



# Enhancing accessibility of crisis communication to people in vulnerable circumstances

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Received: 25 October 2024 / Accepted: 19 February 2025  
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## Abstract

**Aim** In the event of an epidemic or pandemic, people in vulnerable circumstances face difficulties in accessing information and may be less well informed than the rest of the population. As part of a national action–research project aimed at producing practice-based evidence to improve national communication products, we conducted a study in the French-speaking regions of Belgium to explore the barriers faced by socioeconomically disadvantaged groups in accessing health- and prevention-related information. Particular attention was paid to the form of the message and the channels of communication. Our objective was to co-construct recommendations for developing more inclusive communication strategies at times of complex health crises.

**Subject and methods** In the context of a sequential mixed-methods research design, 48 professionals or volunteers engaged with vulnerable groups were consulted through an online survey. This was followed by two round-table discussions, which further gathered the representatives of 11 of these organizations. We then interviewed 58 representatives of the target population through eight focus-group discussions.

**Results** Through an iterative and inductive process of analysis, four categories of barriers were identified that need to be addressed if access to information is to be facilitated for people in vulnerable circumstances: (i) the complexity of the messages, (ii) the excessive amount of information, (iii) the disempowering impact of the information, and (iv) the digital divide.

**Conclusion** Preferred communication products and strategies are discussed alongside several recommendations, which echo some of the key principles of health promotion.

**Keywords** Health crisis · National communication strategies · Inequalities · Accessibility · End-user involvement · Belgium

## Background

In response to the increase in the number of COVID- 19 cases and the declaration of a pandemic by the Director General of the United Nations World Health Organization (WHO) in 2020, government authorities in different countries took a number of measures to limit the spread of the virus (Mheidly and Fares 2020). These measures significantly impacted the lives of individuals (Mheidly and Fares 2020). Citizens worldwide had to actively seek information and advice to help them better understand and respond to the

situation (Mheidly and Fares 2020; Choukou et al. 2022). In this context, the crisis created what some authors have called a ‘communication chaos’ (Ratzan et al. 2020).

Through online media in particular, a large amount of information spread rapidly, some of which was contradictory (Ratzan et al. 2020). In addition, distorted, inaccurate and conspiracy-based information was disseminated, leading WHO to declare on 15 February 2020 that, in addition to the pandemic, the world was facing an ‘infodemic’ (Mheidly and Fares 2020; Choukou et al. 2022; Ratzan et al. 2020; Agley et al. 2021; Sutton et al. 2021). Some authors have mentioned an amplification of the digital divide that existed before the crisis (Litchfield et al. 2021), which may have led to limited access to COVID- 19-related information for people in vulnerable circumstances (Cheshmehzangi et al. 2022; Mac-Seing and Rocha de Oliveira 2021), who are the most likely to face ‘communication gaps’ during a pandemic (Vaughan and Tinker 2009). Additionally, mortality and morbidity rates, as well as the economic, social, and

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psychological consequences of the crisis, are now known to have disproportionately affected the most disadvantaged groups (Mac-Seing and Rocha de Oliveira 2021; Stok et al. 2021; Febvrel 2020; Cénat et al. 2020), thus exacerbating preexisting social inequalities and creating new forms of inequalities (Stok et al. 2021; Hoernke 2020).

In a context marked by uncertainty (Ratzan et al. 2020) and the need to sustain the public's attention over a long period of time (Sutton et al. 2021), health communicators worldwide were faced with important challenges (Ratzan et al. 2020; Agley et al. 2021; Sutton et al. 2021): communicational chaos (Mheidly and Fares 2020; Ratzan et al. 2020; Agley et al. 2021; Sutton et al. 2021) and increasing social inequalities (Mac-Seing and Rocha de Oliveira 2021; Stok et al. 2021; Febvrel 2020; Cénat et al. 2020).

In the event of an epidemic or pandemic, public access to quality information from the government is crucial to contain the phenomenon. Communication strategies must ensure that the needs of different social groups in the population are met. Vulnerable populations face particular difficulties in accessing information and may be less well informed than the rest of the population (Waidyanatha 2020), which may result in less protection for these groups (Vaughan and Tinker 2009). In this context, people in disadvantaged communities who are likely to face general, health, and digital literacy issues may be regarded as experiencing particularly vulnerable circumstances as far as their access to prevention messages is concerned, and even more so during times of crisis, marked by frequent changes in the content of the messages conveyed to the population.

To develop inclusive communication strategies and products, ensuring equity in access to crisis information has emerged as one of the neglected issues during the first waves of the pandemic, leading to an asymmetry of information and therefore increasing social and health inequalities (Waidyanatha 2020).

By inclusive crisis communication, we refer to communication that, in times of crisis, can reach groups that face specific barriers in accessing information and be understood by them.

To reach these more vulnerable populations with accessible crisis communication messages, special attention should be given to the form of the disseminated communication products and the channels through which they are distributed. By form, we refer both to the modalities that the content of the messages may take, such as written text, video, audio, or infographics, and to the adaptations of these modalities to the specific target audience, such as linguistic translations, language simplifications, or subtitles (Lewandowski et al. 2021). By channel, we refer to the type of medium used to distribute and broadcast messages, such as television, radio, or social networks (Lewandowski et al. 2021).

