



COVINFORM

CORONAVIRUS VULNERABILITIES AND INFORMATION DYNAMICS RESEARCH AND MODELLING

D7.2 Research design: Communication and information



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Executive Summary

Work Package 7 of the COVINFORM project focuses on inclusive COVID-19 communication for behaviour change and addressing misinformation. This report presents the first version of Deliverable D7.2, 'Research design: Communication and information' that provides the framework for the empirical research that will be conducted as part of Work Package 7. The deliverable outlines the proposed research design for conducting primary empirical research with relevant stakeholders in relation to inclusive COVID-19 communication for behaviour change and preventing misinformation and examining its impact in the 10 case study sites¹. Additionally, it introduces the analysis methods that will be used to analyse the data collected through both desk-based research and primary empirical research.

This report presents a summary of the findings from T7.1, the baseline communication analysis of government responses during the COVID-19 pandemic in the 15 target countries², that highlighted several key indicators in successful communication practices. These were considered in establishing two overarching research questions to be addressed across all case studies. Additional supplementary research questions have been proposed with consideration to the research framework described in D3.1 and may be considered in the implementation of case study research in Work Packages 4-6.

The research methods proposed include qualitative techniques that are deemed appropriate for conducting empirical research with vulnerable groups, and specifically when exploring the domains of communication, disinformation, and misinformation. This deliverable proposes a number of qualitative research designs and the attributes of each. This covers the use of focus groups, qualitative interviews, creative research methods and the application of content analysis as a research method for exploring content of various communications.

In addition, the deliverable reports the ethical considerations in relation to the conduct of the case study research and the appropriate sampling and recruitment strategies. It concludes with an overview of data analysis techniques that are appropriate to the research methods, including well-recognised techniques such as thematic analysis and grounded theory. Further information on the data analysis methods and the findings from the analysis will be reported in Deliverable *D7.3 Analysis: Communication and information*. The findings will subsequently be translated into lessons learned and guidelines that will be presented in Deliverable *D7.4 Synthesis and lessons learnt on communication, information and misinformation*.

¹ Case study locations selected to date include Greece (Athens), Italy (Lazio region), Belgium (Antwerp), Austria (Vienna), Sweden, Portugal and UK (Wales).

² Austria, Belgium, Cyprus, Israel, Ireland, Italy, Germany, Greece, Portugal, Romania, Spain, Sweden, Switzerland, United Kingdom (England and Wales only) and the United States of America.

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Acronyms & Abbreviations

Term	Description
DoA	Description of Action
GS	Governance Systems
U	Users
WP	Work Package

1 Introduction

Work package 7 of the [COVINFORM project](#) focuses on inclusive COVID-19 communication for behaviour change and addressing misinformation. The objectives of Work Package 7 are:

- To review and describe communication strategies and practices of governments and public health authorities on a national level in the 15 project target countries, as well as on a regional/local level in selected communities, including strategies to influence behaviour change, and a detailed analysis of factors influencing communication practices;
- To carry out primary empirical research among governmental stakeholders and policy experts in the 10 case study sites;
- To perform an in-depth analysis of measures and tools for the prevention of misinformation (unintentionally false or misleading information), disinformation (false information purposely spread) (Lazer et al., 2018), malinformation (information based in reality but used to inflict harm) (Carmi et al., 2020), ‘fake news’ and conspiracy theories; the impact of misinformation and digital communication on mental health and well-being of different groups; and representation and justice in media in connection with threat perceptions, prejudice, and discrimination;
- To synthesise research findings on governmental responses and impacts and prepare recommendations and other inputs for WP8.

Task 7.1, ‘Describe communication strategies and practices in the target countries’ focuses on desk-based research to review and describe communication strategies and practices on the national level in the 15 project target countries. The findings from the first phase of this task are presented in *D7.1 Baseline report: Communication and information*.

Task 7.2 builds upon T7.1 and focuses on designing and conducting primary empirical research on specified dimensions of the communication response. In the 10 case studies, empirical research (e.g., qualitative interviews, focus groups and creative research methods) will be conducted with different actors including, but not limited, to government officials, first responders, journalists, public health representatives, NGOs, community members to understand and evaluate the role of communication during the COVID-19 pandemic at local or community level. Research will be undertaken with citizens from the majority population and vulnerable groups. Additionally, research methods will also include content analysis of media and other relevant sources (e.g., memes), and creative methods to invite vulnerable populations to define their own vulnerability – without being reduced to this category – within the context of information, communication, and misinformation.

This deliverable, *D7.2 Research design: Communication and information*, outlines the proposed empirical research design and its implementation on specified dimensions of communication practices in the ten case study sites. Information on the overall case study framework and methodology is presented in Deliverable *D3.2 Multi-site research design and methodological framework*, due in Month 9.

The next, and main, section of this deliverable outlines the proposed empirical research design for Work Package 7.

2 Analysis of Communication Strategies - Summary of D7.1

Communication has played a key role in the COVID-19 response. In the initial stages of the COVID-19 pandemic and prior to the vaccine roll-out, the response of many governments focused on the communication policies and the communication of protective measures such as lockdown and “social distancing”³ (Fakhruddin, Blanchard and Ragupathy, 2020). Communication will continue to play a key role as countries across Europe roll out their vaccination programs as there remains the need to communicate safety measures such as face masks, personal hygiene, and “social distancing” to control and contain the pandemic (Su et al., 2021).

The COVINFORM project focuses on the response and impact of COVID-19, particularly in relation to vulnerable groups. As outlined by Hansson et al., (2020), “[c]ommunication is one of the key factors that can either increase or decrease people’s vulnerability to disasters” (p.1). Despite the importance of this issue, there remains an urgent need for comparative research on COVID-19 communication, particularly in relation to vulnerable groups and the spread of misinformation to different populations (Clark-Ginsberg and Petrun Sayers, 2020).

