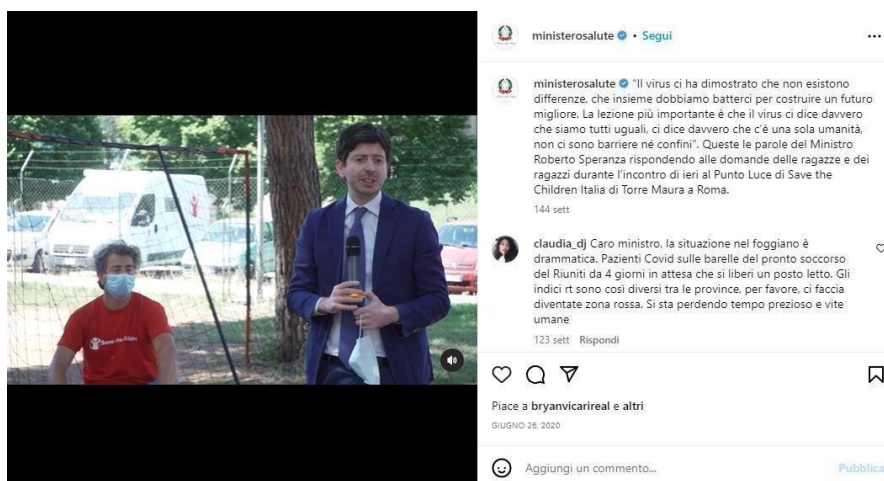
From 25 May 2020 the Instagram page started to publish content on the launch of the serological survey (carried out from 25 May to 15 July 2020) on the seroprevalence of SARS- COV2 virus infection carried out by the Ministry of Health and Istat, with the collaboration of the Italian Red Cross, as part of their respective health and statistical competences. The aim of the investigation was to understand how many people developed antibodies to the Coronavirus, even in the absence of symptoms. Through the survey, information was obtained to estimate the size and extent of infection in the population and describe its frequency in relation to some factors such as gender, age, region of belonging, economic activity.

10. Post- Serological survey conducted from 25 May to 15 July 2020



Finally, the then Minister of Health Roberto Speranza, in the period examined, unlike the Spanish case, will appear on the Instagram page in the period analyzed only in a video-post in June 2020 during his visit to the Save the Children Italy Light Point of Torre Maura in Rome.

11. Video- Former Minister of Health Roberto Speranza visiting the Save the Children Italy Light Point in Torre Maura in Rome.



The UK Health Security Agency.

As for the UK, the official Instagram page is UK Health Security Agency (<https://www.instagram.com/ukhsa/>). A total of **31** posts and videos with hashtags were collected in the period considered: *#coronavirus*; *#2019ncov*; *#wuhan*; *#covid2019*; *#StayHomeSaveLives*; *#StayAlert*. Of these, **51.42% posts and 28.58% videos dealing with COVID-19 issues**; while 33.2% are posts and videos on other public health issues (i.e., mental illness, smoking prevention, physical activity importance and flu prevention).

First of all, it must be taken into account that the page has a number of followers equal to 37.1 thousand and in the biography, it is clear that the UK Health Security Agency is a public body, Official feed of the UK 46 * Health Security Agency, providing regular updates on the work of the organisation. Compared to the other two case studies examined, the UK will be very late in publishing the first post on the pandemic that will take place only on February 11, 2020, which deals with providing information on the symptoms of the virus.

12. Post- First content on the Instagram platform about coronavirus



In addition, the awareness campaign *#Stay At Home Save Lives* (the first post on the **Instagram page dates back to March 16** not exposed as an advertising slogan of the campaign as it will only happen **on April 1, 2020**) by the British government was very strong to encourage citizens to behave as if they had contracted the virus and therefore to stay at home.

13. Post- #StayAtHomeSaveLives awareness campaign



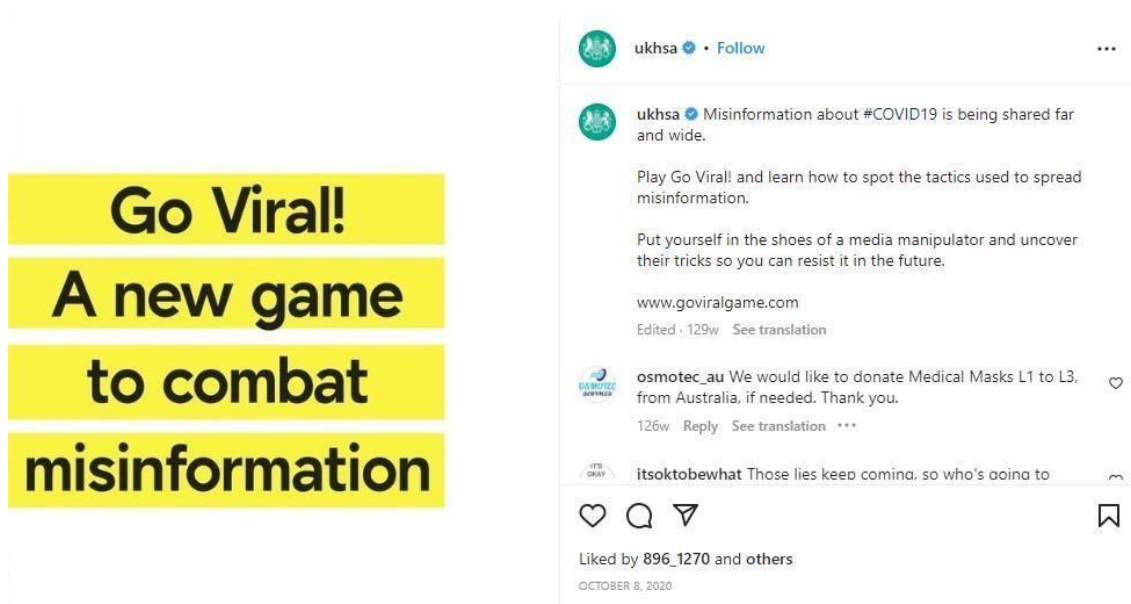
Below is the claim of the Stay at Home Save Lives advertising campaign:

