STUDY

Requested by the COVI Committee

European Parliament

The effect of communication and disinformation during the COVID-19 pandemic

Policy Department for Economic, Scientific and Quality of Life Policies
Directorate-General for Internal Policies
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PE 740.063 - January 2023

EN

The effect of communication and disinformation during the COVID-19 pandemic

Abstract

This study analyses how governments, public health experts and other professionals communicated during the COVID-19 pandemic, and the impact of these communication strategies. It investigates COVID-19 misinformation and disinformation practices, and how these practices were addressed in the European Union by the Member States and the European Commission. It draws up recommendations to improve responses in the future, including by analysing the role of the Code of Practice on disinformation ad the expected impact of the Digital Services Act.

This document was provided by the Policy Department for Economic, Scientific and Quality of Life Policies at the request of the Special Committee on the COVID-19 pandemic: lessons learned and recommendations for the future.

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LINGUISTIC VERSIONS
Original: EN

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Manuscript completed: January 2023
Date of publication: January 2023

This document is available on the internet at:
http://www.europarl.europa.eu/supporting-analyses

For citation purposes, the publication should be referenced as: JACOB C., HAUSEMER P., ZAGONI-BOGSCH A., DIERS-LAWSON A., 2023, *The effect of communication and disinformation during the Covid-19 pandemic*, Publication for the Special Committee on the COVID-19 pandemic: lessons learned and recommendations for the future, Policy Department for Economic, Scientific and Quality of Life Policies, European Parliament, Luxembourg.

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LIST OF ABBREVIATIONS

2018 Code	2018 Code of Practice on Disinformation
2022 Code	2022 Code of Practice on Disinformation
ACHPR	African Commission on Human and People's Rights
AEJ	Association of European Journalists
AGCOM	Italian Communications Authority (Autorità per le Garanzie nelle Comunicazioni)
BZgA	German Federal Centre for Health Education (Bundeszentrale für gesundheitliche Aufklärung)
DSA	Digital Services Act
EC	European Commission
EDAP	European Democracy Action Plan
EDMO	European Digital Media Observatory
EEAS	European External Action Service
EMA	European Medicines Agency
EP	European Parliament
ERGA	European Regulators Group for Audiovisual Media Services
EU	European Union
EUROPOL	European Union Agency for Law Enforcement Cooperation
G7	Group of Seven
MENA	Middle East and North Africa
MSB	Swedish Civil Contingencies Agency (Myndigheten för samhällsskydd och beredskap)

MStV	German Interstate Media Treaty (Medienstaatsvertrag)
NATO	North Atlantic Treaty Organisation
NetzDG	German Network Enforcement Act (Netzwerkdurchsetzungsgesetz)
NMHH	Hungarian National Media and Infocommunications Authority (Nemzeti Média- és Hírközlési Hatóság)
OAS	Organisation of American States
OSCE	Organisation for Security and Cooperation in Europe
OECD	Organisation for Economic Co-operation and Development
RAS	Rapid Alert System against disinformation
RKI	Robert Koch Institute
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UK	United Kingdom
US	United States
VLOPSEs	Very Large Online Platforms and Very Large Online Search Engines
WHO	World Health Organisation

EXECUTIVE SUMMARY

Background

The COVID-19 ("Coronavirus") pandemic has been accompanied by an unprecedented "**information epidemic**" or "infodemic", as reported in a Joint Communication of the European Commission and the High Representative of the Union for Foreign Affairs and Security Policy "Tackling COVID-19 disinformation – Getting the facts right" of 6 June 2020[1]. This term has been introduced and described by the WHO as follows: "infodemics are an excessive amount of information about a problem, which makes it difficult to identify a solution. They can spread misinformation, disinformation and rumours during a health emergency. Infodemics can hamper an effective public health response and create confusion and distrust among people"[2]. In response to this "infodemic", governments and public health experts around the world have taken public communication initiatives to combat the spread of disinformation about the COVID-19 pandemic and raise awareness regarding the risks of disinformation.

Aim

This study pursues a **threefold purpose**:

- Analysing how governments, public health experts and other professionals communicated during the COVID-19 pandemic and assessing the impact of crisis communication strategies on the acceptance of related measures by citizens;
- Defining the concepts of "disinformation" and "misinformation" and analysing the different types of disinformation and misinformation practices, including formats and key themes thereof, as well as foreign actors and third countries' interferences in COVID-19 misinformation campaigns observed during the pandemic, also highlighting the role played by social media and platforms to counteract disinformation and misinformation;
- Investigating how these practices were addressed in the European Union (EU) by the Member States and the European Commission (EC), including the potential risks associated with restrictive measures for fundamental rights. The ultimate goal is to explore how the EU, its Member States and social media and platforms could improve responses to disinformation in the future by considering the role of the Code of Practice on disinformation (2018 Code), its updated version of 16 June 2022 (2022 Code), and the expected impact of the Digital Services Act (DSA)[3].

Key Findings

Chapter 1 presents and compares national responses to the COVID-19 pandemic in nine Member States (Bulgaria, France, Germany, Hungary, Italy, Lithuania, the Netherlands, Portugal and Sweden). The analysis finds that most of the countries included in this pan-European study have relied on several

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1 European Commission, 2020, *Joint Communication to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions on Tackling COVID-19 disinformation - Getting the facts right*, JOIN(2020) 8 final, , p. 11. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020JC0008.

2 WHO, 2020, *Coronavirus disease 2019 (COVID-19) Situation Report – 45*. Available at: https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200305-sitrep-45-covid-19.pdf?sfvrsn=ed2ba78b_4.