Work Package 7 of the COVINFORM is designed to address this need. Task 7.1 predominantly draws on desk-based research to describe the communication strategies and practices in COVINFORMs 15 target countries. A high-level overview of the key insights from D7.1, the associated deliverable, are presented below as they inform the research design outlined in this deliverable, D7.2. Based on these insights, the section moves on to outline the research design for the empirical research to be undertaken in Task 7.2. It outlines the overarching research questions guiding Work Package 7 and the different methods available to partners to answer these questions. In addition, we propose approaches and key considerations when determining sample size and recruitment activities, including obtaining informed consent.

The first Work Package 7 deliverable D7.1 focused on providing an analysis of COVID-19 communication strategies and practices in COVINFORM partner countries and the identification of main lessons and best practices. The work included desk-based research in which each partner reviewed the communication practices over time in the context of government and public health responses at a national level. If available, communication practices at regional and local levels were also described. Academic papers and grey literature were reviewed to draw conclusions and to determine relevant indicators that can be used to evaluate communication efficiency. Communication strategies were reviewed for 15 target countries - Austria, Belgium, Cyprus, Israel, Ireland, Italy, Germany, Greece, Portugal, Romania, Spain, Sweden, Switzerland, United Kingdom (England and Wales only) and the United States of America.

Overall, at a national level, it was evidenced that few countries had clear governmental communication strategies or plans in place. The main communication actors were senior government members (presidents/prime ministers and ministers for health). In some cases, technical experts were also included at this level (e.g. Spain). In most cases, communication was handled by health entities. Main communication strategies focusing on vulnerable groups were directed at those who were defined as

³ Also, referred to as physical distancing. This describes a set of measures intended to prevent the spread of a contagious disease by maintaining a physical distance between individuals and reducing the number of times people come into close contact with one another.

clinically vulnerable, whilst some campaigns were implemented for migrants and refugees and children, however, these tailored communication plans generally came at a later stage or in reaction to increased needs. Broadly speaking, the communications focused on COVID-19 statistics and public health and economic measures, legislations, and information on vaccines. Only five countries reported that the government had no specific actions to combat misinformation. Some countries communicated guidelines for non-stigmatization practices for lockdowns (Portugal), emotional wellbeing (Spain) and research results (Italy).

Most countries had several organisations and NGOs translating COVID-19 information for migrants, refugees and ethnic minorities. Some NGOs provided a platform to give voices to medical professionals, scientists and health experts to communicate COVID-19-related content. The impact of COVID-19 has varied across the target countries, with the initial response in some countries relatively successful in suppressing the SARS-CoV-2 virus. For example, Greece implemented specific communication strategies early, and have a history of managing pandemics as a high earthquake-prone country, residents are generally familiar with pandemic response communications which are frequently communicated through traditional media (tv, radio and newspaper)⁴. During the early waves of the pandemic, Greece experienced fewer COVID-19-related deaths in comparison to other countries (Kontis et al., 2020). For example, in England and Spain, a slow government response may have resulted in high rates of COVID-19 cases and deaths observed, compared to other EU countries (ibid.). Following an analysis of communication strategies in D7.1, it was demonstrated that most of the target countries had varied successes in their COVID-19 communication strategies. The reason for differences has in part depended on the actors involved and the level of public trust in the communicator. These factors are impacted by several evidenced indicators, including the timing, consistency and transparency of the information communicated. It was further highlighted that there is a need for a two-way process to achieve effective communication strategies, particularly in reaching and gaining the support of vulnerable groups. A commitment to a relatively open data policy and the use of traditional and social media to inform the population about the pandemic by health experts and scientists, instead of political leaders, was deemed relevant. Traditional communication through press conferences was well received by the public providing the announcements and briefings were timely and delivered clear messages. Contrary to this, governments were criticised for the lack of legal basis for decisions made, their relationship with other communication actors (public health and scientists) as well as demonstrating a lack of personal responsibility in their responses. Many criticisms were evident in the inaccuracy of communications by mass media and the lack of strategies against misinformation.

3 Aims and objectives

The aims of D7.2 are to propose research design methodologies to conduct primary empirical research on communication responses in the 10 case study sites. Before determining the research design, it is important to consider the research questions that will guide the research design to adopt, the data to collect and from whom, and data analysis and reporting (Bryman, 2004). As outlined in the COVINFORM Description of Action research methods that may be used to address the research

⁴ <https://infocrisis.gov.gr/emergencies/?lang=en>

questions include qualitative interviews conducted with individuals from the majority population and vulnerable groups, and communication professionals and policy experts. In addition to the human-centred approaches, content analysis will also be included to explore media sources. Finally, creative research methods will be described for their implementation in vulnerable populations. In addition, this Deliverable, D7.2, will determine a list of research questions with consideration of the project's research framework, as described in D3.1. Preliminary research questions that will guide Work Package 7's research design are outlined in the next section.

4 Research Questions

Based on the methodological framework described in the case study selection (D3.1), partners should aim to frame case studies in terms of a complex system framework. As a global aim of the COVINFORM project case studies, researchers should define comparable systems, to understand the interaction between system variables. This approach allows the identification of categories to be used for the basic definition of the systems and identifies variables that harmonise the case studies.

Drawing on Ostrom's Multitier framework for analysing Socio-Ecological Systems (Ostrom & Cox 2020), the findings of Deliverable 7.1, and the Work Package 7 description outlined in the DoA, the following research questions were determined as a guide for researchers conducting empirical research in addressing communication and information policy. As described in D3.1, 'Case Study Selection', "one can begin to organize an analysis of how attributes of (i) a resource system, (ii) the resource units generated by that resource system, (iii) the users of that system, and (iv) the governance system jointly affects and are indirectly affected by interaction and resulting outcomes achieved at a particular time and place. Using such a framework also enables one to organize how these attributes may affect and be affected by the larger socio-economic, political and ecological in which they are embedded as well as smaller ones" (Ostrom, 2007, p. 15182).