14. Post-Claim of the #StayAtHomeSaveLives campaign

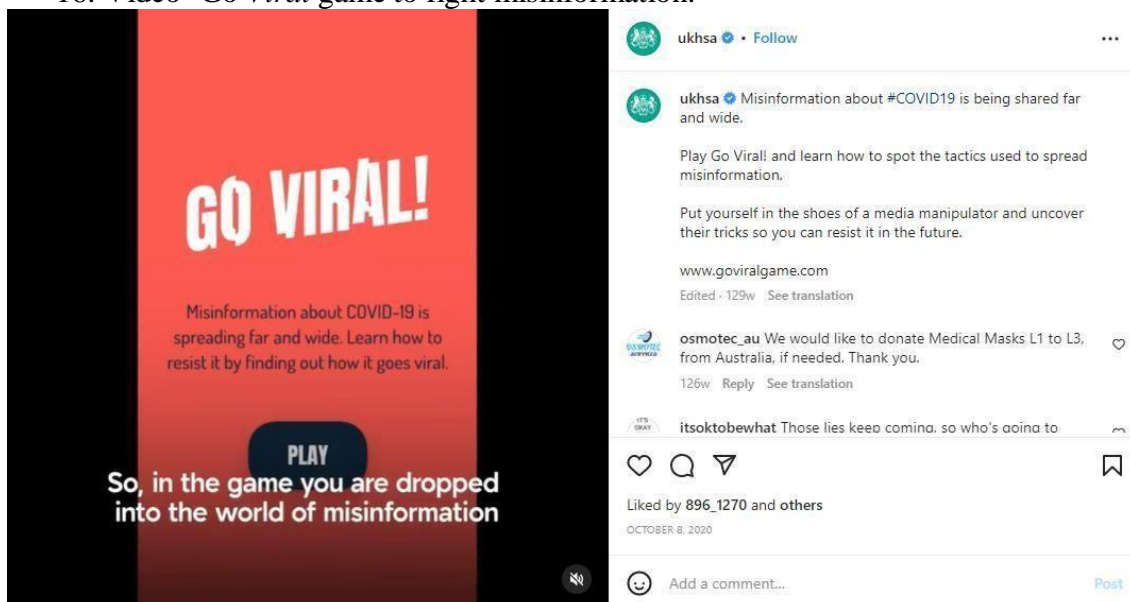


As known, there is no doubt about the infodemic issue in time of coronavirus pandemic and referring to the problem of disinformation and Fake News, on the page in question a video was published on the launch of the game *Go Viral* by the University of Cambridge in collaboration with the Cabinet Office of the United Kingdom. The game is currently available in Brazilian Portuguese, Croatian, English, Estonian, French, German, Italian, Russian, Spanish and Ukrainian; the creation of the game was aimed at improving people's ability to spot common manipulation techniques such as *trolling* and *creating conspiracy theories out of thin air*. In essence, it encouraged the audience to put themselves in the shoes of a media manipulator and uncover their tricks for the purpose of resist it in future.

15. Post- *Go Viral* game to fight misinformation.

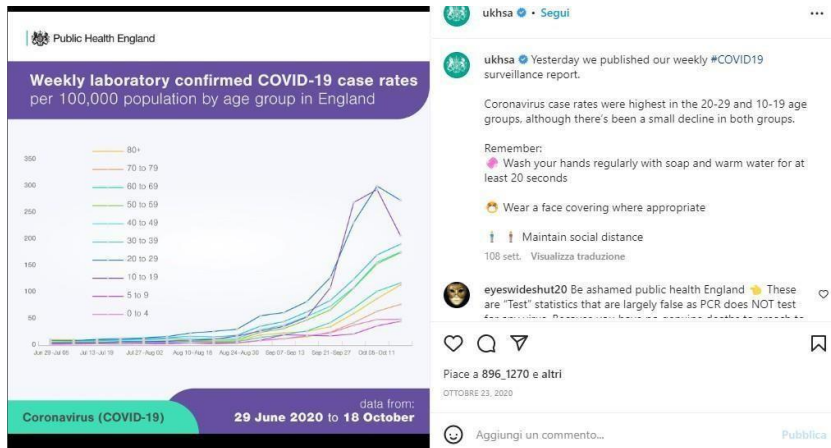


16. Video- *Go Viral* game to fight misinformation.



Finally, from 23 October 2020 (at the end of the period under analysis), the page published the first statistical surveillance report from 18 June to 23 October 2020 of positive cases reported to the UK Health Agency.

17. Post- Report of positive coronavirus cases



The Ministerio De Sanedad.

Analyzing the Instagram page of the Ministerio de Sanedad (<https://www.instagram.com/sanidadgob/?hl=en>), **342 posts** were collected with one or more hastags on the *#coronavirus*; *#COVID-19*; *#quedateencasa*; *#YoEligoSerResponsable*; *#CoronavirusEspana*; *#EsteVirusLoParamosUnidos*; *#NuevaNormalidad*; *#NoLoTiresPorLaBorda*; *#GripeYoMeVacuno*; *#EstoNoEsUnJuego*. Of these, 85% are posts and 10% are videos about information related to the epidemic and 5% are posts and videos about other topics outside the pandemic. The Instagram profile has a number of 423,000 followers.