As part of a national action–research project conducted by a consortium of academic centres, the National Crisis Centre, and a communication agency that was mandated by the federal government in Belgium to create and adapt communication products designed to target the general population in Belgium, we conducted a study in the French-speaking regions of Belgium to explore the barriers faced by socioeconomically disadvantaged groups in accessing health and prevention-related information at times of crisis, and to involve them in the co-construction of recommendations for more inclusive communication strategies at times of complex health crises. This specific study was therefore part of a wider research project, also covering other types of audiences and the Flemish region of Belgium.

## Materials and methods

Our study was carried out between February and November 2021 in the French-speaking part of Belgium (Brussels and the Walloon region) during the second wave of the COVID-19 crisis and involved 106 participants, including end-users, volunteers, and professionals who worked in the health and social sectors and were in contact with the target population.

As part of a mixed-methods sequential research design, two studies were conducted.

- Study 1: We consulted 48 professionals or volunteers through an online survey followed by two round-table discussions, which further gathered the representatives of 11 of these organizations. These included representatives of civil society organizations and governmental organizations, institutions, or services working closely with the target audiences of our study (see below). Please note that round tables are equivalent to discussion groups. Nevertheless, to make it easier to distinguish in the text between the data collected in study 1 and those collected in study 2, we have chosen to use the term "round tables" when referring to encounters organized with representatives of the target audiences and "focus-group discussions" when referring to encounters organized with the target audiences themselves.
- Study 2: We interviewed 58 representatives of the target population through eight focus-group discussions. This target population included French- and non-French-speaking people in a vulnerable socioeconomic situation who were deemed to have poor health literacy.

## Sample and recruitment strategy

### Study 1

A total of 98 organizations were invited by e-mail to participate in our study on the basis of the following criteria:

- their area of intervention, i.e., based in Brussels and/or Wallonia, the two French-speaking regions in Belgium;
- their field of activity, i.e., the mission and objectives of the organization, which had to be social in nature;
- their target group(s), i.e., people with low literacy, low socioeconomic status, Belgian citizens or people with an immigrant background and/or speaking a foreign language.

Among the 98 organizations contacted, the representatives of 48 organizations responded to the online survey, of which 11 organizations later also took part in the round-table discussions.

## Study 2

With the help of the professionals or volunteers who participated in study 1, 58 end-users from low socioeconomic backgrounds participated in focus group discussions, including 27 French-speaking participants and 31 participants with little or no knowledge of French. A significantly greater number of women participated: 47 out of 58. For more details, see Table 1. We hypothesize that this overrepresentation is related not only to the fact that women were more available to participate in the study at the time but also to women being more affected overall by the inequalities caused by the crisis (Lewandowski et al. 2021; Binet et al. 2021). These focus-group discussions were organized in collaboration with some of the local organizations involved in study 1, and we relied on their experience and knowledge to select the participants. Most of the participants were living in deprived neighborhoods, had precarious jobs, were not working, received less than a living wage, or had no income at all.

## Data collection

### Study 1

An online survey was conducted between April and June 2021. The aim of the survey was to assess whether the organizations working with the target audiences of our study were aware of the existence of COVID- 19 communication products issued by the federal government and how satisfied they were with the accessibility of these products. In addition, they were asked about the barriers faced by disadvantaged people in accessing COVID- 19 communication, particularly governmental communication, and about their own initiatives, if any, to make communication more inclusive and accessible.

On the basis of the results of the survey, three types of existing or newly created communication products (infographics, videos, and audios) that were designed and/or

adapted by the consortium were presented at two virtual round-table discussions with professionals or volunteers working with the target groups in May 2021. During the round tables, semistructured questions were asked, to explore some of the survey results further and to evaluate existing and newly created communication products (for more details, see ICC Consortium 2022).

## Study 2

In October and November 2021, with the help of some of the organizations involved in study 1, eight focus-group discussions were held with representatives of the target audience, four of which involved people whose first language was French, and the other four involved people who spoke little or no French. An interpreter was present at the focus-group discussions with people who spoke little or no French. During these focus-group discussions, semistructured questions were asked to the participants concerning the accessibility of COVID- 19 governmental communication, with specific attention given to the form and channels of communication. Moreover, the communication products that had been adapted or developed following the results of Study 1 were presented to them to receive their critical opinions and feedback to further adapt the products. These included leaflets with pictograms, audios, and videos (for more details, see ICC Consortium 2022).

## Data analysis

### Studies 1 & 2

Following an iterative process of thematic analysis, the transcripts of the data collected during the round tables and the focus-group discussions were analysed inductively to identify the factors likely to decrease or increase the accessibility of crisis communication for this specific audience.

As a first step of the analysis, the two members of the research team who had moderated a focus group held a debrief just after to exchange ideas on what had been discussed during the focus group. To keep track of these ideas, a short synthesis of the focus-group discussions was drafted right after they had taken place. This allowed us to identify some recurrent themes and transversal issues across the focus-group discussions, which constituted a start-list of themes for the analysis.