3 Regulation (EU) 2022/2065 of the European Parliament and of the Council of 19 October 2022 on a Single Market For Digital Services and amending Directive 2000/31/EC (Digital Services Act) (Text with EEA relevance), OJ L 277, 27.10.2022, p. 1–102. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32022R2065.

effective pandemic communication strategies Moreover, six best practices for pandemic communication drawn from the COVID-19 pandemic response were identified:

1) Examples of identified good practices include the French, German, Italian, Dutch, Portuguese, and Swedish communication strategies all centred on **explaining to their citizens what self-protective behaviours should be taken and why**, within each country's national contexts.

2) Furthermore, findings from the literature show that the most successful government communication strategies, in the context of a pandemic, adopt **a positive tone supporting citizen confidence in taking action (efficacy) and communicating engagement and responsiveness.** In contrast, the least successful government strategies focus on defensive messages, blaming the government's response, or fear-based messaging.

3) This points towards an **overall citizen preference for transparency** and a need to manage the fear and anxiety triggered by a global health pandemic in a more constructive way (see Annex 1).

4) Additionally, in countries such as France, the Netherlands, and Portugal, **two-way communication or citizen engagement** was a central feature in their relative communication success.

5) It was also recognised across countries – regardless of relative success – that **tailoring the messages to meet different demographics' information needs and attitudes** about government was essential. For example, communication strategies analysed in Bulgaria and the Netherlands directly recognised the importance of adapting messages and reaching out to minorities within their countries.

6) Finally, regardless of relative success in managing the pandemic, **trust in the communicating institutions is a central – if not the central - feature of communication success**. In countries with low levels of institutional trust, this represents a chasm to the success of any health intervention. In contrast, in countries with high levels of institutional trust, citizens' willingness to enact recommendations from governments and/or public health institutions is considerably higher.

Chapter 1 summarised each country's response and assessed that **France, Germany, Italy, the Netherlands, Portugal, and Sweden demonstrated good communication practices.** Likewise, based on the analysis, there were **limitations or challenges to effective communication practices identified in Bulgaria, Hungary, and Lithuania**.

Finally, chapter 1 supports that employing traditional theoretical approaches to identify and evaluate effective communication practice is not appropriate in the context of the COVID-19 crisis owing to its unique nature, and because of overlapping concepts in communication theories (e.g., efficacy, perceived threat, or subjective knowledge). A **contingency approach** exploring the factors known to influence self-protective behaviours would better enable scholars and practitioners to design, execute, and evaluate pandemic communication strategies.

With regard to disinformation and misinformation practices, there is no shared definition of disinformation between the EC, Member States, and online platforms, but most approaches cover at least the following aspects:

1) false or misleading information, including any "false, inaccurate or misleading information for political, economic or personal gain";
2) intended to result in harm or gain profit "through mass distribution and by misleading and manipulating the public"';
3) usually with the assistance of "well-funded and automated technology".

Unlike disinformation, misinformation is characterised by the absence of a deliberate intention to cause harm. Both these definitions cover a range of actors, tools and practices, including elaborating false connections or false contexts, using satire (misinformation), misleading, imposter, fabricated or manipulated content (disinformation).

In the context of the COVID-19 pandemic, online so-called disinfodemic practices have mirrored the evolution of COVID-19 cases and deaths.

The most popular themes in COVID-19 disinformation were related to **vaccination and immunisation, the severity of COVID-19 symptoms, governments' response to COVID-19 and related speculation and conspiracy theories**.

The study also reveals that the spread of disinformation and misinformation practices directly impacted public opinion, potentially contributing to the virus' increased spread. Such practices jeopardised the efficacy of, and compliance with, the emergency measures being enacted against the virus, giving rise to uncooperative behaviour among the general population.

During the pandemic, the EC and the European External Action Service (EEAS) monitored **false or misleading narratives and operations emitted by foreign actors. Russia and China** positioned themselves at the frontline of COVID-19 disinformation operations. Such monitoring was done using the Rapid Alert System against disinformation (RAS), which was an important element in tackling COVID-19 disinformation across the EU.

Lastly, social media and platforms were a key channel for spreading disinformation about COVID-19. The COVID-19 disinfodemic further revealed the **shortcomings of the 2018 Code of Practice on Disinformation**. On 16 June 2022, 34 signatories ratified the strengthened Code of Practice on Disinformation.

Many important measures to counter disinformation, misinformation and manipulative foreign influence have been taken within the EU, both by the EC and through a diverse set of legal and non-legal measures in the Member States. Some Member States, namely Bulgaria, Hungary, Romania, Spain, and Sweden, made or planned to make changes in their legislation **criminalising the dissemination of false information**. Hungary is the only Member State in the EU that passed a law to counter disinformation related to COVID-19. Connected to that, all Member States introduced restrictions on the freedom of assembly, except Sweden.

From a fundamental rights perspective, the COVID-19 pandemic pushed decision-makers to uncharted territory. The measures introduced had to effectively protect public health and public order, and simultaneously had to pass the test of necessity and proportionality to avoid unjustified harm to fundamental rights.

The "infodemic" and disinformation surrounding COVID-19 have highlighted the challenges still to be overcome and the need to equip the EU with new tools to improve responses to disinformation in the future. In this respect, the **strengthened Code of Practice on Disinformation** adopted on 16 June 2022 follows a **co-regulatory backstop interlinked with the DSA** and aims to address the shortcomings identified in the 2018 Code.

Beyond the EU Code and the DSA, **multi-stakeholder cooperation and coordination on common transparency reporting** from online platforms should be encouraged, as well as international cooperation between countries and international institutions.