Considering that Spain changed the Minister of Health on January 12, 2020 (Salvador Illa), the first news about the implementation protocol in the fight against coronavirus was published on **January 23, 2020**.

18. Post- First content on Coronavirus.



The second post on COVID-19 was published the **next day through a video showing Minister Illa visiting infected areas**.

19. Video- Former Minister of Health Salvador Illa visiting infected areas.



In addition, as early as January 31, the Ministry of **Sanidad** made public a press release from the **Centro Nacional de Microbiología** confirming the presence of a positive case in La Gomera (note that neither the Italian Ministry of Health nor the UK Security Agency ever published on their Instagram pages during the period analyzed such an official source of information in such "premature" times).

20. Post- Press Release confirming the presence of a positive case in La Gomera



MINISTERIO DE SANIDAD

GABINETE DE PRENSA

El Centro Nacional de Microbiología confirma un caso de coronavirus en La Gomera

31 de enero de 2020- Pasadas las diez de la noche de este viernes, el Centro Nacional de Microbiología, dependiente del Instituto de Salud Carlos III, ha confirmado un caso de coronavirus detectado en España.

Se trata del análisis realizado a una de las muestras enviadas desde La Gomera (Canarias). El paciente se encuentra ingresado y aislado en un centro hospitalario de la isla. Forma parte de un grupo de cinco personas que la Dirección General de Salud Pública de la Consejería de Sanidad del Gobierno de Canarias mantenía en observación tras tener conocimiento de que habían estado en contacto en Alemania con un paciente diagnosticado de infección por coronavirus.

Tal y como está previsto en el protocolo que se ha venido explicando estos días, mañana habrá una reunión ministerial de evaluación y seguimiento del coronavirus, presidida por el ministro, Salvador Illa, tras la cual se ofrecerá toda la información disponible sobre el caso.



sanidadgob • Follow

sanidadgob • El Centro Nacional de Microbiología ha confirmado, pasadas las diez de esta noche, que una de las muestras enviadas desde La Gomera ha dado positivo en #coronavirus

165w See translation

universos_paralelos_igm Encima tenéis la caradura de publicarlo... espero que os haya válido la pena prostituiros para la élite...

147w Reply See translation

jorgegomfel 31 de Enero... 31 de ENERO... 31 DE ENERO... IRRESPONSABLES

158w 1 like Reply See translation

silvi_gpolan A mi me parece una falta de respeto que traten de discriminacion un tema como este. Porque creen que es sacar la

Liked by als_rv and others
JANUARY 31, 2020

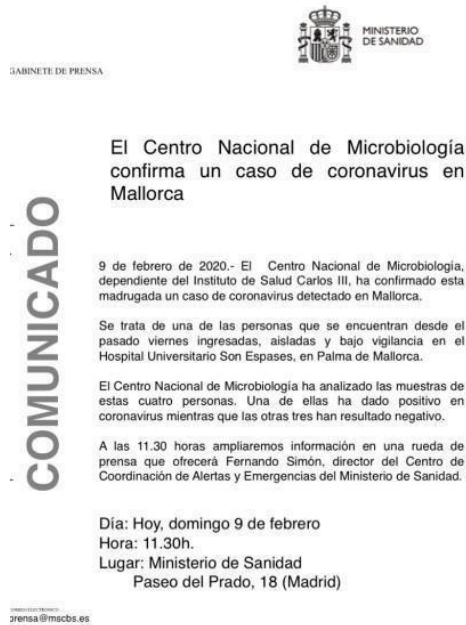
Add a comment... Post

Nota de prensa

On February 1, 2020, a post was published informing Spanish citizens that the Ministry of Health has announced the convening of an International Council to address the coronavirus issue. Nevertheless, on February 2, 2020, there was **an update post** on the case of La Gomera;

It was the first case reported by the National Center of Microbiology of an asymptomatic patient in Spain. Another press release from the Microbiology Center informing Spanish citizens about a case of COVID- 19 in Mallorca.

21. Post- Second Press Release on a positive case in Mallorca



In addition, from February 9, 2020, onwards, many videos will appear on the page that filmed Dr. Fernando Simón Soria, a Spanish epidemiologist serving as Director of the Coordination Centre for Health Alerts and Emergencies of the Ministerio de la Sanedad (already known to the Spanish public as a spokesperson for the special committee of the Ebola pandemic in Spain).

22. Video- Epidemiologist Dott. Fernando Simón Soria as Director of the Coordination Centre for Health Alerts and Emergencies of the Ministerio de la Sanedad



Already on February 25, 2020, Spain to counter the problem of disinformation has made official on the Instagram page the opening of a telegram channel to receive all the updated information on health from the Ministry of Sanidad. In the following month, to address the infodemic issue, the Ministerio de Sanidad urged the Spanish public in case of doubts to send videos with questions about the coronavirus to the institution itself, stating that it is important to have reliable and confirmed information available.

23. Post- Opening of Telegram channel to address the issue of disinformation



24. Post- The Ministerio de Sanidad urging the Spanish public in case of doubt to send videos with questions about the coronavirus to the institution itself.



Since March 15, information campaigns on social media have begun by the Ministry of Sanidad to encourage citizens to stay at home avoiding contagion and maintaining social distancing. Here are some examples taken from the Instagram page:

#EsteVirusLoParamosUnidos - literally means this virus we can defeat it together, along with the slogan "we will stop it if we do not give up".