In the second phase, the transcriptions of the focus-group discussions were coded on the basis of this start-list, while additional themes were allowed to emerge inductively. The extracted themes are illustrative of the content of the discussions in relation to the research questions. The data concerning both the barriers encountered and the levers to overcome them were initially sorted according to whether

**Table 1** Summary of the focus-group discussions

| Focus group   | Number of participants | Spoken languages                                                              | General characteristics                                                                                                                              | Region   | Products presented*                                                                                                                                                                                                                                                                                                                                         |
|---------------|------------------------|-------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Focus group 1 | N = 4                  | French                                                                        | Belgian women, two middle-aged (> 35 and < 60), two > 65                                                                                             | Wallonia | <ul style="list-style-type: none"> <li>- A video in French with and without subtitles,</li> <li>- A one-page brochure in French,</li> <li>- A French audio in natural and synthetic voice,</li> <li>- A still frame,</li> <li>- The Federal Government's logo on the audio</li> </ul>                                                                       |
| Focus group 2 | N = 6                  | French                                                                        | Belgian and non-Belgian participants, with a diversity in ages.<br>Three women and three men                                                         | Brussels | <ul style="list-style-type: none"> <li>- A video in French with and without subtitles,</li> <li>- A one-page brochure in French,</li> <li>- A French audio in natural and synthetic voice,</li> <li>- A still frame,</li> <li>- The Federal Government's logo on the audio</li> </ul>                                                                       |
| Focus group 3 | N = 8                  | French                                                                        | Belgian and non-Belgian participants. Young (> 20 and < 35) and middle-aged (> 35 and < 60).<br>Five women and three men                             | Wallonia | <ul style="list-style-type: none"> <li>- A video in French with and without subtitles,</li> <li>- A one-page brochure French audio in natural and synthetic voice,</li> <li>- A still frame,</li> <li>- The Federal Government's logo on the audio</li> </ul>                                                                                               |
| Focus group 4 | N = 9                  | French                                                                        | Mixed group of people with and without hearing-impairment (deaf). All women, middle-aged or older, with a majority of North African origin           | Brussels | <ul style="list-style-type: none"> <li>- A still frame,</li> <li>- The Federal Government's logo on the audio</li> <li>- A video in French with and without subtitles,</li> <li>- A one-page brochure,</li> <li>- A French audio in natural and synthetic voice,</li> <li>- A still frame,</li> <li>- The Federal Government's logo on the audio</li> </ul> |
| Focus group 5 | N = 4                  | Non- or little French: Turkish & Arabic                                       | Young people (> 20 and < 35) from various countries of origin with a A1 level of French.<br>Three women and one man                                  | Brussels | <ul style="list-style-type: none"> <li>- A video in Arabic with Turkish subtitles</li> <li>- A one-page brochure,</li> <li>- A still frame,</li> <li>- The Federal Government's logo on the audio</li> </ul>                                                                                                                                                |
| Focus group 6 | N = 13                 | Non- or little French: Iranian, Greek, Ukrainian; Spanish, Portuguese, Arabic | Young (> 20 and < 35) and middle-aged (> 35 and < 60) people from various countries of origin with a B1 level of French.<br>Eleven women and two men | Brussels | <ul style="list-style-type: none"> <li>- A video in French with and without subtitles,</li> <li>- A one-page brochure with text in French, Arabic or Turkish,</li> <li>- A French audio in natural and synthetic voice,</li> <li>- A still frame,</li> <li>- The Federal Government's logo on the audio</li> </ul>                                          |
| Focus group 7 | N = 5                  | Non- or little French: Turkish                                                | Middle-aged (> 35 and < 60), of Turkish or Kurdish origin.<br>Three women and two men                                                                | Wallonia | <ul style="list-style-type: none"> <li>- A video in French with Turkish subtitles,</li> <li>- A one-page brochure with text in French and Turkish,</li> <li>- A French audio in natural and synthetic voice,</li> <li>- A still frame,</li> <li>- The Federal Government's logo on the audio</li> </ul>                                                     |
| Focus group 8 | N = 9                  | Non- or little French: Italian, Ukrainian, Albanian, Arabic, Turkish          | Mainly young (> 20 and < 35) and middle-aged (> 35 and < 55) women from various countries of origins                                                 | Wallonia | <ul style="list-style-type: none"> <li>- A video in French and Arabic, without and with subtitles in French and Turkish,</li> <li>- A one-page brochure with text in French and in several languages,</li> <li>- A French audio in natural and synthetic voice,</li> <li>- A still frame,</li> <li>- The Federal Government's logo on the audio</li> </ul>  |

\* All listed products may be consulted on <https://www.uantwerpen.be/en/projects/towards-an-inclusive-crisis-communication-policy/project/>

they concerned the form or the channels of communication. However, in the course of the study, we sometimes found it difficult to separate these two types of communication aspects, as well as the participants' perceptions regarding the contents of the messages. Furthermore, in addition to data on the accessibility of communication, the participants also shared information regarding the accessibility of the measures themselves. As a result of this inductive approach and after several discussions between the members of the research team, the barriers encountered by people with lower socioeconomic backgrounds in accessing the information during a health crisis could be grouped into four main categories. These are presented hereafter in the Results section.

## Ethics

Prior to the data collection of studies 1 and 2, ethical clearance was sought by the coordinator of the national action-research project (M. Vandenbroucke) for all research activities carried out by the consortium partners, including studies 1 and 2 discussed in this article. In accordance with the ethical protocol defined and approved by the Ethics Committee for the Social Sciences and Humanities of the University of Antwerp, participation in the survey, round tables and focus group discussions proceeded with informed consent.

## Results

In the section below, we detail the barriers encountered by the target groups of this study, i.e., people from disadvantaged socioeconomic backgrounds, including French-speaking people and people speaking little or no French. Given the high similarity and reoccurrence of similar themes, we discuss the results for studies 1 and 2 together.

### Barrier 1: the complexity of the messages

The first common obstacle concerned the complexity of the messages. Indeed, our two studies revealed that the messages were often too complicated to be understood by the target groups in terms of lexical choices, grammatical structure, abstract language, visual design, and so on. Although the participants in the round-table discussions acknowledged the efforts made by the government to simplify the messages, most of them mentioned that these messages were not accessible enough to their target audiences. This was later confirmed by the end-users themselves during the focus-group discussions (FGDs). While looking at a product, one end-user, for example, said, "The text is far too detailed and complicated for a message which is simply to wear a face mask when the distance of 1 m 50 with other people cannot be respected" (FGD 1).