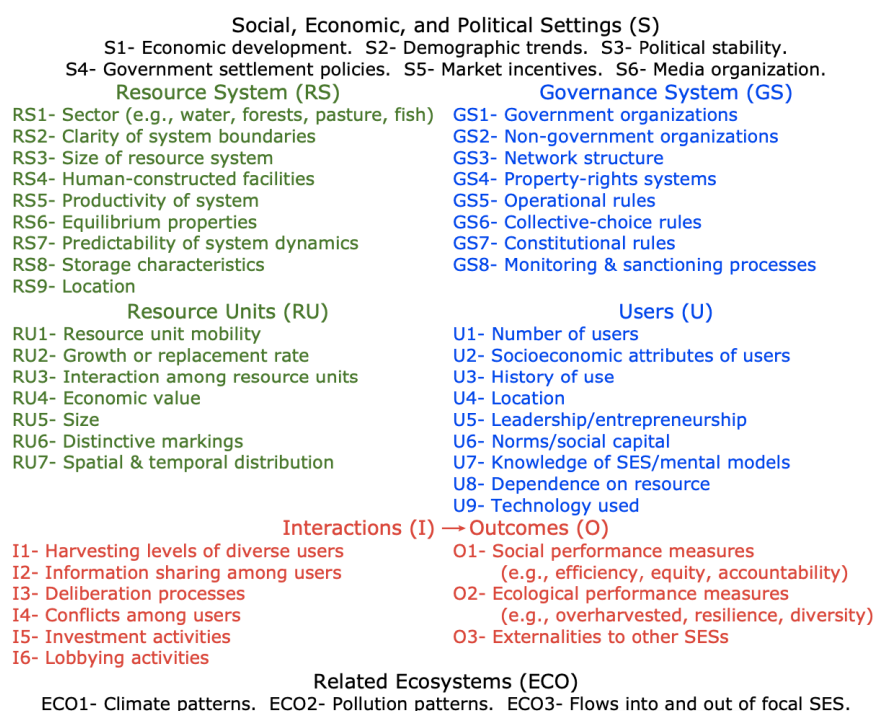


Figure 1. Ostrom (2007) second tier variables for analysing Socio Ecological Systems

This framework is also useful for considering inclusive COVID-19 communication for behaviour change – the focus of Work Package 7. Communication relates to the exchange of information between different actors and Ostrom’s framework provides variables to understand this exchange. Communication can be top-down from the Governance System (GS) (i.e., Government Organizations, Non-Government Organizations) to the User (U) (i.e., individuals, communities) or bottom-up from the User to the Governance System. Variables related to Social, Economic, and Political Settings (S), Interactions (I) and Outcomes (O) enables the wider context of the communication to be considered and its subsequent impact.

In relation to the Governance Systems and Users, all case studies will aim to address the two overarching research questions below:

- How have different actors designed, delivered and evaluated inclusive COVID-19 communication for behaviour change and addressing misinformation?
- What impact have COVID-19 communication strategies and practices had on individuals from the majority population and vulnerable groups?

Addressing these research questions may require case studies to incorporate additional questions as suggested below or tailor their own questions, in line with the framework, that are relevant to their target population. The questions below are supplementary questions that can be considered by the 10 case studies and are designed to act as a prompt for considering communication dimensions in the case studies. It is not expected that all of the questions will be addressed as too many research questions will result in too broad research that does not have sufficient depth. Additionally, where appropriate, each research question needs to explore a time dimension. Consider how the participants perspective may have changed over the course of the pandemic. For example, considering Governance Systems, Question 1 below, continue by asking the participant “How did the key actors and their roles change over time?”.

The research questions listed below are categorised by the variables described in Ostrom’s SES framework and the relevant subunit within each SES variable (Figure 1). To elaborate, Governance System 1 (GS1) represents Government Organisations as a subunit of the Governance Systems. Some questions may address topics that include multiple subunits within the same system.

4.1 Governance Systems (GS)

This high-level variable focuses on top-down communication and the research questions below focus on the perspective of Government Organizations and Non-Government Organizations.

- Who were the key actors involved in COVID-19 communication and how did their roles differ? (GS1, GS2)
- How did the key actors involved in COVID-19 communication work together to ensure clear and consistent messaging during the pandemic? (I3)
- What were the goals of the COVID-19 communication? (GS1, GS2)
 - To what extent did the communication aim to: 1) influence behaviour, 2) address misinformation?
- What strategies/plans/principles guided the COVID-19 communication? (GS5-7)
 - What were the key principles guiding this communication?
 - To what extent was the communication response guided by a strategy/plan/principles?

- How does risk communication for COVID-19 differ from risk communication for other risks? (GS5)
 - What factors/characteristics influenced decision-making about COVID-19 communication?
- What challenges were faced and lessons learnt in communicating about COVID-19? (GS1, GS2)
 - How did the practices differ from the strategy?
- How were decisions made on the information that was communicated? (GS1, GS2)
- How were decisions made on what information to communicate via traditional media and social media? (GS1, GS2)
- What information was communicated in different channels/media? (GS1, GS2)
- How did different stakeholders ensure that the communication was inclusive and accessible to different communities? (GS1, GS2)
 - How did organisations engage with different communities?
 - What considerations of addressing vulnerable groups can we identify?
 - How was communication tailored to meet the needs of different groups?
 - Beyond translation of COVID-19 materials, how were cross-cultural differences addressed, if at all? (GS1, GS2)
 - What critical events or key drivers instigated NGO's to prepare tailored COVID-19 communications? (GS2)
- How did organisations address misinformation, disinformation, malinformation, 'fake news' and conspiracy theories? (GS1, GS2)
- What kinds of misinformation can we identify? (GS1, GS2)
- How can the effectiveness of COVID-19 communication in influencing behaviour change and addressing misinformation be assessed/evaluated? (O1)

4.2 Users (U)

This high-level variable focuses on the user (i.e., individuals, communities) perspective and research questions to understand the impact of COVID-19 communication and misinformation, disinformation, malinformation, 'fake news' and conspiracy theories.