25. Post-#EsteVirusLoParamosUnidos awareness campaign



26. Post-#EsteVirusLoParamosUnidos awareness campaign

**LO PARAMOS
SI NO NOS
RENDIMOS.**

**#ESTE
VIRUS
LO
PARAMOS
UNIDOS**



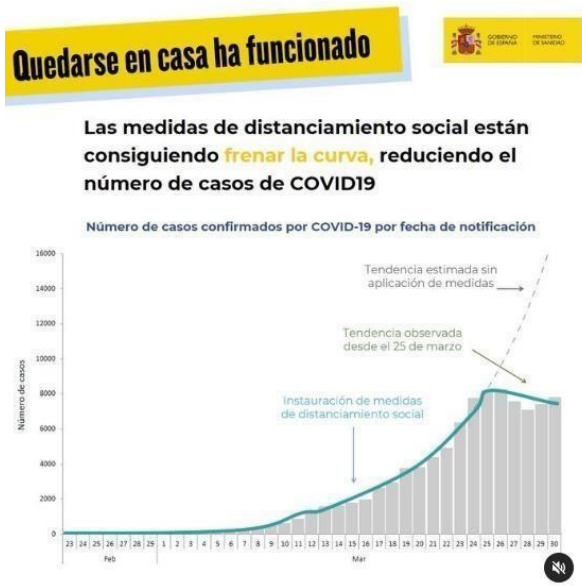
In addition, the Ministerio de Sanidad has launched a campaign under the slogan **#NoLoTiresPorLaBorda** (*'Do not throw it to the sea'*) with the aim of raising awareness among the population on the importance of maintaining the necessary safety measures so that there is no resurgence of coronavirus infections.

27. Post- #NoLoTiresPorLaBorda awareness campaign



Again, here is another example of the **information campaign #QuedateEnCasa** (*'stay at home'*) very similar to the Italian **#RestaACasa** campaign and the English **#StayAtHome**. **Unlike the last two, Spain has also made public some representative graphs on "breaking the curve" (stopping the wave) and maps representing the most affected areas, aimed at encouraging the Spanish population that staying at home to reduce contagion has produced a positive outcome.**

28. Post- Graphic #QuedateEnCasa



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sanidadgob 🇪🇸 🇪🇸 Quedarse en casa está consiguiendo #frenarlacurva 📉 El incremento de casos diarios ha pasado del 40% al 8% gracias al esfuerzo de todos. Ahora necesitamos que la curva baje y no vuelva a subir.

Aún queda camino y tenemos que recorrerlo juntos.
#EsteVirusLoParamosUnidos
#Coronavirus #Covid19 #Covid19España #QuedateEnCasa

Edited · 156w See translation

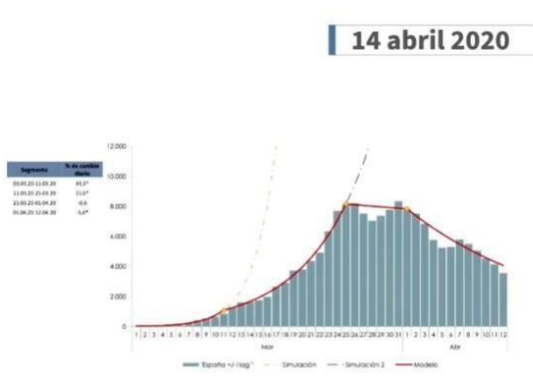
guederaquel @tamara_rguezneto @antiagonzalezdarriba @liaglopez @morgadefer @guilleotina
156w 1 like Reply

abelboma Dimisión del gobierno
156w Reply See translation

Liked by lavedaderapiru and others
APRIL 4, 2020

Add a comment... Post

29. Post- Evolution graph of new notified coronavirus cases



Como pueden ver en el gráfico,

sanidadgob • Follow

sanidadgob 🇪🇸 🇪🇸 VÍDEO. El director del CCAES, Fernando Simón, explica el GRÁFICO de evolución diaria de nuevos casos notificados por #COVID19 (1 marzo - 12 abril) 📉 La etapa de descenso es consecuencia del confinamiento anterior al permiso retribuido recuperable.

#EsteVirusLoParamosUnidos <https://t.co/yZqzFik9NF>

155w See translation

martinadal4x @vramos11 doble techo bajista con retesteo en media móvil y correlacion con el xau
152w Reply See translation

View replies (1)

mevek_tattoo Pandemia...no epidemia
154w Reply

Liked by samuel.clav and others
APRIL 14, 2020

Add a comment... Post

30. Post- Map of areas of contact

In addition, Spain has been active since 25 April 2020 in the information campaign on vaccination against the coronavirus to combat the epidemic.

32. Post- First content on vaccination



33. Awareness campaign #YoMeVacuno



And finally, on October 14, the creation of the Covid Radar application by the Ministry of Sanidad was published on the Instagram page, encouraging citizens to download it, which guaranteed privacy for the geolocation of individuals affected by the virus.

34. Post-RadarCovid Application

Radar COVID
es la aplicación que te informa de forma anónima y segura

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sanidadgob ¿Has oído hablar de la #AppRadarCOVID?

Es la aplicación que te informa de forma anónima y segura si has estado en contacto con alguien positivo de #Covid19.

Empieza a usarla en sólo 4 pasos

#NoLoTiresPorLaBorda #CoronavirusEspaña #RadarCovid #Covid #España #App

133w See translation

lopeztorresmari Pero esta ya disponible se puede usar en toda españa?

