COVINFORM

CORONAVIRUS VULNERABILITIES AND INFORMATION DYNAMICS RESEARCH AND MODELLING

D5.2 Research design: Public health responses

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0.1	28.09.2021	First full draft completed and shared with reviewer team (URJC) and the rest of the consortium. Review period until 15 October 2021.

Executive Summary

The empirical research conducted in the COVINFORM project is centred around assessing COVID-19 impact, response, and lessons learned across diverse local contexts. This includes an exploration of how national and local COVID-19 responses have impacted human behaviour, social dynamics, economic wellbeing, and physical and mental health outcomes; how local responses to COVID-19 were adapted to and shaped by the local health, socioeconomic, political and community contexts; and which policy failures, unintended consequences, trade-offs and promising practices can be identified in COVID-19 responses. Within this broad scope, the WP5 empirical research is focused specifically on exploring COVID-19 impact, response and lessons learned from a public health perspective. Building on the desktop research conducted for D5.1, the WP5 empirical research will allow for in-depth exploration of specific issues.

This report outlines the research design of the empirical research activities for WP5. This includes the overarching research questions; a description of the research methods used for data collection; the WP5 sampling plan; and guidance on data analysis. The aim of this deliverable is to streamline the empirical research that will take place across study sites and provide a clear set of expectations and guidelines. Based on extensive conversations with COVINFORM partners, D5.2 links with other deliverables to ensure coordination and consistency across the project's work packages and empirical research sites.

Contents

Tables

1 Introduction

1.1 The COVINFORM project

The COVINFORM project examines how vulnerability is defined and addressed in response to the COVID-19 outbreak. Through an intersectional approach, the project analyses the impact that different national, regional, and local responses have had on vulnerable and marginalised groups, exploring the interconnection between different factors and how these may exacerbate vulnerability and marginalisation. COVINFORM will also develop solutions, guidelines and recommendations to ensure that the needs of vulnerable and marginalised groups are appropriately considered in potential further waves of COVID-19 and future pandemics.

1.2 Work package 5 (WP5)

WP5 analyzes COVID-19 impact and response from a public health perspective, with a specific focus on health inequality and vulnerability. Key dimensions of analysis are definitions and operationalisations of health vulnerability and inequality; influence of social and cultural factors, as well as institutional, legal, and data collection factors on public health responses; public health communication impacts; and COVID-19 impacts on healthcare workers. As defined in the COVINFORM proposal, WP5 empirical research will be carried out among healthcare workers, public health policymakers, decisionmakers, and other stakeholders in 10 local research sites. Findings and recommendations will be synthesised and prepared for WP8.

1.3 Structure of empirical research in the COVINFORM project

The COVINFORM project conducts research on four levels: 1) on an **EU27 MS plus UK** level, quantitative secondary data will be analysed and models will be developed; 2) in 15 **target countries**, desk research will be conducted on the national level and in one sub-national unit per country; 3) in 10 of these sub-national units, **sub-municipal research sites** will be chosen and primary empirical research will be conducted; 4) critical issues and promising practices will furthermore be evaluated through 10 **case studies** focusing on specific vulnerable populations. The empirical research conducted within WP5, which is the focus of this deliverable, is conducted at level 3.

1.4 Contents of this deliverable

In this deliverable, we outline the research design of the empirical research activities for WP5. This includes the overarching research questions; a description of the research methods used for data collection; the WP5 sampling plan; and guidance on data analysis. The aim of this deliverable is to streamline the empirical research that will take place across study sites and provide a clear set of expectations and guidelines. Based on extensive conversations with COVINFORM partners, D5.2 links with other deliverables to ensure coordination and consistency across the project's work packages and empirical research sites. In particular, this deliverable reflects the WP 5-specific contents of the joint Fieldwork Manual developed in collaboration with leaders for WPs 4, 6 and 7.