- How do different groups receive information about COVID-19? (i.e., communication channels/flow of information) (U3)
- To what extent have different groups been included/targeted by COVID-19 communication? (U2, U3)
 - How have different groups been directly and indirectly engaged with by organisations?
 - To what extent have different groups' concerns about COVID-19 been addressed by COVID-19 communication?
- What sources of COVID-19 information are trusted by different groups and to what extent? (U8)
- To what extent is COVID-19 information clear and can be understood by different groups? (O1)
 - What barriers/factors have prevented different groups from being able to 1) access, 2) understand, and 3) react to COVID-19 communication?
- To what extent has digital communication excluded different groups? (U2, U9)
- How did different communities react to COVID-19 through memes etc.? (U3)
- How are different groups represented in the media? (i.e., ascription of vulnerability) (U2)

- How do different groups decide whether to trust / fact check the COVID-19 information that they receive? (U3, U6)
- How have different groups engaged with misinformation and what impact has misinformation and digital communication had on the mental health and well-being of different groups? (U3, O1)
- What impact has COVID-19 related communication had on behaviours (O1)
- What measures and tools did different organisations use to address COVID-19 misinformation, disinformation, malinformation, 'fake news' and conspiracy theories? (U9)

4.3 Social, Economic, & Political Settings (S)

This variable covers economic development, demographic trends, political stability, government settlement policies, market incentives, and media organization and provides insights into the context in which communication takes place.

- How have different groups been represented in COVID-19 related communication? (S6)
- What considerations of addressing vulnerable groups can we identify?

5 Research Methods

To address the overarching research questions outlined above, the primary methods for qualitative research were considered. In some case studies, the researcher may wish to include quantitative methods and these will be elaborated in D3.2, 'Design research activities per case study'. The SAGE research methods database allows for a comprehensive exploration of research methods and the processes required in conducting the most appropriate research method (Figure 2)⁵.

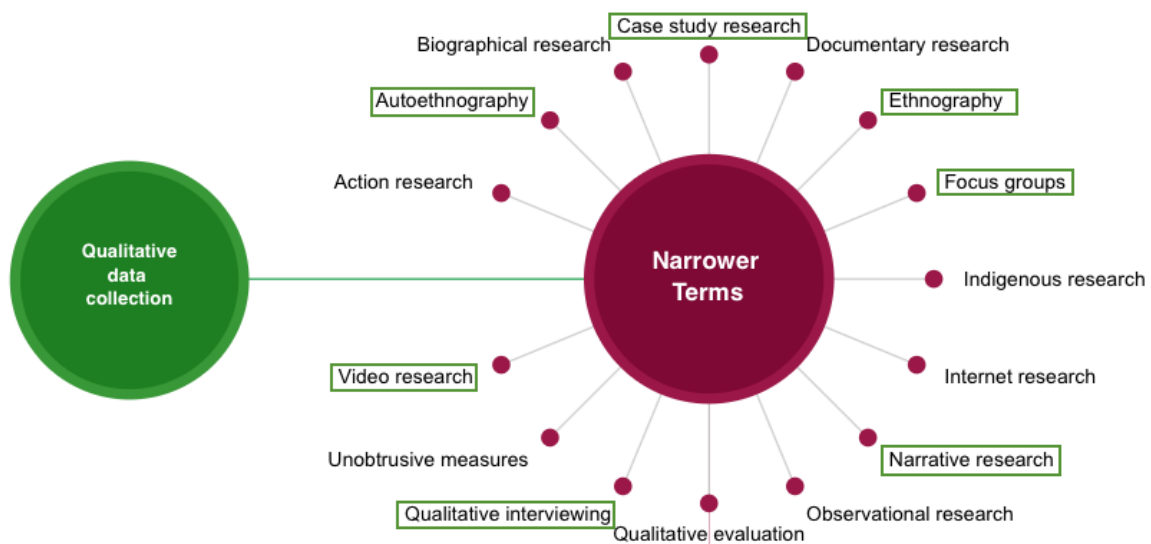


Figure 2. SAGE Research Methods Maps for Qualitative Data Collection and key methods for consideration in COVINFORM empirical research

⁵ <https://methods.sagepub.com/methods-map/qualitative-data-collection>

5.1 Case Study Research Design

As COVINFORM's Work Package 3 and associated deliverables focus on case study design and evaluation, this section will briefly justify why case study research is also best suited to address the overarching Task 7.2 research questions outlined above. Citing Yin (1994) and Meredith (1998), Ebneyamini and Sabdehi Moghadam (2018) outline how case studies enable researchers to:

- Explain complex causal links in interventions
- Describe the context in which the intervention occurred and describe the intervention itself
- Explore situations whereby an intervention has no clear outcomes
- Study a phenomenon in its natural setting and generate theory from the understanding gained by observing practice
- Answer why, what, and how questions while having a full understanding of the phenomenon being studied
- Conduct exploratory investigations whereby the variables are unknown and the phenomenon is not understood

Additionally, "detailed case studies may be essential in cross-national comparative research, where an intimate understanding of what concepts mean to people, the meanings attached to particular behaviours and how behaviours are linked is essential" (Hartley, 2004, p.325).