130w Reply See translation

Liked by **mariaisabel5631** and others
SEPTEMBER 15, 2020

Add a comment... Post

5.2 Results and Final Considerations of the Analysis.

I used a deductive analysis method taking as a starting point the study "Responding to Fake News: The Use of Facebook for Public Health Communication During the COVID-19 Pandemic in Italy" (Lovari, Ducci, Righetti, 2021) sharing similar research questions but on separate social media and institutional pages. The current research study aimed to answer the following questions:

RQ1 How many Instagram posts were post were published by the Health Institutional Instagram pages in the first 9 months of the pandemic?

RQ2 What was the level of citizen engagement with the emergency communications campaigns?

To answer the research questions, I collected all the Instagram posts (N= 478) from January 23, 2020 to November 1, 2020 for a total of 9 months, published by the public pages of the Ministries of Health of Italy, the United Kingdom and Spain. I created 8 categories of analysis: cross-thematic content, epidemiological sanitary data, regulations adopted to deal with the emergency, communication campaigns, health protective behaviours, actions against disinformation, celebrity endorsement technique and ordinary services.

The posts were initially divided into two macro-categories: posts on the coronavirus and posts on other topics (e.g., ordinary services). After that, pandemic-related posts were again divided into 7 categories:

1. Cross-thematic content: the content of the posts refers to multiple aspects of the COVID-19 pandemic that combines multiple themes, without a particular reference to the fight against disinformation or communication campaigns.
2. Epidemiological sanitary data: data on patients affected by the virus, symptomology, number of deaths.
3. Regulations adopted to deal with the emergency: mandatory directives for citizens by the Government.
4. Communication campaigns: the explicit content of information and communication campaigns concerning the coronavirus.
5. Health protective behaviours: rules and directives reported by health institutions or the Government to avoid the risk of contagion.
6. Actions against disinformation- content that spells out strategies or interventions to combat fake news, misinformation, and infodemic.
7. Celebrity endorsement technique: this category is peculiar only to the Italian case.

The results of the survey for RQ1 highlighted this table:

1. Table of variables- Percentage of contents published by Institutional Instagram pages of the Italian Ministry of Health, the UK Health Security Agency and the Ministerio de Sanidad (January 23rd - November 1st, 2020).

(478 posts and videos were collected from January 23, 2020, to November 1, 2020, for a total of 9 months)

	Ministero della Salute	UK Health Security Agency	Ministerio de Sanidad
Cross- thematic content	20,00% 21	19,35% 6	23,97% 82
Epidemiological-sanitary data	9,50% 10	6,45% 2	22,51% 77
Regulations adopted to deal with the emergency	14,28% 15	9,67% 3	11,69% 40
Communication Campaigns	11,42% 12	9,67% 3	14,91% 51
Health Protective Behaviours	19,04% 20	16,12% 5	10,81% 37
Actions against Disinformation	0 0	6,45% 2	2,81% 4
Celebrity Endorsement Technique	4,76% 5	0 0	0 0
Ordinary services	20,95% 22	32,25% 10	14,91% 51
Total	105	31	342

To answer the RQ2 on the level of engagement of citizens, the data was undoubtedly very important for the Spanish case as the Instagram page of the Ministry of Sanidad in the period under review published as many as 51 posts, unlike the Italian case (12) and the English case (3). The methods adopted to measure this parameter were: the number of followers (how many people follow the Instagram page) of the Ministry of Health (644 thousand), the UKHSA (39.2 thousand) and the Ministry of Health (426 thousand). It should be noted in relation to the United Kingdom that the institutional Instagram page of the National Health System has 566 thousand followers. The second metric adopted was the number of comments on posts; Specifically, the

Communication campaigns category shows 1,081 comments for Italy, 125 for the United Kingdom and 11,504 for Spain (always taking into account that the number of comments is directly proportional to the number of posts) And finally, the third modality was the specific hashtags associated with information campaigns:

Ministero della Salute: #nuovocoronavirus; #ministerodellasalute; #salutesocial; #ncovid2019; #covid19; #coviditalia; #coronavirusitalia; #iomettolamascherina; #iorestoacasa; #resistiamoinsieme; #restiamoadistanza; #indaginesierologica; #immuniapp; #covid_19; #IoUsoImmuni.

UK Health Security Agency: #coronavirus; #2019nconv; #wuhan; #covid2019; #StayHomeSaveLives; #StayAlert.

Ministero de Sanidad: #coronavirus; #COVID-19; #quedateencasa; #YoEligoSerResponsable; #CoronavirusEspana; #EsteVirusLoParamosUnidos; #NuevaNormalidad; #NoLoTiresPorLaBorda; #GripeYoMeVacuno; #EstoNoEsUnJuego.

It was interesting to find out how the Italian case was the only Instagram page to use the celebrity endorsement technique in the dissemination of information campaigns and consequently a separate category was created.

Instagram, due to the highly infographic aspect of the platform, could be a valid institutional communication tool to reach a larger audience, especially through the Reels section. In general, the Spanish Ministry of Health has stood out for the high number of posts published, although of a non-infographic nature; at the same time there has been more clarity on the part of the Spanish Government with good communication through the publication on the Instagram page of press releases, videos of the Minister of Health Illa in the discussion of the coronavirus, video conferences by the epidemiologist, Dr. Fernando Simón Soria, and representations on maps and statistics of the areas of contagion and posters on the prevention of contagion. In the same way, Spain has also taken a lot of action in this regard to counter the problem of the infodemic, publishing content on the activation of a whatsapp channel (HispatotCovid19) and telegram to counter disinformation. Nevertheless, the UK Health Security Agency has also worked hard to counter the problem of fake news by creating Go Viral with the University of Cambridge in collaboration with the Cabinet Office of the United Kingdom to allow British citizens to recognize the most common media manipulation techniques.