2 The purpose of WP5 empirical research

The empirical research conducted in the COVINFORM project is centred around assessing COVID-19 impact, response, and lessons learned across diverse local contexts. This includes an exploration of how national and local COVID-19 responses have impacted human behaviour, social dynamics, economic wellbeing, and physical and mental health outcomes; how local responses to COVID-19 were adapted to and shaped by the local health, socioeconomic, political and community contexts; and which policy failures, unintended consequences, trade-offs and promising practices can be identified in COVID-19 responses. Within this broad scope, the WP5 empirical research is focused specifically on exploring COVID-19 impact, response and lessons learned from a public health perspective. Building on the desktop research conducted for D5.1, the WP5 empirical research will allow for in-depth exploration of specific issues.

D5.1, the baseline report for WP5, took a comprehensive approach in assessing the public health responses to the COVID-19 pandemic across COVINFORM partner countries. Within the broader theme of public health responses, the report tackled a broad range of subtopics, including an overview of partner countries' health system structures; epidemiological outcomes over the course of the COVID-19 pandemic; governance, decision-making and consultation in the COVID-19 response; legal factors influencing the COVID-19 pandemic; data collection factors influencing the COVID-19 pandemic; public health information and communication strategies; impacts of COVID-19 on health care workers; demographic and social network factors influencing the COVID-19 pandemic; and conceptualizations of vulnerability in the COVID-19 pandemic. D5.1 provided a comprehensive insight in key similarities and divergences in various dimensions of public health responses to the COVID-19 pandemic across COVINFORM partner countries.

In its empirical research, WP5 aims to further explore the initial findings presented in D5.1. In particular, the empirical research has the goal to explore COVID-19 responses and their impact through an in-depth analysis of first-hand lived experiences and various stakeholders' personal and professional insights. Hereby, the WP5 empirical research will allow for a greater understanding of decision-making processes during the COVID-19 pandemic, shed light on the impacts experienced by practitioners and residents in 10 partner countries, and elucidate promising practices.

3 Research questions

The three overarching research questions for WP5 are as follows:

1. How have COVID-19 public health responses been received, implemented and adapted across diverse local contexts and groups?
2. How have vulnerabilities and structural health inequalities been addressed and/or exacerbated by COVID-19 public health responses?
3. How has the COVID-19 pandemic impacted health workers across diverse contexts and care settings?

Besides engaging with residents to assess the impact of COVID-19 public health responses, WP5 primarily engages with Health Care Workers (HCWs) and public health policy- and decision-makers. Below, specific research questions are specified for WP5's three main populations of interest.

Health Care Workers (HCWs)

- How has the COVID-19 pandemic impacted HCWs' day-to-day working realities?
- How has the COVID-19 pandemic impacted HCWs' mental health/psychological wellbeing?
- How has COVID-19 affected dynamics and interactions among HCWs?
- How do HCWs perceive vulnerability and vulnerable groups in the context of the COVID-19 pandemic?
- How do HCWs perceive the impact of COVID-19 on patients' access to health services?
- How have HCWs experienced vaccination campaigns and efforts?

Public health policy- and decision-makers

- How have actors at various levels of governance implemented and adapted COVID-19 public health measures in their sub-national context?
- How have top-down COVID-19 public health measures been adapted to meet the needs of specific groups in society?
- How have different actors defined and operationalized conceptualizations of vulnerability in public health responses?
- How have different actors in the governance system (in different sectors, governmental and non-governmental) collaborated in public health responses?
- How has disaggregated data collection (e.g. by age, gender, ethnicity, socioeconomic status) informed COVID-19 public health responses?
- How has community participation been elicited to inform decision-making?

Residents

- How have individuals and communities perceived and experienced the importance and relevance of COVID-19 public health responses in their local context?
- What are key drivers of decision-making regarding compliance with public health measures?
- Perceptions and experiences of specific public health responses, e.g.:
    - How have individuals and communities perceived and experienced COVID-19 testing efforts?
    - How have individuals and communities perceived and experienced COVID-19 vaccination campaigns?
- How did perceptions and experiences of COVID-19 public health measures evolve over the course of the COVID-19 pandemic?
- How do individuals and communities understand and conceptualise vulnerability in the context of the pandemic, and how do these understandings differ from top-down definitions of vulnerability?
- How have some groups faced exclusion or differential access to health services in the context of the COVID-19 pandemic?
    - Which barriers have hampered access?
    - How have barriers changed over time?
- How has citizen trust in health services/systems changed in the context of the COVID-19 pandemic?