The overall case study framework and methodology, including project-level research questions and quantitative and qualitative research methods, will be outlined in Deliverable D3.2 available in Month 9 (July 2021).

The next section outlines different qualitative research methods and analysis available to partners to address the research questions including focus groups, qualitative interviewing, creative arts-based methods, content and data analysis.

The suggested research methods are particularly relevant to the COVINFORM project as, to date, relatively little information has been collected to understand the lived experiences of vulnerable groups during the pandemic. These techniques allow for a rich description of contexts and experience to be explored. Furthermore, given the unique characteristics of the vulnerable study populations, creative research methods allow for more inclusive participation, so as to avoid further exclusion of often under-represented communities.

5.2 Qualitative Research Design

As COVID-19 and communication about the pandemic are recent phenomena, there is limited existing research and knowledge in this area. As the research questions outlined above are exploring an area where there are emerging and immature theories, a qualitative research design is best suited to enable new insights to emerge during the research. As outlined by Edmondson and McManus (2007), "[b]ecause little is known, rich, detailed, and evocative data are needed to shed light on the phenomenon. Interviews, observations, open-ended questions and longitudinal investigations are methods for learning with an open mind" (p.1162).

5.3 Focus Groups

Focus groups offer an opportunity to explore shared perceptions and beliefs that can provide sociological and psychological insights into the experiences of the chosen subgroups and propose

answers to the 'why' questions as described above (Morgan and Kruegar, 1993). Focus groups offer an opportunity to involve hard-to-reach subgroups in communication strategies and preparedness planning (Owen, 2001). Data collection through focus groups is not gathered with the intention to generalise to the wider populations, therefore subgroups are not randomly selected and population sampling is not necessary.

5.4 Qualitative Interviews

Qualitative interviewing is a suitable research method when the researcher seeks to understand the interviewee's subjective perspective of a phenomenon (McGrath, Palmgren and Liljedahl, 2019). Qualitative interviews can provide a voice to minority groups and other groups that may not be heard (ibid). This is particularly important for Work Package 7 where vulnerable groups will be invited to define their own vulnerability within the context of information, communication and misinformation.

Interviews are also suitable for understanding complex issues and processes such as impacts and outcomes (Lewis, 2003). As Work Package 7 is focused on impacts related to inclusive COVID-19 communication for behaviour change and addressing misinformation, qualitative interviews will enable partners to gain an in-depth understanding and seek clarification on different issues. The ability to seek clarification during the research process will be critical to ensure that researchers clarify their understanding of the research participants' perspective and do not misinterpret their responses. As the research will be undertaken across multiple countries involving multiple languages, seeking clarification is particularly important.

Interviews offer flexibility and can take different formats including semi-structured and unstructured, in-person and virtual. The form of interview undertaken in the empirical research will depend on the specific case study and will be outlined in D3.2. While interviews were already conducted virtually prior to COVID-19, the pandemic has resulted in a growth in literature on conducting qualitative research and interviews virtually (Roberts, Pavlakis, and Richards, 2021). Partners acknowledge both the benefits (e.g., addressing geographic limitations, faster research participant recruitment) and disadvantages (e.g., the digital divide resulting in unequal access to technology) (ibid) and will consider these issues when planning the interviews.

5.5 Creative Research Methods

5.5.1 Theories for the use of creative methods

Creative methods provide an opportunity to explore complex and sensitive issues to gain deeper insights on the topics being discussed (Manney, 2015). This methodology has applicability to populations where describing the phenomena is highly emotive or difficult to articulate, whether due to expression of feelings and beliefs or practical skills, such as language and literacy. Several researchers have employed these methods in adults with the objective of exploring social factors such as people facing disadvantage, gender studies and in the design of healthcare environments (Jellema et al., 2019; Barker et al., 2012; Kramer-Roy et al., 2015). This is well-aligned with the COVINFORM projects empirical research objectives and may incorporate an element of participatory research methods. Such approaches are directed towards planning and conducting the research processes with the individuals whose lived experiences are being investigated (Bergold & Thomas, 2012). This approach allows the co-researchers to form their own beliefs and interpretations and re-think the original strategy (ibid.).

The use of these methods may be particularly applicable when exploring the meaning or definition of ‘vulnerability’ with vulnerable groups or individuals. Its conduct and analysis require specialist expertise and should be considered based on the experience of the researchers and the available resources. Deliverable 7.3 will outline if and how this method was used in the empirical case study research.

Creative methods commonly include visual or arts-based methods such as drawing, photography, poetry, and journaling (Kara H., 2015). Creative methods can stimulate discussion that allows for participants’ deeper consideration than what may be achieved in a formal question-answer qualitative method (ibid.). Gauntlett (2007) proposes that creative methods create time and space for participants to reflect on complex issues. Furthermore, its activities help to change the participant-researcher relationship from one where the researcher is trying to draw answers from the participant to one where the participant informs the approaches.

Kelley and Kelley (2012) highlighted four key barriers to creativity in adults: fear of the unknown, fear of judgement, fear of the first step and fear of losing control⁶. In contrast, Rainford J. 2019, argues that when these barriers can be overcome, creative methodology encourages more reflective discussion.

Concept mapping can take various approaches, as detailed by Conceicao et al., 2017 review paper, the approaches can be defined as relational concept maps, cluster concept maps and word frequency. Each approach employs different research processes for data collection, analysis, and presentation, which should be considered for its appropriateness in the target population. Concept mapping has various qualities that complement the objectives of exploring the intersectional relationships in the COVINFORM project. Specifically, when exploring the communication plans applied by governments, organisations, public health stakeholders and communities at various geographical levels. Mapping and matrices are strategies to help researchers to visualise interrelationships between ideas and concepts. Concept maps can take the form of flowcharts, timelines or diagrams commonly referred to as ‘mind maps’.