In addition, the case of the Italian Ministry of Health on communication campaigns to raise awareness of the pandemic (e.g. #IoRestoACasa) through the use of personalities known to the Italian public as testimonials was significant compared to the number of data collected and was perfectly adapted to the functionality of the Instagram platform. Without a doubt, the Ministerio de Sanidad has stood out for the high number of videos and posts published, however, running the risk of losing its functionality as a health information page and turning out to be a page almost completely on the coronavirus. Nevertheless, it should be emphasized that this phenomenon was

common to all three case studies analyzed given the emergency situation and that the period analyzed is the first 9 months since the beginning of the state of alarm of the pandemic. In addition, another interesting aspect is that the communication of the different Health Institutions has not been the same: Italy has taken on a much more visual, infographic and impactful communication, using captivating headlines with the presence of clear and innovative images, not to mention the use of the celebrity endorsement technique to capture more of the public's attention. However, in this case study, there was little content related to statistics or graphs and there was no obvious effort to combat the issue of disinformation as the Spanish Ministerio de Salud did. The latter has taken on a highly institutional communication through the copious publication of posts and videos with the Minister of Health and the team of experts on the epidemiological situation, communicating a lot in a patriotic sense and active interaction with the public, using expressions such as EsteVirusLoParamosUnidos or anhce Quedarse en Casa Ha Funcionado. Finally, regarding the case of the UK Health Security Agency, it was not possible to carry out such a detailed analysis due to the limited content on its Instagram page and preferring other information channels such as Facebook and Tweeter.

5.3 Discussion of Data Collected from Semi-Structured Interviews.

Methodology and Results Analysis

This research employs a qualitative approach to investigate the effectiveness of institutional health and emergency communication strategies adopted by public sector organizations through social media in Italy. The study focuses on their impact on citizen information, engagement, misinformation reduction, and trust in public institutions. To address the research objectives and test the hypothesis, semi-structured interviews were conducted with key stakeholders in Italian public health communication.

Research Design

The research design is based on a qualitative methodology, specifically using semi-structured interviews. This approach was chosen for its flexibility and ability to elicit in-depth responses from participants, allowing for a nuanced understanding of the complex issues surrounding health communication in the digital age. Semi-structured interviews provide a balance between consistency across interviews and the freedom to explore emerging themes or unexpected insights (Galletta, 2013).

Participant Selection

Three participants were selected for the interviews based on their expertise and roles within Italian public health institutions: a representative from the Press Office of the National Institute of Health, a virologist at the National Focal Point for surveillance programs for diseases transmitted by influenza vectors and other respiratory viruses and a researcher at the Istituto Superiore di Sanità.

This purposive sampling strategy ensures that the interviewees have direct experience and insights into the communication strategies and challenges faced by Italian health authorities during recent health crises, particularly the COVID-19 pandemic.

Data Collection

The interviews were conducted individually and recorded for subsequent analysis. Each interview lasted approximately 15-20 minutes and followed a semi-structured format with pre-determined questions, allowing for follow-up queries and exploration of emerging themes. The questions were designed to address the research objectives and explore various aspects of health communication strategies, challenges, and the use of social media.

Data Analysis Method

The interview data was analyzed using thematic analysis, a method for identifying, analyzing, and reporting patterns (themes) within data (Braun & Clarke, 2006). This method is particularly suitable for semi-structured interviews as it allows for a flexible and iterative approach to data analysis.

The thematic analysis followed these steps:

Familiarization with the data: The interview transcripts were read and re-read to gain a comprehensive understanding of the content.

Initial coding: The data was systematically coded, identifying relevant features of the data in relation to the research objectives.

Searching for themes: The codes were collated into potential themes, gathering all data relevant to each potential theme.

Reviewing themes: The themes were checked in relation to the coded extracts and the entire data set, generating a thematic 'map' of the analysis.

Defining and naming themes: Ongoing analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme.

Producing the report: The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

Results and Discussion

The analysis of the interview data revealed several key themes that address the research objectives and provide insights into the research hypothesis. These themes are discussed below, incorporating direct quotes from the interviewees to illustrate key points.

Evolution of Communication Strategies

The interviews revealed a significant evolution in communication strategies adopted by Italian health authorities, particularly in response to the COVID-19 pandemic. The press office representative from the National Institute of Health highlighted the shift towards more digital and social media-focused approaches: *"During the pandemic I also participated in the drafting of documents, articles. However, they called me to meetings, and sometimes we managed to prevent things from coming out that then, since there is now maximum access to scientific publications, scientific, even very technical reports, but some journalists concern the same, so we have to act already there."*

This statement underscores the increasing importance of having communication experts involved in the entire process of information production, not just in its dissemination. It reflects a growing recognition of the need to consider potential public interpretations and media reactions from the outset.

The virologist interviewee also emphasized the shift towards more proactive and anticipatory communication strategies:

"Debunking is not always effective, and the scientific literature has proven it. Now even the European Commission seems to have understood that investing too much in debunking does not lead to significant results. In contrast, 'pre-banking' – anticipating and explaining themes before

they emerge – offers a better opportunity."

This insight aligns with recent research on misinformation management, suggesting that preemptive communication strategies may be more effective than reactive debunking efforts (Vraga & Bode, 2021).