We found that the target groups in our study were more likely to understand materials containing clear visuals and rather short and synthetic texts, specifically in the case of people who spoke little or no French, when the material was not in their mother tongue. Indeed, for this audience, translations were rarely available, and when they did exist, they were not easy to find, adding the language of the material as an exacerbating factor to the barrier of complexity.

More specifically, the participants in the round-table discussions mentioned that the vocabulary used was often too technical or too abstract, especially when scientific information was considered. Second, they found the sentences too long in all the materials presented, whether written or audio. In addition, diagrams and figures, graphs and percentages were often said to be unintelligible to the target groups.

During the focus group discussions, we noted—for both groups, but especially for people with little or no knowledge of French—that although the images and pictograms used in many communication materials were considered interesting and potentially useful for understanding the messages, they were not always sufficiently clear and explicit and were even sometimes misleading. The participants with little or no knowledge of French said that they relied mainly on images to understand information when the accompanying text was not in their mother tongue or when it was complex. For example, one of the materials depicted cross-out images and pictograms, such as a cross-out representation of the coronavirus. These images were particularly difficult to understand and led to misinterpretations. For example, the image of a crossed-out coronavirus, which was meant to convey the idea of 'let us eliminate and fight the coronavirus', led to several misunderstandings. Indeed, some participants understood it as the actual end of the coronavirus, whereas others interpreted the cross as a sign of multiplication intended to show that the virus was multiplying. The following interaction between participants in a FGD illustrates this point:

'Here, I do not understand the cross? Is the corona finished?'

'No, that means, the virus multiplies' (FGD 7)

Moreover, pictograms were generally said to contain too much information in a single image. This was, for example, the case with the drawings of the characters in the brochures and videos presented. The detailed representation of the characters in the communication materials was perceived as stigmatizing for certain audiences. They were also said to distract themselves from the main message, thereby creating misunderstandings.

In fact, several focus-group participants and almost all the representatives from the organizations that hosted the focus-group discussions questioned the choice of depicting characters with certain specificities, such as elderly people, black people, or blind people, rather than proposing more

universal images. This is illustrated by the reactions of this focus group participant:

“Actually, what’s happening is that... for example, you’re using a person with a hijab and an African woman, so it is like you’re putting a connotation actually, without it being general, you know kind of? That is what I noticed. There’s a blind person so you’re taking minorities a little bit...” (FGD 2)

A pictogram that raised many questions was one showing a dark-skinned person standing 1.5 m away from a white-skinned person. This pictogram was said to potentially give the impression that foreign people would be more likely to transmit the virus.

In addition, too many details used to represent a character were sometimes perceived as disturbing and distracting from the main message. This point is illustrated by the following reactions of some focus group participants to a video displaying different characters, one of whom was an elderly blind person:

‘It is always the question of is this a gentleman who wears sunglasses because...  
[laughter]. It is unusual you might say.’  
‘And his walking stick.’  
‘That is right, that is unusual.’  
‘Ah yes, his walking stick too, we wonder a bit why.’  
(FGD 1)

Finally, in addition to the perceived risk of stigmatizing certain communities and detracting from the main message, detailed representations were perceived as misleading. For example, following the presentation of a flyer, several participants confused one character’s beard with a mask:

‘Is that the mask?’  
‘No, that is a beard.’  
‘Yes, there is one who has a mask.’  
‘No, no, this is a beard.’ (FGD 2)

More generally, images with higher levels of abstraction, double meanings or unnecessary details were more difficult for the participants to understand and led to misunderstandings.

## Barrier 2: an excessive amount of information

A second category of obstacles revealed by this study, closely related to the previous discussion, is the excessive amount of information disseminated by the government, both in terms of the volume of information contained in a single product and the number of communication materials.

According to several participants, communication products are sometimes unnecessarily overloaded and do not always focus on essential information. For example, the vast

majority of participants mentioned that the federal government’s website ([www.info-coronavirus.be](http://www.info-coronavirus.be)) contained an excessive amount of information, which contributed to difficult navigation of the website. In addition, the participants in the round-table discussions frequently mentioned that the proportion of text in the textual material—such as in leaflets and brochures—was excessive and that the colours were distracting and the music was too loud in the videos:

“It is not an efficient way of doing things, the colours, the sound and the animations attract much more attention than the text” (FGD 2)

Second, this category of barriers may also be illustrated by the fact that when the focus group participants were presented with three different types of materials, (i.e., a video, a flyer, and an audio) and asked to rank them in order of preference, most of them preferred the video, followed by the flyer, which was a page containing a few extremely simple images and sentences. The audio materials were the least appreciated, one reason being that they were probably the most information intensive:

“Look, this, listening in the media at this time, I do not want to... It is too much, you see. The news, already...”  
(FGD 3)

The occasional rapid speech rate in audio materials was another factor that contributed to making them unclear and disliked. Some participants mentioned that it was difficult to focus their attention throughout the audio material.

The perception that the amount of information was excessive may also be illustrated by the preference of the majority of participants from French-speaking audiences for videos without subtitles:

“I prefer without. [...] It is a double message. It is unfitting, it is hammering, ‘You did not understand, we will get better...’ I find, once is enough, it is very understandable.” (FGD 2)

In contrast, the participants who knew little or no French generally preferred subtitles when the video was not in their language.