4 Study population and sampling

Residents: n≥6

Since all WPs 4-7 aim to include residents' perspectives in their empirical research, this group is accessed as a 'shared' sample of n≥12 in each of the 10 research sites. This sample of n≥12 is split in half to divide it between the work packages, in such a way that n≥6 residents will participate in joint interviews or FGDs centred around the research questions of WPs 4 and 5, and the other n≥6 residents participate in joint interviews/FGDs that address research questions of WPs 6 and 7. Therefore, the interviews/FGDs including WP5-specific questions will be organized in collaboration with WP4 leaders.

HCWs and public health policy- and decisionmakers: n≥5

In addition, WP5-specific qualitative interviews are conducted with HCWs and public health policy- and decision-makers. In each of the 10 research sites, partners will conduct a total of n≥5 qualitative interviews, of which n≥3 Health Care Workers (HCWs) and n≥2 public health policy- and decision-makers. For the HCWs, partners are encouraged to focus on General Practitioners (GPs) or 'family doctors' (medico di base/famiglia; Hausarzt; clínico geral; médico general; husläkare; etc.) working in your local research site. For the interviews with public health policy- and decision-makers, partners are encouraged to focus on individuals working at the national public health institute and/or people in a coordination/leadership position for the implementation of vaccination campaigns. The latter category can also be people leading vaccination campaigns at the local level (e.g. at the level of a city or region).

The following non-mutually exclusive socio-demographic criteria should be met.

Table 1. Sociodemographic criteria WP5 sampling

Criteria	Minimum sample (out of ≥5)	Total N COVINFORM WP5
General practitioner active in the target sub-municipal unit	N≥1	N≥10
Self-identifies as a womxn	N≥2	N≥20
Works directly with vulnerable groups (VG)	N≥2	N≥20

The following hypothetical sample plan fulfils the criteria above.

Table 2. Example hypothetical sample plan WP5

Respondent ID	Organisation type/role	Gender identity	Age range	Works with VG?
T5_2_UANTWERPEN_1	General practitioner in Borgerhout	F	60-65	Y
T5_2_UANTWERPEN_2	General practitioner in Borgerhout	F	40-45	Y
T5_2_UANTWERPEN_3	General practitioner in Borgerhout	M	35-40	Y
T5_2_UANTWERPEN_4	COVID-19 vaccination center coordinator Borgerhout	F	40-45	N
T5_2_UANTWERPEN_5	Senior staff member at Sciensano (national public health organization): COVID-19 response team	M	55-60	N

5 Recruitment

For the WP5-specific qualitative interviews conducted with **HCWs and public health policy- and decision-makers**, partners will use expert purposive sampling. This sampling strategy is widely used in qualitative research to identify and select individuals that are knowledgeable about a specific phenomenon of interest (Palinkas et al., 2015). As participants will be recruited based on their profession, in many cases COVINFORM partners can initially rely on publicly available contact details, as well as on potential contacts within their networks. Publicly listed contact details may be available for specific individuals, or more generally for organizations. In contacting potential participants or their respective organizations/employers, partners will send out an email that clearly explains the purpose and scope of the research project. Once partners have recruited the first participants, they can also ask recruited participants to invite people in their network, i.e. using snowball sampling.

For the WP5 interviews or Focus Group Discussions (FGDs) with **residents**, we will also apply principles of purposive sampling. In order to maximise representativeness, partners should strategically select informants that are differently positioned within the group studied and might therefore have access to different kinds of information (Lofland et al., 2006). In a practical sense, this means partners must attempt to recruit participants that reflect the diversity of the sub-municipal unit, notably in terms of gender (aim for 50/50), age, educational background, socioeconomic status, and ethnic minority status or migrant background. This way, we ensure participants with varying experiences of vulnerability in the context of the COVID-19 pandemic are included in the empirical research. In order to recruit residents, it may be useful to identify key informants, which can be defined as individuals in a research setting whose social positions give them specialist knowledge about other people (Payne & Payne, 2004). Reliance on key informants' networks can facilitate the recruitment process and contribute to diversifying the sample. For example, in the case of recruiting participants from ethnic minority groups, researchers could contact local (governmental and non-governmental) organisations that work predominantly with ethnic minorities, as well as educational programmes and training centres, and contact professionals that work with this target group (e.g., social workers or specialised health workers, lawyers, etc). Respondent-driven sampling, in which participants recruit peers, can also be a useful recruitment strategy (Semaan, 2010).