Challenges in Managing Uncertainty and Misinformation

A recurring theme across all interviews was the challenge of communicating effectively in an environment of uncertainty and rapid information spread. The press office representative highlighted this issue:

"The main thing, perhaps, was this: the uncertainty that existed about the data, the behaviors to be followed, the characteristics of the virus, which therefore very often forced us to correct the messages or in any case to give messages that were not, how to say, absolute, but always trying to get the concept of uncertainty across."

This statement reflects the tension between the need for clear, actionable public health guidance and the reality of evolving scientific understanding. It underscores the importance of transparent communication about uncertainty, a principle that has been emphasized in recent literature on crisis communication (Gesser-Edelsburg & Shir-Raz, 2016).

The challenge of combating misinformation was also prominently discussed. The researcher from the Istituto Superiore di Sanità noted: *"To counter disinformation, the ISS created the 'ISS Health' portal years ago, which was designed to provide reliable information and counter fake news, in particular those on vaccines, designed for the citizen."*

This proactive approach to misinformation management aligns with the research hypothesis regarding the potential of digital platforms to reduce misinformation. However, the interviewees also acknowledged the persistent challenges in this area, suggesting that while digital strategies offer new opportunities, they are not a panacea for the infodemic problem.

Leveraging Social Media for Public Engagement

The interviews provided insights into how Italian health authorities are utilizing social media to enhance public engagement and trust. The press office representative noted: *"When the pandemic started, we only had Twitter here, which was still called Twitter at the time. It has made a big boom, of course, both because there was more attention and because we have also taken much more care of social communication, which was not very developed before."*

This statement reflects the rapid adoption and expansion of social media use by health authorities during the pandemic. It supports the research hypothesis regarding the potential of social media to improve citizen information and engagement.

The virologist interviewee also highlighted the potential of social media for monitoring public sentiment and tailoring communication strategies: *"We are collecting information from social media and doing monthly analysis on platforms such as Twitter, Facebook and Instagram thanks to a data provider. This allows us to understand the 'stance' - therefore not only the sentiment,*

but the position of people - on issues such as vaccines, Covid, flu and other viral diseases."

This approach demonstrates how social media is being used not just as a dissemination tool, but also as a means of gathering insights to inform communication strategies. It aligns with recent research on the use of social media listening in public health communication (Gruzd & Mai, 2020).

Challenges in Institutional Readiness and Resource Allocation

Despite the recognized potential of digital and social media strategies, the interviews revealed ongoing challenges related to institutional readiness and resource allocation. The virologist noted: *"Unfortunately, our institutions are not yet ready for timely and targeted communication on social media, which requires speed and immediate response skills. Often, when negative news spreads, it takes too long to make a correction communication, and the web has already been filled with incorrect information."*

This observation highlights a gap between the potential of social media for rapid communication and the operational realities of many public health institutions. It suggests that while the hypothesis regarding the benefits of social media may be valid, realizing these benefits requires significant institutional adaptation and resource allocation.

The researcher from the Istituto Superiore di Sanità echoed this sentiment: *"It is important to prepare and train health professionals to communicate clearly and in a timely manner, and to already have the necessary data to respond to crisis situations. We need to strike a balance between standardized communication and local adaptation, which is often essential for effective communication."*

This statement underscores the need for ongoing training and capacity building in digital communication skills within public health institutions.

Integration of Traditional and Digital Media Strategies

A theme that emerged across all interviews was the importance of integrating traditional and digital media strategies. The press office representative noted:

"But look, in my opinion the confusion is in the facts, in the sense that it is now difficult to separate the part of communication to the citizen from the part of the press office, because in any case journalists also look at social media or look at the website."

This observation reflects the blurring lines between different communication channels and the need for coordinated, multi-channel strategies. It supports the research hypothesis regarding the potential of social media to improve citizen information, but also suggests that this potential is best realized when integrated with traditional media approaches.

The researcher from the Istituto Superiore di Sanità also emphasized this point: *"The future of health communication in Italy will depend on the ability of public organizations to integrate social media with traditional media, using a multi-channel approach that leverages the strengths of both. Only in this way will it be possible to guarantee effective, inclusive and safe communication,*

able to respond to the needs of the population and to deal with health emergencies successfully."

This insight aligns with recent literature on integrated communication strategies in public health (Heldman et al., 2013), suggesting that while social media offers new opportunities, it should complement rather than replace traditional communication channels.

Final Discussion of the Analysis

The thematic analysis of the semi-structured interviews provides rich insights into the current state of health communication strategies in Italian public institutions. The findings largely support the research hypothesis regarding the potential of social media to improve citizen information and engagement, reduce misinformation, and increase trust in public institutions. However, they also reveal significant challenges in realizing this potential, including institutional readiness, resource allocation, and the need for integrated communication strategies.

The interviews highlight the evolution of communication strategies towards more digital and social media-focused approaches, particularly in response to the COVID-19 pandemic. They also underscore the ongoing challenges in managing uncertainty and misinformation, suggesting that while social media offers new tools for addressing these issues, it also introduces new complexities.

The findings emphasize the importance of proactive and anticipatory communication strategies, as well as the need for ongoing training and capacity building in digital communication skills within public health institutions. They also highlight the potential of social media as a tool for both dissemination and gathering insights to inform communication strategies.

Importantly, the interviews reveal a nuanced perspective on the role of social media in health communication. While recognizing its potential, the interviewees consistently emphasized the need for integrated approaches that leverage both traditional and digital media channels.

These findings have significant implications for public health policy and practice in Italy and beyond. They suggest that realizing the full potential of social media for health communication requires not just technological adoption, but also institutional adaptation, resource allocation, and a strategic approach to integration with existing communication channels.