Van der Vaart 2018., discusses the value of creative methods to researchers interested in exploring community resilience, focusing on three methods in particular; walking interviews, group discussions and a creative workshop which resulted in an exhibition in the community village. The researcher concluded that these approaches generate deeper insights that go beyond the rational-cognitive process of knowing and describing lived experiences. Additionally, this approach gave the participants an opportunity to contribute to their community, which may, in turn, lead to improved community resilience. Other relevant examples of creative methods include research conducted with refugees and asylum seekers, from various backgrounds, to enable them to share their stories to inform theory, policy, and practice (O’Neill 2008). O’Neill states, “Art makes visible experiences, hopes, ideas; it is a reflective space and socially it brings something new into the world – it contributes to knowledge and understanding” (Section 4.2)⁷.

5.5.2 Implementable approaches for creative methods

Autoethnography is an approach to research and writing that aims to describe and analyse subjective experiences to understand cultural experiences. It can be used as a single method or a mixed-method study (Leavy et al., 2009). This approach is one of the more creative qualitative methods highlighted

⁶ <https://hbr.org/2012/12/reclaim-your-creative-confidence>

⁷ <https://www.qualitative-research.net/index.php/fqs/article/view/403/873>

by Figure 2. It incorporates poetry, photography, and story writing (Ellis, Adams & Bochner 2011)⁸. Autoethnography combines autobiography and ethnography. As described by Ellis, Adams & Bochner 2011, when researchers use this technique "they retrospectively and selectively write about epiphanies that stem from, or are made possible by, being part of a culture and/or by possessing a particular cultural identity. However, in addition to telling about experiences, autoethnographers often are required by social science publishing conventions to analyze these experiences" (Section 2).

Lapum et al., 2011 employed creative methods when exploring patients' experience of surgery. Through patient interviews, prior to and after surgery, patients kept a journal of their experiences (diary/entries/poems/drawings etc). The Pandemic Journaling Project, a creative thinking platform created during COVID-19, provides a space for people to record their own experiences of living through the pandemic⁹.

O'Neill et al., 2020 combines walking as a research method in addition to participatory and biographical research to generate knowledge and understanding in criminology. Walking through a familiar place, or a place associated with the research topic helps to generate stories of associated feelings in the past and present. Walking interviews capture lived experiences that are related to place (Evans & Jones, 2011).

5.5.3 Ethical issues in using creative methods

Creative or arts-based research methods are particularly useful for gathering data when exploring sensitive topics, working with participants who are at increased risk due to cognitive impairments or educational and literacy deficits and when exploring cultural views and values (Kara 2015). For this reason, several ethical challenges may arise in conducting these research techniques, including;

- Privacy Issues
- Location of communities being described are often identifiable to readers
- Implication of others described in the participants narrative
- Photography which includes images of either the identifiable research participant or location

Researcher- participant relationship

- Friendships or more emotive connections are more likely to be formed using creative approaches (Naber, 2015)

Reliability and validity

- Story-telling – we all remember events differently

5.6 Content Analysis

Content analysis is an approach to analysing documents and texts, however, due to its distinctive analysis approach, it is often regarded as a research method (Bryman, 2004). While the above methods (focus groups, interviews, and creative methods) enable data to be generated on the Governance System and User perspectives, content analysis focuses on the content of the communication. As the

⁸ <https://www.qualitative-research.net/index.php/fqs/article/view/1589/3095>

⁹ <https://pandemic-journaling-project.chip.uconn.edu>

approach also covers considers the guiding research questions and sampling strategy, it is covered here rather than in Section 7 focusing on data analysis.

As outlined in Deliverable D7.1, Task 7.1 involved the collection and examination of a vast amount of documents to be able to describe the communication strategies and practices across 15 countries. The documents collected include, but are not limited to, reports, information materials (e.g., posters, videos, brochures), social media posts, speeches, press releases, memes, and newspaper articles. It is important to note that documents also refer to pictorial and non-written materials. Partners will follow an approach to content analysis as outlined by Robson (2002) and Mayring (2010):

- The overarching research questions outlined above will determine the documents that will be analysed as part of Tasks 7.2 – 7.4. In particular, content analysis in the context of WP7 will focus on government and public health issued information materials, misinformation, and other forms of communication issued by individuals and communities such as memes.
- A sampling strategy will be determined in the context of T7.3, which analyses communication on key dimensions of impact, in line with the case study design. Researchers will aim for theoretical saturation (Strauss & Corbin, 1998).
- The recording unit will be defined – this may be words, themes, actors/individuals featuring in the documents, depending on the research questions.
- Develop analysis categories (e.g., subject, values, goals, methods, traits, actors, authority, location, conflict, endings).
- Test and refine the categories by coding a selection of documents.
- Conduct the analysis including formative checks of reliability and revision of categories.
- Interpretation of results.

Research questions specific to content analysis include:

- How have different actors designed and delivered inclusive COVID-19 communication for behaviour change and addressing misinformation? (GS1, GS2)
- Who were the key actors involved in COVID-19 communication (i.e., communicators)? (GS2, S6)
- What were the goals of the COVID-19 communication? (GS1, GS2)
- What information was communicated in different channels/media? (GS1, GS2)
- What considerations of addressing vulnerable groups can we identify? (GS1, GS2)
- What kinds of misinformation can we identify? (GS1, GS2)
- How are different groups represented in the media? (i.e., ascription of vulnerability) (U2)
- How did different communities react to COVID-19 through memes etc.? (U3)

6 Study Populations and Sampling Method

There are several ways to establish the appropriate sample size. The chosen methods depend largely on the size and nature of the population. In the COVINFORM project, this needs to be considered for each case study population in the wider context of the study population and the existence of the subgroups of interest. Additionally, to successfully conduct the case study investigations, the resources of the researcher need to be taken into consideration. In qualitative research with vulnerable populations, traditional random and probability sampling are not always feasible, however, researchers should strive to recruit a representative sample. Target, adaptive and time-space sampling

involves ethnographically mapping a population and may be utilised to achieve reduced bias in the study sample (Semann 2010; Martsof et al., 2006).