Once participants have agreed to participate in the interview or FGDs, they should be provided with clear preparatory information and ethical guidelines. This should include the exact time and date of the interview/FGD, the location or virtual platform where it will take place, a description of the research methods, the informed consent sheet, the name(s) of the researcher(s) and some information on their background, as well as a description of the goals of the COVINFORM project.

6 Research methods

The WP 5-linked empirical research will rely primarily on semi-structured qualitative interviews, but if partners prefer, they can also opt to use Focus Group Discussions (FGDs) with residents. Depending on the preference of the respondents and local restrictions linked to COVID-19, interviews/FGDs can be conducted either face-to-face or virtually (e.g., via Microsoft teams, Zoom, Webex, etc.). If interviews/FGDs are conducted virtually, researchers must ensure to test and familiarize themselves with the chosen platform, and be prepared to deal with any potential technical mishaps.

6.1 Semi-structured qualitative interviews

The WP 5-linked empirical research will primarily rely on the use of semi-structured interviews, as these are well-suited to our types of research questions and allow us to apply a retrospective and intersectional approach. Interviews allow the researchers to explore participants' views in great depth, and are useful for understanding the nature of informants' system of meaning (Berg & Lune, 2017). In line with intersectionality theory, qualitative interviews allow for responses that are not based on uniform answer choices, instead giving participants the opportunity to talk about their lived experiences in relation to several aspects of their identity (Windsong, 2018). Indeed, an intersectional lens can usefully guide interviews that capture an individual's multifaceted experiences at the crossroad of various identities and social positions/locations, hereby helping to frame the social inequities that shape their experiences as well as to identify potential solutions. Interviews with different stakeholders/actors (e.g. not just community but also people engaging with the community in a professional capacity) will benefit triangulation, by examining not just the experiences of individuals, but also the structures and systems that frame their experiences (Abrams et al., 2020). Interviews are recommended to last between one to 1,5 hours. All interviews will be audio recorded, pseudonymized and carefully transcribed ad verbatim, and serve as a basis for comparison and analyses.

6.2 Focus group discussions (FGDs)

FGDs involve gathering people with similar backgrounds and experiences in a group setting to discuss the topic of interest, and can sometimes be used in place of or as a supplement to one-to-one interviews (Lofland et al., 2006). FGDs are suitable to allow participants to discuss and exchange views on their experiences during the COVID-19 pandemic, especially when the topics discussed are of a reasonably public nature and do not relate to highly personal experiences. Indeed, FGDs can have the advantage of allowing people to recall experiences in response to other group members and allow for instances of interchange between contrasting experiences (ibid.). Partners can opt to replace qualitative interviews with residents with FGDs. In collaboration with WP4 leaders, the interview topic guide can then be adjusted to be made appropriate for a group discussion setting.

6.3 Topic guide

Partners are provided with guidance on the structure of the interview/FGDs in the form of topic guides (see appendix 1). These topic guides consist of different groups of questions, including 'probes' which encourage participants to elaborate on a point or provide additional information. Different topic guides have been developed for the different populations of interest. The topic guides are relatively structured, so that research results can be compared across the consortium. However, the questions remain of a relatively open nature, to allow participants freedom in their responses and to avoid finding only 'what is expected' (Devers & Frankel, 2000). The topic guides will be provided in English, and partners will be asked to arrange translation to the required language(s) themselves.

6.4 Ethical considerations

The empirical research conducted for WP5 will be in line with the COVINFORM ethical framework. For extensive detail on this framework, we refer to D1.4 (Ethical Framework). This deliverable provides an in-depth analysis of relevant ethical considerations, and outlines how we respect the GDPR regulation as well as relevant national data protection legislation.