1. COMMUNICATION STRATEGIES DURING THE COVID-19 PANDEMIC AND THE IMPACT ON THE ACCEPTANCE OF MEASURES BY CITIZENS

KEY FINDINGS

Based on an analysis of 236 COVID-19 related scientific publications and reports adopting a pan-European comparative approach, including research from Bulgaria, France, Germany, Hungary, Italy, Lithuania, the Netherlands, Portugal, and Sweden, and using the US and the UK as third country comparisons, the crisis communication recommendations that emerged are relatively simple. The question of whether citizens will accept governmental and public health recommendations for self-protective behaviours requires institutions to adopt good pandemic communication practices, and then to modify those practices based on concrete intelligence about their own citizens' attitudes and dispositions towards the issue, the institution, and information available to them.

The first chapter of this study summarises the findings from each of the nine comparison countries (section 1.1), providing a list of the six best crisis communication practices. It also differentiates between successful and unsuccessful practices (section 1.2). Finally, it identifies the contingency factors that countries must consider in customising best practices to their particular citizens and country contexts (section 1.3).

1.1. Crisis communication and the COVID-19 pandemic

The COVID-19 pandemic has been very different from previous pandemics (e.g., Zika, Ebola, H_1N_1, or MERS) because of the magnitude of its effects on all aspects of government, business, and everyday lives. In the three years since the beginning of the pandemic, more than 100,000 scientific articles and reports were published[4] with national and cross-national comparisons of COVID-19 experiences and policies from Asia[5,6,7], to Europe[8,9,10], or the Americas[11,12].

[4] Fraser, N., et al., 2021, *The evolving role of preprints in the dissemination of COVID-19 research and their impact on the science communication landscape,* PLoS biology, Vol. 19 No. 4. Available at: https://pubmed.ncbi.nlm.nih.gov/33798194/.

[5] Azadeh, M., Ramezani, T., and Taheri-Kharameh, Z., 2020, *Factors affecting workplace protective behaviours against Covid-19 disease in employees of crowded public offices: Application of protection motivation theory,* Iran Occupational Health, Vol. 17 No. Covid-19. Available at: https://ioh.iums.ac.ir/article-1-3115-fa.pdf.

[6] Dai, B., et al., 2020, *The effects of governmental and individual predictors on COVID-19 protective behaviors in China: a path analysis model,* Public Administrative Review. Available at: https://onlinelibrary.wiley.com/doi/pdfdirect/10.1111/puar.13236.

[7] Nguyen, N. P. T., et al., 2020, *Preventive behavior of Vietnamese people in response to the COVID-19 pandemic,* PloS one, Vol. 15 No. 9. Available at: https://doi.org/10.1371/journal.pone.0238830.

[8] Betsch, C., et al., 2020, *Social and behavioral consequences of mask policies during the COVID-19 pandemic,* Proceedings of the National Academy of Sciences, Vol. 117 No. 36. Available at: https://doi.org/10.1073/pnas.2011674117.

[9] Breakwell, G. M., Fino, E., and Jaspal, R., 2021, *The COVID-19 Preventive Behaviors Index: Development and Validation in Two Samples From the United Kingdom,* Evaluation and the Health Professions, Vol. 44 No. 1. Available at: https://doi.org/10.1177/0163278720983416.

[10] Meier, K., et al., 2020, *Public perspectives on protective measures during the COVID-19 pandemic in the Netherlands, Germany and Italy: A survey study,* PloS one, Vol. 15 No. 8. Available at: https://doi.org/10.1371/journal.pone.0236917.

[11] Bruine de Bruin, W., and Bennett, D., 2020, *Relationships Between Initial COVID-19 Risk Perceptions and Protective Health Behaviors: A National Survey,* American Journal of Preventative Medicine, Vol. 59 No. 2. Available at: https://doi.org/10.1016/j.amepre.2020.05.001.

[12] Glenn, J., Chaumont, C., and Dintrans, P. V., 2020, *Public health leadership in the times of COVID-19: a comparative case study of three countries*, International Journal of Public Leadership, Vol. 17 No. 1. Available at: https://www.emerald.com/insight/content/doi/10.1108/IJPL-08-2020-0082/full/pdf?title=public-health-leadership-in-the-times-of-covid-19-a-comparative-case-study-of-three-countries.

More specifically, in the context of pandemic communication a significant amount of research focuses on the US, thereby providing a benchmark to understand national contexts where initial COVID-19 responses were relatively unsuccessful. However, research on the US also reveals three important themes for consideration across all national contexts:

1. The documented emergence of the infodemic with rampant problems associated with misinformation, disinformation, and so-called 'fake news' limiting the adoption of self-protective behaviours[13,14].
2. The challenges in developing an effective government response and communication when the pandemic and its actors are politicised[15].
3. The need to develop communication strategies that improve the public's willingness to adopt self-protective behaviours[16,17].

This chapter summarizes 236 scientific publications and institutional reports related to the COVID-19 pandemic between 2020 and 2022, including an exhaustive search for English-language resources on Bulgaria (N = 5); France (N = 18); Germany (N = 32); Hungary (N = 9); Italy (N = 25); Lithuania (N = 9); the Netherlands (N = 18); Portugal (N = 21), and Sweden (N = 28), using the search term 'COVID and communication <country>' in Google Scholar (see Annexes 1 and 2 for full analysis of the literature).

Overall, the literature analysing COVID-19 communication supports the **need for an effective stakeholder relationship management framework**. This framework (see Figure 1) focuses on the **interactions between the institutions managing COVID-19, citizen interests, and COVID-19-related issues** that lead to self-protective behaviours being enacted. However, it also recognises that these interactions occur within a complex information environment comprising multiple platforms (e.g., social media, legacy media, and face-to-face communication) where there are often contradictory messages and different actors competing to capture citizen attention[18]. The stakeholder relationship management model, therefore, accounts for not only the complicated personal factors (e.g., political ideology or existing attitudes) in considering the citizen-related attitudes, but also the broader organisational context, as well as how the relationships between institutions, citizens, and issues like COVID-19 are influenced by challenges like disinformation or politicisation of health issues[19].