Also, saturation is commonly used to determine sample sizes. As described by Hennink et al., 2019, six parameters influence saturation in focus group data. Saturation refers to ‘the point in data collection when issues begin to be repeated and further data collection becomes redundant’ (ibid., p.2). For each case study employing focus group approaches these proposed parameters may be considered.

Table 1. Parameters influencing saturation and sample size for focus group discussions (Hennink et al 2019)

Parameter of Saturation	How Parameter Influences Sample Size
Study Purpose	A study where researchers aim to identify core issues in data requires a smaller sample size to reach saturation (e.g. 4 focus groups); while a study where researchers aim to understand the issues requires a larger sample size and is dependent on other parameters.
Type of Codes	A study where researchers seek to capture explicit, concrete codes will require a smaller sample size than where researchers seek to identify more complex, conceptual, and nuanced issues.
Group Stratification	A study where focus groups are not stratified by any characteristics will require a smaller sample size to reach saturation (e.g., 3–6 groups) than one where focus groups are stratified by specific characteristics - whereby enough groups to include all strata at least once are needed to reach saturation.
Groups per Strata	A study using stratified focus groups requires two groups per strata to reach meaning saturation; however, there is a limited additional benefit for data richness in conducting more than two groups per strata.
Type of Saturation	A study seeking code saturation requires a smaller sample size (e.g. 4 focus groups) than a study seeking meaning saturation (e.g. 5+ focus groups).
Degree of Saturation	A study where researchers seek to reach 80% saturation will require a smaller sample size (e.g. 2–3 focus groups) than where researchers seek to reach 90% saturation (e.g. 4–5 focus groups).

7 Recruitment

7.1 Solutions for recruiting vulnerable population

Certain groups have been disproportionately affected by the COVID-19 pandemic in a number of ways, including communication strategies employed (or lack of) by the various communication actors across the COVINFORM target countries (Clark-Ginsberg & Petrun Sayers 2020). Already at a disadvantage, vulnerable groups are more exposed to the risks of COVID-19 misinformation. These vulnerable groups include, for example, women, ethnic minorities, migrants, healthcare workers and members of Roma, pavee and other traveller communities. Excluded groups are often difficult for researchers to gain access to because of the groups’ social circumstance, physical location (e.g., remote geographical areas) or vulnerability (discrimination or stigmatisation). Before recruitment efforts commence, researchers first need to examine the barriers that may arise in trying to reach their populations of focus.

The first obstacle that needs to be addressed is identifying the key attributes of the study population. Not all vulnerable groups will define themselves by the characteristics determined by the research

team (Zarowsky et al., 2013). Additionally, minority groups' mistrust in the research process has been previously documented (Scharff et al., 2010; Van Liempt & Bilger 2012). Ethnic minorities hold concerns that the research findings may harm their community, provide no benefit and concern over who will have access to the findings (Smirnoff et al., 2018). The potential positive outcomes of the research activities need to be established and exploited during the recruitment phase. Along with greater community and participant involvement in the research process. Furthermore, mistrust may be more difficult to overcome if the researcher and the participant do not share the same language (ibid.).

To support recruitment efforts, the social and legal risks to research participants need to be considered and clear privacy measures need to be established to ensure anonymity is maintained. Unlike quantitative research methods, qualitative methods such as focus groups or in-person interviews, limit the feasibility of absolute anonymity. Data should be de-identified or pseudonyms should be used in place of participants names. Beyond the regulatory requirements for data protection¹⁰, consider de-identifying or altering location names, healthcare service providers, facilities or organisation and unique narratives that are easily identifiable. As proposed by (Ellard-Gray et al., 2015), a strategy for gaining participant trust may be to give participants a degree of ownership in the process. For example, allow for participants to be acknowledged for their contribution or by allowing participants to review the results before publication (ibid.). Communication professionals and policy experts may be more likely to have public profiles that increase their risk of being identifiable. This will be considered as part of Task 1.4 'Data management, security and monitoring'.

7.2 Recruitment Materials

To ensure increased participation, appropriate and justified 'labels' should be used in describing the study population and the phenomena of interest. This can be achieved in a co-creation process, whereby members of the study community may review the draft advertisements to ensure the language used isn't stigmatising, as perceived by the community itself and that it is truly representative of the population.

7.3 Informed Consent

Informed consent is essential for conducting ethical research as embedded in the principles of The Declaration of Helsinki¹¹. Obtaining consent involves informing the participant about their rights, the purpose/goal of the study, procedures to be undertaken during their involvement, potential risks and benefits of taking part, expected duration of the study (one or more visits and the duration of time), the extent of confidentiality of personal identification and demographic data, so that their participation is entirely voluntary (ibid.). The complexities in the consent process are largely due to ensuring the participant is truly informed. A goal of informed consent is to provide sufficient information in a language that is easily understood. The use of interpretable language and visual aids may demonstrate an effort to overcome these risks and ensure research participation and the research processes are clearly understood (Hoeyer et al., 2014).