7 Data analysis

Comparative analysis of the empirical data collected in WP5 is initiated in task 5.3. In this task, key focal points of analysis are assigned to different partners, and deliverables will be produced on these different dimensions of analysis. These dimensions of analysis are defined as follows:

- Comparative definitions and operationalisations of health vulnerabilities, including pre-existing conditions and comorbidities, mental health vulnerabilities, and social precarity (SAPIENZA)
- Social and cultural factors influencing public health responses (SAMUR)
- Institutional, legal, and data collection factors influencing public health responses (SU)
- Public health communication and epidemiological outcomes (URJC)
- Impacts of COVID-19 on health care workers (UCSC)

This analysis is carried out in collaboration with partners from MDA, who are responsible for D5.3.

Additionally, in task 5.4, findings from tasks 5.1-3 will be synthesized and interpreted on a broader scale, and policy and practice recommendations will be developed.

To facilitate comparative analysis in tasks 5.3 and 5.4, partners will be asked to submit their findings using a standardized template in which they summarize their findings on a thematic basis (see appendix 2). As partners conduct their research in their local languages, the qualitative thematic analysis to prepare these templates will be conducted by the partners that collected the data. Thematic analysis consists of identifying, organizing and analysing the key themes of the data set. It typically involves familiarisation with the transcripts/data, generating initial codes, searching for themes, redefining themes and developing conclusions (Braun & Clarke, 2006). Qualitative data analysis software packages such as NVivo may support such data analysis.

8 Timeline

Table 3. Overview of deadlines WP5

Task	Start	Deadline
Fieldwork manual shared with consortium (including WP5 expert topic guides)	1 October 2021	Partner review by **15 October 2021**
Translations of topic guides	1 October 2021	Partner translations finalized by **15 October 2021**
Roll-out WP5 interviews with HCWs and public health decision- and policymakers	1 November 2021	Partners finish conducting interviews by **31 December 2021**
Reporting of preliminary findings	31 December 2021	Partners submit preliminary findings by **31 January 2022**
Write-up of D5.3	31 January 2021	MDA submits D5.3 by **31 March 2022**

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Appendix I. WP5 topic guides

The WP5 empirical research is focused on exploring COVID-19 impact, response and lessons learned from a public health perspective. The WP5 empirical research has the goal to examine COVID-19 responses and their impact through an in-depth analysis of first-hand lived experiences and various stakeholders' personal and professional insights.

The three overarching research questions for WP5 are as follows:

1. How have COVID-19 public health responses been received, implemented and adapted across diverse local contexts and groups?
2. How have vulnerabilities and structural health inequalities been addressed and/or exacerbated by COVID-19 public health responses?
3. How has the COVID-19 pandemic impacted health workers across diverse contexts and care settings?

WP5 expert interviews engage with two groups:

- N≥3 Health Care Workers (HCWs). We encourage partners to focus on General Practitioners (GPs) or 'family doctors' (medico di base/famiglia; Hausarzt; clínico geral; médico general; husläkare; etc.) working in your local research sites. If it is difficult to recruit N≥3 GPs, other HCWs may also be interviewed (e.g., nurses, specialized physicians, physician assistants, and midwives).
- N≥2 public health policy- and decision-makers. We encourage partners to focus on individuals working at the national public health institute and/or people in a coordination/leadership position for the implementation of vaccination campaigns.

We provide **two separate topic guides** for these two target groups for WP5 expert interviews, although there is considerable overlap in the questions asked. Prior to **each interview**, respondents must fill in a brief question sheet with sociodemographic questions. These questions are standardized (the same) across all four WPs. The demographic questions for expert interviews/FGDs are available in the shared drive.

Topic guide Health Care Workers (HCWs)

Guidance for interviewers:

Start by thanking the participant for agreeing to be interviewed for the COVINFORM project. Explain that before starting, they will be given an information sheet to read and a consent form to sign. Give them sufficient time to do this, and answer any questions they might have. Afterwards, explain that this interview is a semi-structured interview, which means you will be asking a series of open-ended questions to learn about their personal experiences and opinions. Stress that there are no right or wrong answers, and that if there are any questions they prefer not to answer they should let you know, and you can move onto another question. Explain that before you really get started with the interview, you will ask some basic questions - then go through the questions on the pre-interview sheet. Afterwards, go through the questions in the topic guide below.