Future research could further explore the specific factors that contribute to successful integration of traditional and digital media strategies in health communication. Additionally, longitudinal studies could provide insights into how the effectiveness of these strategies evolves over time, particularly in the context of ongoing and future health crises.

In conclusion, this qualitative analysis provides valuable insights into the complex landscape of health communication in the digital age. It underscores both the potential and the challenges of leveraging social media for public health communication, offering a nuanced perspective that can inform future research and practice in this critical area.

Conclusion.

The COVID-19 pandemic has presented an unprecedented challenge to public sector communication, particularly in the realm of health crisis management. This research project has examined the evolution of institutional health communication strategies in Italy, with a specific focus on the use of social media during the pandemic and its impact on citizen information, engagement, and trust in public institutions. The study began by exploring the theoretical foundations of public sector communication, tracing its development from traditional one-way dissemination models to more participatory and dialogic approaches. This evolution reflects broader shifts in governance towards more citizen-centric and transparent models of public administration. Theories of deliberative democracy and public value have significantly influenced contemporary approaches to government communication, emphasizing the importance of fostering public trust and engagement. A central focus of this research was the impact of digital media, particularly social platforms, on public sector communication. The findings underscore both the transformative potential and significant challenges presented by these new technologies. Social media has enabled more direct, rapid, and interactive engagement between public institutions and citizens. It has facilitated real-time information dissemination, allowed for more targeted and localized messaging, and provided new avenues for public feedback and participation.

However, the research also revealed persistent challenges, including the digital divide, the spread of misinformation, and the need for public sector organizations to develop new skills and resources to effectively leverage these platforms. The study paid particular attention to the field of public health communication, examining its emergence as a distinct discipline and its critical role in promoting population health and managing health crises. The implementation of digital media in Italian public health communication was explored, including the impact of legislative frameworks such as Law 150. The research highlighted how digital tools have enabled more personalized and engaging health messaging, as well as facilitating rapid response during emergencies. A comparative analysis of health communication frameworks in Spain and the UK provided valuable context, illustrating both common challenges and diverse approaches across different national contexts. The emerging role of artificial intelligence in health communication was also examined, pointing to future directions and potential innovations in the field. The COVID-19 pandemic served as a central case study, offering unprecedented insights into public sector communication during a prolonged global health crisis. The research documented how Italian authorities adapted their communication strategies in response to the rapidly evolving situation, leveraging digital platforms to an extent never seen before in previous health emergencies. Key findings included the accelerated adoption of social media by public health

institutions, the development of more coordinated messaging strategies, the increased use of data visualization to communicate complex health information, and the emergence of scientific experts as key public communicators. The study also highlighted the challenges posed by the "infodemic" of misinformation and the strategies employed to combat it. Italian authorities implemented targeted campaigns to debunk false claims, partnered with social media companies to promote authoritative content, and launched media literacy initiatives to help citizens critically evaluate online health information. The research underscored the importance of transparency in official communications, particularly when addressing uncertainties or evolving scientific understanding. The primary research, consisting of interviews with key stakeholders in Italian public health communication, provided valuable insights into the practical challenges and strategic considerations facing communicators. Themes that emerged included the need for greater investment in digital skills and resources within public sector organizations, the importance of proactive communication strategies to preempt misinformation, and the potential of social media for real-time public engagement and feedback. In comparing the research findings to previous studies, several key developments were noted. There has been a significant acceleration in the adoption of digital communication tools by Italian public sector organizations, particularly in response to the COVID-19 crisis. Public health communicators have developed a more sophisticated understanding of the potential and limitations of social media. There is greater recognition of the need for integrated communication strategies that leverage both traditional and digital media channels. Increased attention is being paid to the challenges posed by misinformation, with the development of more proactive strategies to combat it. Finally, there is a growing emphasis on the importance of transparency and two-way communication in building public trust. These developments suggest a maturation of public sector communication practices in Italy, albeit with ongoing challenges and areas for improvement.

Looking to the future, several key recommendations emerge from this research. There is a need for continued investment in digital skills and resources within public sector organizations to fully leverage the potential of new communication technologies. More robust strategies for combating misinformation should be developed, including proactive communication, media literacy initiatives, and partnerships with tech platforms. Greater emphasis should be placed on tailored communication strategies that address the needs and preferences of diverse audience segments. Enhanced coordination mechanisms are needed to ensure consistent messaging across different levels of government and sectors. In conclusion, this research project has provided a comprehensive examination of the current state and future directions of public sector communication in Italy, with a particular focus on health communication during crises. The findings underscore the transformative potential of digital media in enabling more direct,

responsive, and engaging public communication. However, they also highlight the persistent challenges facing public sector communicators, including institutional inertia, resource constraints, and the complex information ecosystem of the digital age. The COVID-19 pandemic has served as a critical juncture, accelerating digital transformation in public sector communication and highlighting both the potential and pitfalls of new communication technologies. As Italy and other nations continue to navigate the aftermath of this crisis and prepare for future challenges, the lessons learned from this period will be invaluable in shaping more effective, inclusive, and resilient public communication strategies. Ultimately, this research reinforces the critical importance of effective public sector communication in maintaining trust, fostering civic engagement, and promoting public health and well-being. As the communication landscape continues to evolve, public institutions must remain adaptable, innovative, and committed to serving the diverse information needs of all citizens. By embracing the opportunities presented by digital technologies while thoughtfully addressing their challenges, public sector communicators can play a vital role in building more informed, engaged, and resilient communities.

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