Though COVID-19 is affecting people globally, public health organisations, researchers and governments have begun to critically reflect on the lessons learned for pandemic response. For example, how could response have been improved in the first two or three waves? One lesson consistently identified to improve pandemic response has been to recognise the increased importance

[13] Balarabe, U. B., and Kumar, R., 2020, *Perspectives and impacts of social media, fake news and misinformation narratives about coronavirus (Covid-19) in India*, Journal of Humanities And Social Science, Vol. 25 No. 7. Available at: https://www.iosrjournals.org/iosr-jhss/papers/Vol.25-Issue7/Series-8/H2507086266.pdf.

[14] Cheng, Y., and Luo, Y., 2020, *The presumed influence of digital misinformation: examining US public's support for governmental restrictions versus corrective action in the COVID-19 pandemic,* Online Information Review. Available at: https://search.bvsalud.org/global-literature-on-novel-coronavirus-2019-ncov/resource/en/covidwho-960697.

[15] Salvi, C., et al., 2021, *Going viral: How fear, socio-cognitive polarization and problem-solving influence fake news detection and proliferation during COVID-19 pandemic,* Frontiers in Communication, Vol. 5. Available at: https://www.frontiersin.org/articles/10.3389/fcomm.2020.562588/full.

[16] Papageorge, N. W., et al., 2021, *Socio-demographic factors associated with self-protecting behaviour during the Covid-19 pandemic,* Journal of Population Economics, Vol. 34. Available at: https://link.springer.com/content/pdf/10.1007/s00148-020-00818-x.pdf?pdf=button.

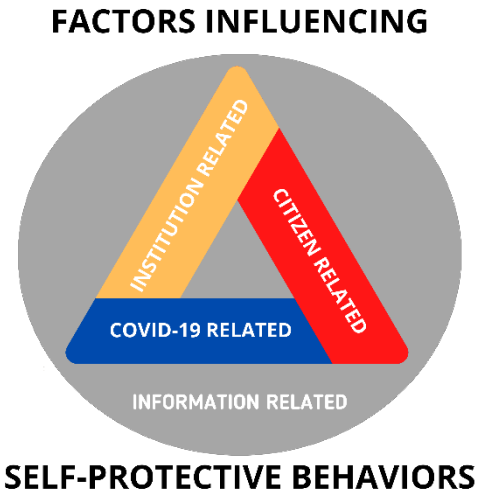
[17] Sun, Y., et al., 2022, *The battle is on: Factors that motivate people to combat anti-vaccine misinformation,* Health communication. Available at: https://www.tandfonline.com/doi/epdf/10.1080/10410236.2020.1838108?needAccess=true&role=button.

[18] Diers-Lawson, A., 2020, *Crisis Communication: Managing Stakeholder Relationships*, Routledge.

[19] Ibid.

of placing risk and crisis communication alongside medical interventions as mission-critical endeavours to respond to health crises[20].

Figure 1: Summary of the Stakeholder Relationship Management Framework



Source: Authors' Adaptation of Diers-Lawson's Stakeholder Relationship Model16.

1.2. Comparing National Responses to the COVID-19 pandemic

In an analysis of the scholarly research on crisis communication from 1953-2015, Diers-Lawson[21] found over 100 different frameworks and theories had been applied to risk and crisis communication. **Risk and crisis communication frameworks** across disciplines like communication, management, public health, sociology, and social psychology typically **focus on one of three perspectives** – the **institution, the messaging, or the stakeholder**. Frameworks focusing on the **institution** are predominantly interested in protecting or developing the institution's interest(s) and reputation. Those exploring the **message** highlight, analyse and predict the construction of messages and message channels (e.g., social media, interpersonal interventions, mass media, etc.) that different types of groups find compelling enough to change behaviours. Finally, **stakeholder-focused frameworks** explore the convergence of a situation, institution, and message. Increasingly within both public relations and risk and crisis communication, contingency frameworks have become a favoured way of applying research to experience to improve the effectiveness of communication and engagement strategies[22, 23,24]. A **contingency approach** argues that rather than using a rigid framework, creating a comprehensive list of factors that influence citizen behaviours and attitudes is a more effective strategy to be more agile in designing and evaluating communication in complex situations, like COVID-19[25].

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[20] WHO, 2022, *Risk Communication and Community Engagement: a compendium of case studies in times of COVID-19*. Available at: https://www.who.int/europe/publications/i/item/WHO-EURO-2022-6186-45951-66353.

[21] Diers-Lawson, A., 2020, *Crisis Communication: Managing Stakeholder Relationships*, Routledge.

[22] Cameron, G. T., Cropp, F., and Reber, B. H., 2001, *Getting past platitudes: Factors limiting accommodation in public relations,* Journal of Communication Management, Vol. 5 No. 3. Available at: https://doi.org/https://doi.org/10.1108/13632540110806802.

[23] Kulkarni, V., 2017, *Contingency Theory,* The International Encyclopedia of Organizational Communication, 1-6. Available at: https://onlinelibrary.wiley.com/doi/10.1002/9781118955567.wbieoc041.

[24] Pang, A., et al., 2020, *Contingency theory: Evolution from a public relations theory to a theory of strategic conflict management*, in F. Frandsen and W. Johansen (Eds.), Crisis Communication, pp. 141-164, Walter de Gruyter GmbH & Co KG. Available at: https://www.degruyter.com/document/doi/10.1515/9783110554236-006/html.