In relation to the perceived excess of information, several participants expressed a sense of fatigue and mentioned that they tended to no longer actively seek information—or even avoid any information related to COVID-19—because of the large amount of information disseminated:

“At a certain point, we did not want to. I’m talking about myself. At a certain point, I did not want to listen to anybody anymore. I told my daughters, my relatives, ‘Do not talk to me, do not talk to me about this anymore’. We could not keep up with the events, the news. It was too much, too much. We became depressed to

see all this because the lockdown was very, very hard for everyone.” (FGD 2)

Despite the excess information being highlighted as a major barrier, the participants also warned against oversimplifying messages, given that this could lead to mistrust on the part of the target audiences, who, as they said, wanted to receive nuanced information that was as close to reality as possible. For example, we presented participants with a leaflet stating that people do not get the virus after they have been vaccinated. The participants strongly reacted to this, indicating that it was not entirely accurate or sufficiently evidence-based. They stressed that it would be more accurate to indicate that there was a lower risk of becoming sick and a better chance to prevent hospital overcrowding if more people became vaccinated.

In addition, we found during the discussions that even if the participants felt overloaded with information, they would occasionally still actively seek specific information, such as the rationale behind the measures advocated and how to concretely implement the protection measures in their own environments. This can be illustrated by the fact that they asked many questions during the focus-group discussions, even though we had mentioned beforehand that we would probably be unable to answer all their questions.

We therefore observed that, on the one hand, target audiences sometimes felt that certain media contained too much information and, more generally, that they were submerged by the volume of information disseminated. On the other hand, when the media were too simplified and contained very little information, they were also unsatisfactory. They preferred more detailed and nuanced information that captured the complexity of reality without being overwhelming.

### Barrier 3: disempowering information

In addition to being complex and excessive, the information was often described as failing to reach its target because of three main features that would contribute to making it unacceptable. These features concern the fact that the information is often perceived as either contradictory and/or anxiety-provoking and/or too prescriptive and/or related to irrelevant or inapplicable measures.

#### Contradictory information

The information disseminated was perceived as often contradictory, which constituted an additional obstacle to accessing and assimilating it:

“They [the experts] did not agree at all with the information they were giving, so we were a bit lost. Because one says one thing, the other says something else and the channels... You’d change the channel and

find another piece of information that would contradict the previous one.” (FGD 2)

The participants reported difficulties in sorting out the information, particularly in distinguishing what was true from what was not. Many people noted that they felt completely lost when faced with large amounts of information, much of which were perceived as contradictory:

“What is to be taken? What is to be left? Is this one wrong, is the other right? It is truly, truly complicated. It is very difficult.” (FGD 1)

#### Anxiety-provoking information

Another finding that arose in most of the focus-group discussions was the need to receive information that was rather reassuring or, at least, that did not exacerbate feelings of fear and anxiety. The crisis had been and was still difficult for these audiences. We were particularly struck by the number of statements collected that expressed a certain level of psychological distress. The messages conveyed in the various communication tools should, therefore, not be excessively alarming. At the beginning of the crisis, the images were sometimes shocking, and the tone of voice sounded alarming to the recipients. For example, one participant described the ways in which the images at the beginning of the pandemic were impressive but/and contributed to creating a sense of fear among the population:

“[...] In fact it was especially the images, it was the images that were used the most, I think, that were the most striking. Because, obviously, they gave to see people turned upside down like that on a respirator. In addition, then I remember there was something that was striking, it was a person, they had broadcasted it, it went from one site to another, it was a person who said that – here it is – ‘you’re going to be confronted with something very serious’, and it was a voice, it was one who said that she worked, as a nurse, in the hospital, and she said ‘we’re hiding the truth from you, be careful’, but it was truly still at the beginning. In addition, it was this voice, it was truly frightening, I got so stressed... [...]” (FGD 3)

More generally, the choice of visual representations appeared to be particularly important in crisis communication. Indeed, in the extremely anxiety-provoking pandemic context, images may have counterproductively exacerbated the target audience’s sense of fear, leading to a form of rejection of any information. Similarly, audio messages, particularly when they were not accompanied by images, tended to induce feelings of fear. One participant said that she had

once heard an audio about COVID- 19 at a train station, which evoked images of war and totalitarianism within her.

Faced with excess information—sometimes contradictory and anxiety-provoking—some participants stated that they had developed general feelings of dissatisfaction and mistrust, creating obstacles not only to access the information but also to accept the messages. This led some participants to turn to fake news, whereas other participants claimed that the population had been ‘manipulated’ to cling to conspiracy and antiestablishment theories:

“I say that all this was provoked. [...] As if it had been done on purpose by states that got together... ‘We’re going to release a virus’, but I think they regret it because, apparently, they never thought it would take on such proportions, such a dramatic development.” (FGD 1)

However, the participants acknowledged that in a context of uncertainty, mis- and disinformation that denied the existence of the virus would appear more reassuring or more accessible than government information about the virus. From another perspective, fake news was also said to exacerbate the feelings of anxiety already present in the population.