*Note: all questions with a sub-bullet point (**o**) are probes. These are 'follow-up' questions that are meant to enhance the main open-ended question, by honing in on specific details after having allowed the respondent to speak. You do **not have** to ask these probes: if a respondent already gives a detailed response to the initial open-ended question, there may not be any need to probe.*

Background:

- Can you tell me a bit about your role? (job title, daily tasks, department, responsibilities)

Introduction/warm-up questions

- Since March 2020, we have been confronted with the spread of the COVID-19 virus and a worldwide pandemic. Can you describe your first response to this crisis at that time?
    - What was the immediate impact on your life like?

Impact on working reality

- How has the COVID-19 pandemic impacted your day-to-day professional life as a health care worker?
    - Probes: changes in daily tasks/responsibilities; modes of service delivery; workload; stress; supply of medicines, equipment and PPE
- Can you tell me about whether the changes in your professional life during the COVID-19 pandemic impacted your personal life?
    - If yes, in what ways?
- Did the public opinion about your work change during the COVID-19 pandemic?
    - If yes, in what ways?
    - Has this public opinion/appreciation changed over the course of the pandemic?
- How did the COVID-19 pandemic impact the lives of your colleagues?
    - Are there any differences between the way the COVID-19 pandemic impacted your professional life and that of colleagues?
    - How has COVID-19 affected dynamics and interactions among you and your colleagues?

- Are there many differences/similarities among the experiences of different types/groups of HCWs? Could you give some examples?
- Do you think gender plays a role in the way the COVID-19 pandemic has affected your life and the life of your colleagues?

- Do you think COVID-19 will still impact your professional life in the coming months? How?

Impact on mental health

- Can you tell me about how the COVID-19 pandemic has impacted your mental health/psychological wellbeing?
  - Did this change over time? How?
- Have you had an opportunity to talk about your mental health with your colleagues and/or supervisors?
- Have you sought mental health support during the COVID-19 pandemic?
  - If yes, what kind of support? (Note: can also include informal support, e.g. talking to friends or peers)

Conceptualizations of vulnerability

- Do you consider specific individuals or groups of people to be more vulnerable in the context of the COVID-19 pandemic?
  - If yes, who are these (groups of) people?
  - Why do you consider them more vulnerable?
- Do you also consider yourself as being/having been 'vulnerable' during the COVID-19 pandemic?
  - Why? Which specific aspects of your identity or circumstances make you vulnerable?
- Do you think the responses to the COVID-19 pandemic in [your country] have sufficiently considered the needs of different vulnerable groups?
  - What were 'missed chances'? What could have been done better?

Access to health care services

- Do you think COVID-19 has impacted patients' ability to access the health services they need for non-COVID related care?
  - If yes, in which ways? What have been the most important barriers?
    - Prompts: you can think about barriers that prevent people from seeking care, as well as barriers that stop people from receiving the care they need (examples of barriers may include fear of exposure to COVID-19; movement restrictions; pausing of screening activities; delays in specialized care)
    - If possible, can you give an example from your professional experience? (i.e. an anonymised example of how a patient struggled to access care during the COVID-19 pandemic)
  - Which groups of people do you think have struggled most to access the health services they need as a result of the COVID-19 pandemic?
  - Have COVID-19 related barriers to care changed over time? In what ways?
- Do you know of any strategies that have been used to improve patients' access to health services during the COVID-19 pandemic?

        - Prompts: e.g. use of digital platforms/teleconsulting
        - What are the strengths and drawbacks of these strategies?
- Can you think of any other ways in which patients' access to healthcare services in a COVID-19 context could be improved?

Vaccination

- Can you describe the impact of COVID-19 vaccination on your professional life?
- When looking back at the COVID-19 vaccination efforts in the region where you live, how would you evaluate these?
    - What did you think about the prioritization of different groups of people?
    - What did you think about the way the authorities communicated about the vaccination campaign?
        - Which aspects did you think were good, and which aspects did you think should have been different?

Concluding questions

- Knowing what you know now, what would you suggest to public health policy makers if there would be a new pandemic/if they could do things all over again?
- Are there things you would like to add to the interview, which I didn't ask about?

Thank you for your time and for sharing your thoughts and experiences with us.