[25] Diers-Lawson, A., et al., 2021, *Pandemic Communication: Information Seeking, Evaluation, and Self-Protective Behaviors in Vietnam and the Republic of Korea*, Frontiers in Communication, 160. Available at: https://www.frontiersin.org/articles/10.3389/fcomm.2021.731979/full.

Annex 1 explores the contingency factors that focus on the platform (or channel), source, and message strategy. This analysis was then applied to each country to summarise and evaluate available knowledge about best practices.

Traditionally, **three primary factors shaping the crisis communication strategy are considered: the channel or platform for communication, the source of the message, and the message strategy** [26]. Annex 1 provides a complete summary of the platforms, sources, and message strategies identified across 100 scientific articles and reports related to the nine countries analysed for this document.

This section highlights the common themes for each country and the six best communication practices across countries learned from this pan-European analysis of the literature.

Bulgaria

No cross-national comparisons between Bulgaria and any other country were identified in the 236 articles reviewed. Three common themes emerged in the analysis of Bulgaria's COVID-19 communication strategy:

- As a source of information, the Bulgarian government has a credibility deficiency attributable to citizen perceptions of governmental corruption [27];
- Culturally relevant messaging – especially for minority communities like the Roma – is essential for improving health outcomes in those communities [28]; and
- Digital communication integration is a critical innovation for citizen engagement [29].

France

National and cross-national analyses of the French government's response to the COVID-19 pandemic placed minimal emphasis on the platforms used for communication; there was a much stronger focus on the institutional response and message features in the French communication environment, with the emergence of two themes:

- Evaluations of the French response depict that while early recommendations were not adopted [30], the strict measures that followed were clearly communicated to citizens and were more successful [31]; and
- The message strategies used in France highlighted efforts to **build the case for the restrictions imposed as well as citizen engagement by emphasising strategies reflecting: instructive communication, framing the crisis and excellence strategies** (see Annex 1).

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[26] WHO, 2022, *Risk Communication and Community Engagement: a compendium of case studies in times of COVID-19*. Available at: https://www.who.int/europe/publications/i/item/WHO-EURO-2022-6186-45951-66353.

[27] Popova, M., and Valkov, I., 2022, *Media Representations and the Politics of the COVID-19 Pandemic in Bulgaria*, Journal of Media Ethics. Available at: https://www.tandfonline.com/doi/full/10.1080/23736992.2022.2057313?scroll=top&needAccess=true&role=tab.

[28] Kamburova, M., and Georgieva, S., 2021, *The impact of the COVID-19 epidemic and anti-epidemic measures in the Roma neighborhood in Bulgaria*, European journal of public health, Vol. 31 No. Supplement 3. Available at: https://europepmc.org/article/PMC/PMC8574748.

[29] Todorova, B., and Padareva-Ilieva, G., 2021, *Nostalgia as a device for dealing with traumatic experiences during the COVID-19 crisis*, East European Journal of Psycholinguistics, Vol. 8 No. 1. Available at: https://eejpl.vnu.edu.ua/index.php/eejpl/article/view/474/274.

[30] Gagneux-Brunon, A., et al., 2022, *Public opinion on a mandatory COVID-19 vaccination policy in France: a cross-sectional survey*, Clinical Microbiology and Infection, Vol. 28 No. 3. Available at: https://www.clinicalmicrobiologyandinfection.com/article/S1198-743X(21)00617-0/pdf.

[31] OECD, 2021, *First lessons from government evaluations of COVID-19 responses: A synthesis*. Available at: https://www.oecd.org/coronavirus/policy-responses/first-lessons-from-government-evaluations-of-covid-19-responses-a-synthesis-483507d6/.

Germany

A significant amount of research has already been published regarding the German response to the COVID-19 pandemic, including national and cross-national analyses. Across the literature, two clear themes emerge (see Annex 1):

- The German response to the pandemic emphasised the **digitisation of information** available. This included the government's effort to use different digital channels (e.g., social media, blogs, and applications) and citizens' digital content consumption; and
- The German government's message strategies proved to be **cohesive and centralised in their approach thereby providing instructive communication, framing the crisis, accommodation, and excellence strategies that underlined the rationale for the government's actions.**

Hungary

Although there were few cross-national comparisons, this analysis identified three themes in the Hungarian government's communication strategy that highlights some critical limitations in its potential for success in risk mitigation:

- The most effective **source** for health messages were **health officials**[32, 33], **not the government,** because of a highly politicised and adversarial political environment[34];
- Because recommendations about self-protective behaviours were viewed by citizens as an issue of freedom, emphasising the **voluntary nature of the behaviours** was key to ensure citizens' adoption[35]; and
- Government responses focused on **defensive message strategies**, shifted the blame for failures and attacked its opponents[36].

Italy

There is a substantial amount of crisis communication research analysing the Italian government's COVID-19 response both because Italy was the place in Europe where COVID-19 was first identified and due to the severity of the crisis in the country. Across this research, three key themes emerged (see Annex 1):

- Because of the prolonged lockdowns, there is a substantial amount of research connecting the **usefulness of digitisation and digital community engagement** in addressing issues of loneliness and social isolation;
- Communication about **government coordination at the local/regional and national levels**, including the clarity of applicable rules, emerged as a central theme; and

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[32] Gabay, G., et al., 2021, *Rapid discovery of optimal messages for behavioral intervention: the case of Hungary and Covid-19*, Heliyon, Vol. 7 No. 12. Available at: https://www.sciencedirect.com/science/article/pii/S2405844021026384?via%3Dihub.