### Injunctive information

Beyond the anxiety-provoking nature of the measures recommended, the tone used in the communication was sometimes criticized for being commanding and infantilizing while also being distant and not compassionate enough:

“I found that the more we were progressing in the crisis, the less human they were in their speeches, and I would have truly liked more benevolence, empathy, humanity, dignity and humility. (...) You may be prime ministers, but you are still human beings. In my opinion, the distance that was set did not facilitate communication. For me, if they were more humble when addressing the population more humility in their talks, I would be more inclined to listen to what they say, even if there are restrictions, etc., if it is said with dignity and humility.” (FGD 1)

“However, I think that, generally speaking, there is a lack of information. It is badly explained, many things are done unilaterally, the government takes decisions that are applied, without thinking of asking... [...] It is much more like injunctions than good information. [...]” (FGD 2)

With respect to trust in the different sources of information, it is worth noting that the vast majority of the participants mentioned trusting their doctors, the social workers, and other professionals, volunteers, or community leaders

who were known to them more than journalists or the government. Indeed, the participants appreciated receiving information that would support their reflection and decision-making capacity (to follow or not follow the advice received), rather than being persuaded to comply with undisputable recommendations. In other words, they expressed their need for informal discussions where people are allowed to express their feelings, share information, and debate it to form their own opinions and take ownership of the information to make informed decisions.

In fact, the greatest mistrust was actually expressed towards the policy makers. In particular, the tone perceived as directive contributed to increasing the participants’ mistrust toward the government.

### Inapplicability of the measures

Another obstacle that would contribute to making the information difficult to take on board when it was not rejected was related to the fact that the measures recommended in the messages were perceived as too abstract and difficult to apply by people living in precarious environments.

These difficulties were exacerbated by the fact that the recommended measures were sometimes perceived as disconnected from their real lives:

“Now she was talking about the ‘club’ or ‘you’re not in the garden anymore?’. However, not everyone has a garden, so those ones are punished because they do not have a garden.” (FGD 1)

### Barrier 4: the digitalized information

In addition to exploring the participants’ experiences related to the form and content of information, our study also aimed to explore their experiences in relation to the channels of communication. The major barrier to emerge was the digital divide. In fact, the government’s communication in Belgium was carried out mainly via digital means, for instance, through its website. However, part of the target audience of this study struggled with the digital divide.

### Technical access to digital information

We found during our study that not all participants had a smartphone:

“Who has a smartphone?”

“I’m not so much for all that”. (FGD 1)

A few participants mentioned that they had little or no access to the internet or digital technologies. Those indicated that they would rely on their acquaintances, for example,

their children or a friend, to access information through these channels:

“Yes, my daughter [...] she looks a lot for information and all that, that is how I inform myself too, yes.” (FGD 4)

It should be noted, however, that these were exceptions, as most of the other focus-group participants reported having access to the internet and receiving or seeking information, including via social networks, such as Facebook, Messenger, Twitter, WhatsApp, or YouTube.

For most participants, the information was often received passively:

“You just said you receive the information on Facebook. Do you subscribe to certain pages on Facebook?”  
“No [...] It just comes like that”. (FGD 1)

### Poor digital literacy

As mentioned above, the lack of technical resources or access was not an issue. Moreover, the digital divide impacts people’s capacity to access and use valid information because of poor digital and scientific literacy. This is further illustrated by the fact that when the target audiences were given the link to the federal government’s page on which the communication material was hosted and asked to search for it with their smartphones if they had one, many participants experienced this task as too difficult. Several participants said that they did not know how to do this:

“And if we gave you the link to connect to the video, could you access it via your phones, for example now?”  
“I do not think so”. (FGD 1)

The French-speaking and older people among the participants faced the most difficulties in relation to the internet. In contrast, the people with little or no knowledge of French among the participants appeared to be slightly more at ease with digital channels, probably because they were accustomed to using them to remain in contact with their relatives in their countries of origin. However, among both the French-speaking and the non-French-speaking participants, actively looking for information on selected websites was uncommon. For example, very few had visited the federal government’s website. As a result, much of the information disseminated by the government via its website was not searched for and therefore not accessed by the people in these target groups.

### TV and trusted others as preferred alternatives over digital media

While the digital divide, as explained, made it difficult for the participants to access official information in real

time through the government’s website, the information was often actively sought on TV through watching the news and press conferences:

“At home, it is a lot of TV. For me, at least, I watched TV a lot, especially the press conferences [...]” (FGD 1)

The people who spoke little or no French said that they would watch Belgian television channels but would supplement the information through TV channels in their countries of origin:

“We would get the information from people around us, and by watching TV. We would watch TV here, but in order to understand better, we would obviously also watch the TV channels in Turkish. That’s how we would keep informed.” (FGD 7)

In addition, many focus group participants reported that it helped when the information first heard on television would be discussed and validated by trusted others, such as their general practitioner or people within their environment, for instance, at work or at their children’s schools. The role of local organizations, such as those who hosted the focus group discussions, was also highlighted:

“I would say that I knew about it first of all through information on TV, then through the internet and through my doctor here, who told me a lot of what he knew, because at that time there was not yet real knowledge about Covid [...] That is how I got informed, and afterwards it was at school because we had to pay attention to not be too close to each other.” (FGD 2)

In addition to having the information disseminated through social media, television, and verbally through different types of encounters, the participants also stressed that they would like to see the information displayed in public places such as billboards on the streets or at bus stops, as well as in social services, hospitals, and doctors’ waiting rooms, and in the entrances to their homes. With respect to the dissemination of brochures, posters, and flyers, these should be distributed not only via social media but also as hard copies in public spaces so that as many people as possible might have access to the information:

“Yes, for the others, a little bit everywhere, where there are people... generally in the townhall, and in schools, supermarkets, markets... all the places where people go.” (FGD 5)  
“For me, in the building where I live, and in my neighborhood.” (FGD 6)

## Discussion

One of the first categories of obstacles encountered by people from disadvantaged backgrounds that emerged from our study is the complexity of the messages disseminated. This complexity was discussed in terms of the vocabulary that was used, the length of the sentences, and the images. The images were not always clear, particularly those that contained a high level of abstraction and many details, when, for example, certain characters were depicted. According to some authors, the perceived complexity of messages, whether textual, audio, or visual, was exacerbated by the scientific uncertainty surrounding COVID-19 at the time (Ratzan et al. 2020).