¹⁰ <https://gdpr-info.eu>

¹¹ <https://www.wma.net/policies-post/wma-declaration-of-helsinki-ethical-principles-for-medical-research-involving-human-subjects/>

Lower education levels, poor literacy and primary language differing from the national language are all associated with lower comprehension of the informed consent process (Breese et al., 2006). These risk factors need to be considered in terms of the target population and how likely these risks are to materialise. It is also the responsibility of the investigator/researcher to inform the participant about the study, to provide an opportunity to ask questions and to allow adequate time for participation to be considered. Prior to data collection, the ethical review board must approve the use of the consent form that will be used to enrol participants. This will be undertaken as part of COVINFORM Task 1.3, 'Research ethics management and monitoring'.

In terms of vulnerable groups, several key barriers need to be considered to ensure fair and appropriate recruitment. Not all participants will have access to technology including internet connections, laptops and smartphones. If this is the case, all opportunities should be explored to ensure in-person informed consent processes are achievable. Where this is not a barrier, researchers need to be flexible in the consent process with regards to restrictions related to COVID-19. Alternate consenting procedures that balance the need to prevent virus transmission but also ensure that the appropriate informed consent procedures are met. When digital access is available, the consent process should consider ways to ensure appropriate consent is obtained, through electronic methods, if possible, this process should be documented. In vulnerable situations, consider the implications for participation for the study population, for example in studies of victims of domestic violence, provide the participant with a copy of the consent form only if they choose to take it. As this increases their risk of exposing their circumstance unintentionally and may result in increased risks or harm.

Translated materials are required if the researcher is conducting research with groups where the national language may not be the spoken language of their case study population. Of course, the implementation of the research needs to be considered in terms of resources in this regard. Ethical guidelines are considered more broadly in D1.4, 'Ethical framework'.

8 Data Analysis

A range of data may be collected depending on the qualitative research method employed in the case study analysis. This may include audio, notes, video recording, images and art-based content or documents. Furthermore, for content analysis, various forms of media may be analysed as outlined above in Section 5. The process of data analysis in qualitative research is to "assemble or reconstruct the data in a meaningful or comprehensible fashion, in a way that is transparent, rigorous and thorough, while remaining 'true' to participants' accounts" (Noble & Smith, 2014, p.1).

Depending on the research methods used, the researcher needs to identify an appropriate approach to data analysis based on the research process conducted. These methods will be further described in D7.3, 'Analysis: Communication and information', but a brief overview is detailed below. As described by Noble & Smith (2014), data analysis approaches include:

- Frameworks approaches and thematic analysis
 - Thematic analysis is a widely used tool for analysing qualitative data in the social sciences and related fields. Since Braun and Clarke's highly cited publication in 2006, it has become a recognised and trusted method of analysis. Thematic analysis can be used for identifying, analysing, organising, describing and reporting themes from a data set (typically text, such as interview transcripts) (ibid.). It can be conducted in a

phased manner, familiarising yourself with the data, generating initial codes, searching for themes, reviewing themes, defining themes and producing the final conclusions (Clarke & Braun, 2013).

- Coding, in this regard, is an iterative, inductive, yet reductive process that organises data, from which the researcher can then construct themes etc. In general, thematic analysis requires little technical skills of the researcher but various procedures should be implemented to ensure the final insights were established in a trustworthy, credible, dependable and confirmatory way (Nowell et al., 2017).
- Interpretative approaches and grounded theory
 - The data analysis process in grounded theory is used to allow the researcher to generate theories from data. Glaser and Strauss (1967) developed the theory as a method that combines an analytical procedure of comparison, organising and reducing the data that is finally developed into theories.
 - In grounded theory, data analysis has a well-defined process that begins with basic description and moves to concept ordering and finally theorising (Patton, 2002). Coding in grounded theory is similar to other qualitative approaches. However, in grounded theory, its level of development and specificity clearly distinguish it. Coding is not just a part of analysis; it is the “fundamental analytic process used by the researcher” (Corbin & Strauss, p. 12, 1990).

For each approach, data analysis is an iterative process, requiring the researchers to expand on ideas, ensure creativity in the analysis and develop new concepts and ideas that may emerge from the data. Data software packages may support data analysis, but their use depends on access and preference of the researching team. If specialised software is not used, data quality practices should be documented to demonstrate the validity, transparency and accuracy of the data. Documenting the pathway or process in which the text concluded in final themes is essential to justify the conclusions and insights gained.

Demographic data will be presented as a summary of the study population characteristics and where mixed methods are used the appropriate inferential statistics will be included in the analysis. However, at this stage of the project, the potential research methods that will be used to address the research questions have not yet been determined. Once the suitable methods are determined, partners will identify suitable data analysis methods and this will be reported in the second version of this deliverable, Deliverable D7.5, due in Month 29.

9 Conclusions

This report presents an overview of the proposed research design and methods that may be applied in the empirical research activities in case studies WPs 4-6. Based on a summary of the baseline evidence for government communication practices in 15 target countries in the COVINFORM project, research questions were proposed for each partner to explore when addressing the themes of WP7, communication, disinformation and misinformation. In addition, we proposed approaches and key considerations when determining sample size and recruitment activities, and ethical considerations including obtaining informed consent.

To address the overarching research questions outlined above, the primary methods for qualitative research were considered. In some case studies, the researcher may wish to include quantitative methods and these will be elaborated in *D3.2 Design research activities per case study*, due in month 9. Information on the data analysis methods was described, including thematic analysis and grounded theory. Once the suitable methods are determined, partners will identify suitable data analysis methods and this will be reported in the second version of this deliverable, Deliverable D7.5, due in month 29.

The findings from the analysis will be reported in Deliverable *D7.3 Analysis: Communication and information*. The findings will subsequently be translated into lessons learned and guidelines that will be presented in Deliverable *D7.4 Synthesis and lessons learnt on communication, information and misinformation*. This report is the first iteration of the Research Design: Communication and information deliverable, it will be continuously reviewed and updated to reflect any changes in the case study research approaches. A final, updated deliverable (D7.6) will be submitted later in the project [M29].

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