[33] Mihelj, S., Kondor, K., and Štětka, V., 2022, *Establishing Trust in Experts During a Crisis: Expert Trustworthiness and Media Use During the COVID-19 Pandemic,* Science Communication, Vol. 44 (3). Available at: https://journals.sagepub.com/doi/full/10.1177/10755470221100558?af=R&ai=1gvoi&mi=3ricys.

[34] Bene, M., and Boda, Z., 2021, *Hungary: Crisis as Usual—Populist Governance and the Pandemic,* In: Populism and the Politicization of the COVID-19 Crisis in Europe, Springer. Available at: https://link.springer.com/chapter/10.1007/978-3-030-66011-6_7.

[35] Bíró-Nagy, A., and Szászi, Á. J., 2022, *The roots of COVID-19 vaccine hesitancy: evidence from Hungary.* Journal of Behavioral Medicine, 1-16. Available at: https://link.springer.com/article/10.1007/s10865-022-00314-5.

[36] Szabó, L. P., and Szabó, G., 2022, *Attack of the critics: Metaphorical delegitimisation in Viktor Orbán's discourse during the Covid-19 pandemic*, Journal of Language and Politics, Vol. 21 No. 2. Available at: http://real.mtak.hu/154164/1/jlp.21068.sza.pdf.

- The Italian government's message strategies included **a combination of instructional communication**[37,38], **framing the crisis, accommodation, and excellence** to highlight citizen engagement and develop citizen efficacy in risk mitigation behaviours.

Lithuania

Much of the COVID-19 pandemic communication research on Lithuania was focused on business practices and not governmental communication, which makes researching in this national context different from other countries. However, the identification and evaluation of the government response revealed limitations in the communication strategy across three themes (see Annex 1):

- The Lithuanian government enacted **risk mitigation policies**, but with **limited information and explanation** from either government or public health sources; and
- Amongst citizens, there was a **heightened sense of information dissatisfaction and desire for more governmental engagement across platforms** – especially, more personal communication. This was complicated by the multiple language and migration issues in Lithuania during the pandemic; and
- The **legacy media**[39] was central in communicating and encouraging self-protective behaviours.

Netherlands

Analyses of government communication in the Netherlands identified **four recommendations for pandemic communication and a cohesive message strategy** (see Annex 1):

- **Governmental communication strategy** should:
  - demonstrate **cross-platform and media integration;**
  - use **branding techniques** as an important part of crisis response;
  - **tailor messaging to diverse populations**;
  - **coordinate** cross-government and across sectors; and
- The Dutch government's message strategies revolved around **instructional communication**, framing the crisis, and active demonstration of citizen engagement.

Portugal

Analyses of the Portuguese government's communication strategy focused more on the **institutions as communicators** rather than the citizens as stakeholders compared to other countries. The two emergent critical themes were (see Annex 1):

- The Portuguese strategy adopts a **clear cross-platform communication** approach with the use of branding and visual communication strategies;
- The government's message strategy converged around a pandemic response emphasising **instructive communication**, framing the crisis, and citizen efficacy in risk mitigation.

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[37] ***Instructional communication*** in the context of COVID-19 focuses on governments providing specific and concrete recommendations and explanations regarding the purpose or value of specific for self-protective behaviors such as wearing facemasks, handwashing, social distancing, or staying at home.

[38] Sellnow, D. D., et al., 2017, *The IDEA Model as a Best Practice for Effective Instructional Risk and Crisis Communication*, Communication Studies, Vol. 68 No. 5. Available at: https://doi.org/10.1080/10510974.2017.1375535.

[39] ***Legacy media*** is a term used to refer to traditional news sources (e.g., newspapers, media outlets) no matter the platform or channel that the information is shared on.

Sweden

Analyses of the Swedish government's communication strategy also focused mainly on the manner in which government institutions were communicating and coordinating the public health response rather than emphasising stakeholder needs. This is largely attributable to the **Swedish government's choice of a different crisis management strategy from lockdowns and restrictions**. However, two central communication themes emerged (see Annex 1):

- The Swedish government's strategy was grounded by a **distinctively Nordic high institutional trust environment** that improved citizen crisis resilience throughout the pandemic; and
- The government's message strategy converged around **instructional communication**, excellence, and accommodation.

Evaluating Best Practices for Pandemic Communication

In this sub-section, each of the countries' communication strategy is set forth. Importantly, the **best communication practices** across countries are evaluated, and transferrable knowledge that can be drawn from the COVID-19 pandemic response is identified.

1) Most countries covered by this pan-European analysis demonstrate **effective pandemic communication strategies**. For example, the **French, German, Italian, Dutch, Portuguese, and Swedish communication strategies all centred on explaining to their citizens what self-protective behaviours should be taken and why,** within each country's national contexts.
2) Research suggests that in a pandemic governments should adopt **a positive tone supporting citizen confidence in taking action (efficacy), communicating engagement and responsiveness,** because defensive messages that shift the blame for problems in the government response or use fear as a motivator are simply less effective.
3) This suggests an **overall citizen preference for transparency** as well as a need for more constructive management of fear and anxiety that may emerge as a result of a global health pandemic (see Annex 1).
4) Additionally, in countries such as France, the Netherlands, and Portugal, **two-way communication or citizen engagement** was crucial in their relative communication success.
5) It was also recognised across countries – regardless of relative success – that **tailoring the messages to meet different demographics' information needs and attitudes** about government was essential. For example, analyses from Bulgaria and the Netherlands both directly recognised the importance of adapting messages and reaching out to minority communities within their countries.
6) Finally, regardless of relative success in managing the pandemic, trust in the communicating institutions is a central – if not the central - feature of communication success. In countries with low levels of institutional trust, this represents a chasm to the success of any health intervention. In contrast, in countries with high levels of institutional trust, it meaningfully increases citizens' willingness to enact recommendations from governments and/or public health institutions.