A second category of barriers revealed by our study was the excessive amount of information, referring to both the total amount of information widely disseminated through various channels and, more specifically, the amount of information contained in each single medium. As other studies have shown, too much information can undermine the effectiveness of messages by overwhelming or even confusing individuals (Choukou et al. 2022). In our study, we found that feeling overwhelmed by large amounts of complex information could lead to giving up looking for information due to a sense of saturation. Indeed, overexposure to information can lead to a form of receiver fatigue, both in the general population (Sutton et al. 2021) and among caregivers, which may in turn affect the quality of care (Malecki et al. 2021).

To address the first two categories of barriers identified by our study, it is important to simplify the form of the messages by using concise and easy-to-read language; avoiding technical words, jargon, and abbreviations; structuring information in a clear and logical way; and giving contextual elements such as the date and the provider of the message while nuancing the information, as oversimplification can lead to mistrust among target audiences. Our results also highlight the importance of explaining the reasons behind health recommendations. In this respect, timely informing of the reasons behind decisions for crisis measures was proposed as a factor that mitigates the risk of losing trust in official information (Cheshmehzangi et al. 2022). For the amount of information contained in a message, there is no consensus in the literature. Some authors have recommended adopting messages that contain little information and that include a single direction because of the limited capacity for the public to process information in a context of informational overload (Vaughan and Tinker 2009). Other studies (Agle et al. 2021) have shown that, compared with communication campaigns involving limited information and based on facts alone, communications campaigns involving more

complex information, based on underlying concepts and theories in addition to facts, are more likely to lead to changes in both people's knowledge and their behaviours.

With respect to images, our results show that a detailed representation of characters meant to depict minorities, to be more inclusive, might be perceived as misleading instead, with possible misinterpretations of the message, as such representations might divert attention from the main message and carry the risk of stigmatizing the represented audience. This leads us to recommend preferring images that are low in detail, to a certain extent universal and that do not contain potential double meanings. This result contradicts other findings from the literature on the cultural aspects of communication. Indeed, a message that reflects the cultural world of the audience to which it is addressed, as well as this audience's world-views and values, is more readily accessible and more likely to be perceived as comfortable and familiar (Kreuter and McClure 2004; Hornik and Ramirez 2006). Other authors have recommended that, within a general communication campaign, the target audience should be segmented to adapt the messages to each segment's specificities, whether in terms of the content of the message, its form, the channels for disseminating information, the communication objectives, or several or all of these aspects at once (Williams and Swierad 2019). However, the same authors warned against a risk of stigmatization when the target population is segmented. As an alternative, they suggest running a unique communication campaign for all groups on the basis of their common characteristics, being aware that this approach is not optimal for any of these groups (Kumar and Nayar 2021).

Another more general recommendation that emerged from our study concerned the need to vary the forms of the messages. According to some authors, communication products that mobilize several senses, such as auditory, visual, and tactile senses, are those that would enhance attention and support the appropriation of the messages most effectively (Paakkari 2020). It is important, however, that the information should be kept as simple as possible and not be overloaded with colours and sounds, for example, to avoid diverting attention.

A third category of obstacles, closely related to the previous ones, is that the information disseminated was sometimes disempowering for the target audiences. Our finding that the messages were often perceived as contradictory echoes the findings of another study, according to which contradictory information would lead to confusion and even decreased compliance with recommended protective measures (Mheidly and Fares 2020). Moreover, our results show that the anxiety experienced when confronted with information was accentuated by the use of images or tones of voices perceived as particularly shocking, thus causing or accentuating psychological distress among people with

lower socioeconomic backgrounds. For many reasons (e.g., confinement, social isolation, economic impact and loss), the crisis has had a major impact on the mental health of individuals (Xiong et al. 2020; Conseil Supérieur de la Santé 2021; Jaspal and Breakwell 2022), including the mental health of the most vulnerable individuals, in the context of increasing social inequalities (Cénat et al. 2020; Hoernke 2020).

To address this third category of barriers, the participants in our study suggested adopting reassuring and empathetic messages, which echoes the findings of a study that found that the messages that are presented in a positive tone and encourage autonomy are more readily approved than messages that are persuasive and focus on the problems caused by noncompliant behaviours (Sutton et al. 2021). Another study revealed that empathy in health messages is crucial for attracting the attention of the public and promoting their adherence (Malecki et al. 2021). However, the literature does not reach a consensus, as several authors have recommended emphasizing risk and vulnerability in communication campaigns to increase adherence to health messages Ratzan et al. 2020). Other authors recommend that programmes to address the mental health concerns of populations in a crisis context be implemented alongside communication campaigns (Litchfield et al. 2021).