Figure 2 summarises the best practices identified in the literature by focusing on the six communication practices recognised within the countries by practitioners and in scientific research. These best practices align with the WTO's framework for risk communication and community engagement and demonstrate transferrable lessons for future health crises and disasters.

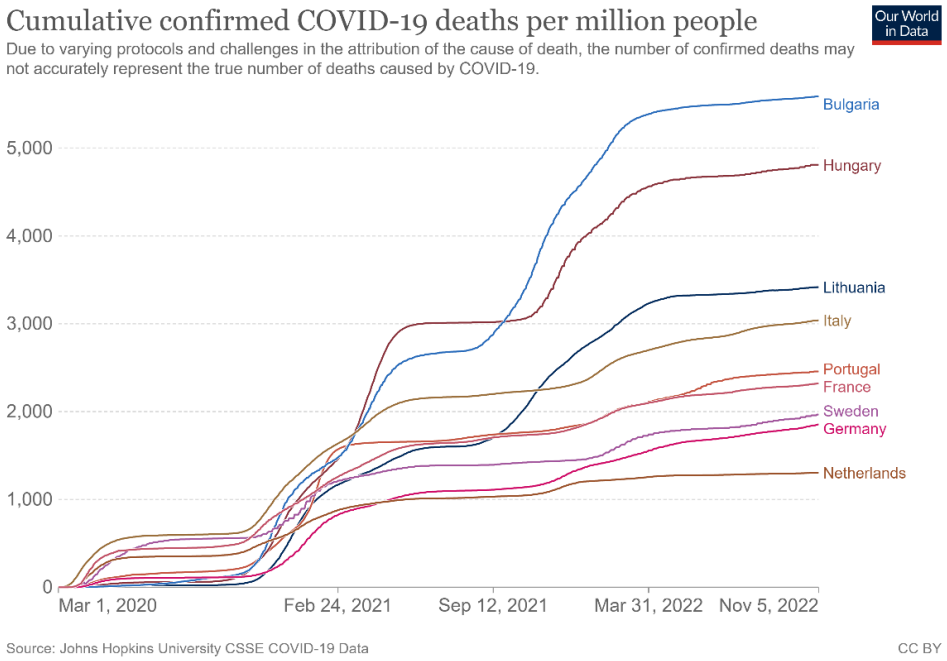
Figure 2: Summary of Pandemic Communication Best Practices

Source: Authors' own elaboration.

1.3. Improving the impact of crisis communication strategies on the acceptance of measures by citizens

Section 1.2 first summarised each country's response and then compared and contrasted those responses to identify transferrable lessons learned from the COVID-19 pandemic. While no nation's response was perfect, **France, Germany, Italy, the Netherlands, Portugal, and Sweden all demonstrated good communication practices.** Likewise, limitations or challenges to effective communication practice were **identified in Bulgaria, Hungary, and Lithuania**. Indeed, political, economic, and social factors all contribute to the relative success of any country's pandemic communication and community intervention efforts. However, when using communication effectiveness as a tool to analyse the quality of government response, there is a clear pattern that emerges. Those countries with comparatively poorer communication strategies experienced more deaths during the COVID-19 pandemic. It is, therefore, reasonable to argue that effective government communication is connected to citizens' willingness to enact self-protective behaviours, and results in proportionately fewer deaths (see Figure 3). Therefore, one measure of the 'success' of a communication effort should be based on evidence of lower deaths and improved citizen adoption of self-protective behaviours.

Figure 3: Summary of Cumulative Deaths (per million) Across Comparison Countries



Source: Our World in Data[40].

However, while communication strategy improves crisis outcomes, the story is not so simple. To understand the nuanced differences in the relative success of crisis communication strategies and therefore improve those strategies in the future, it is important to understand other factors that either enable or inhibit citizens' willingness and ability to act based on their governments' recommendations. This section summarises factors that governments must also consider when designing crisis communication strategies that will be accepted by their citizens (see Annex 2 and Figure 4).

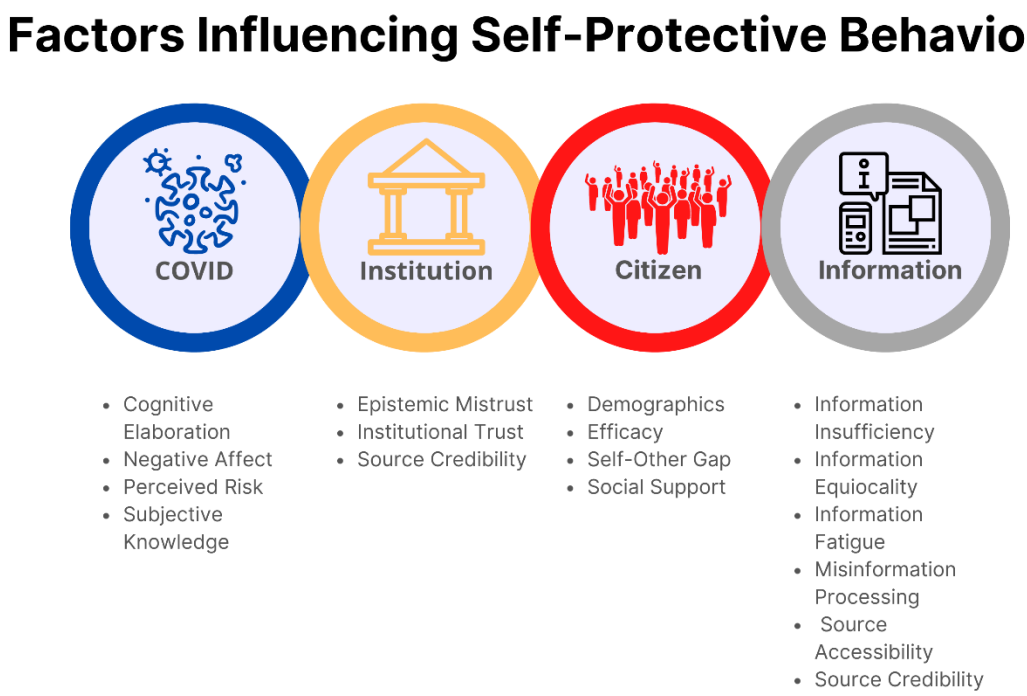
The literature review supports previous research establishing the stakeholder relationship management framework[41] (see Figure 1) as an instrument to understand complex crisis communication environments. The framework identifies four types of factors that critically impact message acceptance: issue-related, institutional, citizen, and information factors. Additionally, employing traditional theoretical approaches to identify and evaluate effective communication practice is not appropriate in the context of the COVID-19 crisis owing to its unique nature and because of overlapping concepts in communication theories (e.g., efficacy, perceived threat, or subjective knowledge)[42]. Therefore, a contingency approach exploring the factors known to influence self-protective behaviours would better enable scholars and practitioners to design, execute, and evaluate pandemic communication strategy.