Another important recommendation is, then, not only to test the communication products as we did in our study to adapt them to the living conditions of the most vulnerable people, but also to act on these living conditions so that the populations concerned may more easily adopt the recommended measures. In this respect, the limits of the biomedical approach based on behavioural change have been well documented in relation to the management of the crisis, including the risk of increasing social inequalities (Febvrel 2020). Congruently with the principles of health promotion (World Health Organization 1986), in addition to promoting individual prevention measures, the same authors advocate for a strong political commitment to act on the structural determinants of health that contribute to making the recommended preventive measures inaccessible to the most vulnerable. Moreover, citizens need to be empowered to take ownership of information by debating it and sorting out what they consider reliable and unreliable, especially in a context marked by the dissemination of a large amount of unreliable news. To this end, strengthening the health literacy of populations, particularly the most vulnerable populations, is needed. Indeed, populations with low levels of education and high levels of economic disadvantage and membership in minority groups are also often those with low levels of health literacy (Van den Broucke 2014). Strengthening health literacy contributes to enabling individuals to better understand information, including the rationale behind recommended actions, and to continuously adapt

their behaviours in a changing context (Paakkari 2020). In addition, some authors have suggested that media literacy activities should be introduced or strengthened to help message receivers distinguish between reliable and unreliable content (Nezafat Maldonado et al. 2020).

The last category of obstacles identified in our study was related to the digital communication channel, as official information was disseminated primarily through a website. In Belgium, up to 32% of the population has only low digital skills, with up to 8% not using the internet (Brotcorne and Mariën 2020). Therefore, in parallel with strengthening the digital literacy of target audiences, there is a need to vary the communication channels through which health messages are transmitted in a crisis context.

Our study, like other studies, shows that experts and professionals in the health and social sectors, including people from lower socioeconomic backgrounds, are considered among the most reliable sources of information in the eyes of the public (Vaughan and Tinker 2009). According to Malecki et al. (2021), health professionals can play a crucial role in providing information and responding to public concerns in a context where information and protective measures are rapidly changing and much inaccurate information is circulating. Mheidly and Fares (2020) recommended providing more broadcast time and space on social networks for health professionals and scientists to help them engage more with the public.

To that end, several authors have recommended working with non-profit organizations and community groups present in people's environments (Choukou et al. 2022). Testing communication channels before disseminating a message more widely, as well as involving the target audiences and their representatives as partners in choosing the most appropriate channels, is crucial.

## Conclusion

By adopting universal measures and centralized communication strategies in response to the crisis, governments have not been able to sufficiently consider some specific needs of their populations, particularly those of the most vulnerable territories or the specificities of some territories or groups. This has led to an increase in social inequalities (Englert et al. 2020; IWEPS 2021; Jaspal and Breakwell 2022). Moreover, public health strategies and communication campaigns are often aimed at increasing individual responsibility through changes in prescribed behaviour, resulting in people feeling excluded from decision-making about their lives and health. The results of our study, which were part of a nationwide interdisciplinary and applied research project, contributed to the production of practice-based evidence to inform stakeholders and governmental agencies in charge

of communicating timely and accessible information to populations in a crisis context. Our findings show that the top-down approach adopted in Belgium (and elsewhere) has generated resistance and limited access to quality information for people from vulnerable socioeconomic backgrounds. On the basis of the experience of professionals and end-users, our study identifies levers to respond to the difficulties encountered. These levers echo the key principles of health promotion, as they encourage the involvement of target audiences in the development of communication through a community-based approach, call on intermediaries, and aim to strengthen their health literacy to adapt public health measures and communication strategies to their specific realities and needs. More generally, our results also highlight the public importance of acting on the structural determinants of health, as claimed by other authors (Cambon et al 2021).

**Acknowledgements** We would like to warmly thank all the organizations and individuals who agreed to take part in this study. We also acknowledge all the members of the research consortium, particularly Atlas Intégratie & Inburgering (H. Van Opstal & T. Van Hoeck), Thomas More (M. Lemal, S. Talboom & W. van de Weerdonk) and the National Crisis Center (L. Vermeire). Additionally, our sincere thanks go to our colleague, O. Le Boulengé, for her active involvement in the data collection and analysis. The *Academic Centre for Health Promotion “RESO”* is supported by the regional health promotion policies in Brussels (COCOF) and Wallonia (AVIQ).

**Authors' contributions** Hélène Lambert and Dominique Doumont carried out the data collection and analysis. They drafted the interim reports. Hélène Lambert carried out the specific literature review for this paper, and drafted the manuscript.

Isabelle Aujoulat supervised the data collection and analysis. She critically reviewed and finalized the interim reports and this manuscript.

Mieke Vandenbroucke and Nina Reviers coordinated the entire study, which also covered the Flemish part of Belgium. They critically reviewed this manuscript.

All the authors approved the final version of the manuscript.

**Funding** The research project was funded by Sciensano, on behalf of the cabinet of Belgian Minister Frank Vandenbroucke.

**Availability of data and material (data transparency)** Interim reports and material may be consulted upon request to the corresponding author.

**Code availability (software application or custom code)** Not applicable.

## Declarations

**Ethics approval** Ethical clearance was sought by the coordinator of the national action–research project (Pr. M. Vandenbroucke) from the Ethics Committee for the Social Sciences and Humanities (EASHW) at the University of Antwerp for all research activities carried out by the consortium partners, including the studies discussed in this article. A final positive clearance was given by EASHW on the 2nd of April 2021 under reference SHW\_21\_77.

**Consent to participate** In accordance with the ethical protocol defined and approved by the Ethics Committee for the Social Sciences and Humanities of the University of Antwerp, participation in the survey,

round tables, and focus-group discussions proceeded with informed consent.

**Consent for publication (consent statement regarding publishing an individual's data or image)** Not applicable.

**Conflicts of interest** None.

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