[40] Our World in Data, *Coronavirus (COVID-19) Deaths*, Available at: https://ourworldindata.org/covid-deaths.

[41] WHO, 2022, *Risk Communication and Community Engagement: a compendium of case studies in times of COVID-19*. Available at: https://www.who.int/europe/publications/i/item/WHO-EURO-2022-6186-45951-66353.

[42] Diers-Lawson, A., et al., 2021, *Pandemic Communication: Information Seeking, Evaluation, and Self-Protective Behaviors in Vietnam and the Republic of Korea*, Frontiers in Communication, 6(731979), 160. Available at: https://www.frontiersin.org/articles/10.3389/fcomm.2021.731979/full.

Figure 4: Summary of Factors Influencing Self-Protective Behaviours



Source: Authors' own elaboration

This part of the analysis focuses on the 33 scientific articles (see Annex 2). It reports on directly analysed factors influencing citizens' self-protective behaviours during the COVID-19 pandemic in the nine countries of focus. Additionally, the UK and the US were included because many of the 236 articles reviewed used one or both countries as points of comparison.

Issue-Related (COVID-19) Factors

Across the EU, UK, and US literature, citizens' evaluations of COVID-19's (perceived) risk to themselves and their subjective knowledge were frequently identified as significant predictors of their likelihood to adopt self-protective behaviours. Cognitive elaboration, which combines the uncertainty of the crisis context with emotional arousal based on prior experience with health crises, was also found to influence citizen behaviours, especially in Italy.

Issue-related factors influence strategy in several ways. For example, within the context of the COVID-19 pandemic, people were already afraid – amongst most populations, there were already high levels of perceived risk. Therefore, it makes more sense within this context to focus on building efficacy rather than fear-based messages, since public health needs to concentrate on making people feel like they can positively affect their safety by adopting simple self-protective behavioural recommendations. Countries that used fear-based messaging or emphasised punishment for non-compliance had lower levels of citizen compliance with instructional messages. This emphasises the necessity for governments and public health experts to rely on their citizens understanding (i.e., subjective knowledge) about the situation when communicating scientific information. Importantly, this scientific information rationalises and supports the recommendations developed by governments to adopt self-protective behaviours (see Annex 2).

Institution-Related Factors

Institutional trust is the single most significant factor across countries to explain why citizens may or may not adopt self-protective behaviours (see Annex 2) based on government and/or public health

recommendations. Whether research was analysing the high-trust environments in Sweden or explaining why political polarisation eroded institutional trust and correlated with a low level of adoption of self-protective behaviours in countries like the US, UK, Bulgaria, and Hungary, institutional trust emerged as central to citizen behaviour.

Two factors align with institutional trust. The first is understanding citizen views of the government's and/or public health's credibility in discussing the pandemic. This is particularly important in the context of the COVID-19, where knowledge of the disease was evolving, along with related recommendations. Second, where populations are suspicious of their government's or public health's experts *real* intentions (i.e., epistemic mistrust), additional challenges for persuading people to adopt the recommended behaviours arise as consequence. Epistemic mistrust can describe, for example, minority populations' mistrust of government, perceptions of government corruption, or even belief in conspiracy theories. These influence whether citizens will pay attention to government recommendations or laws. Credibility and epistemic mistrust are long-term engagement and policy challenges for governments. However, they highlight the importance of government actions that foster trust and transparency in both crisis and non-crisis periods. It is also important that these activities target different citizen populations. In short, building and maintaining a good reputation and trust with citizens over time is an essential tool for governments and public health to effectively manage future pandemics[43,44].

Citizen-Related Factors

Citizen-related factors highlight the demographic and attitudinal predispositions for people to enact (or not) self-protective behaviours. Research on the COVID-19 clearly demonstrates that demographics, including gender, culture, age, religious identification, or minority status, influence citizens' propensity to enact self-protective behaviours. The challenge is that these demographic factors are not stable nor consistent enough across countries to lead to broadly generalisable conclusions; they must be constantly evaluated on a country-by-country basis.

A more consistent citizen-related factor is efficacy – both self and response efficacy. The evidence from across the countries clearly concludes as governments and public health authorities should: (1) explain what people should be doing, (2) provide clear instructions on *how* to perform the behaviour correctly (self-efficacy), and (3) provide evidence that there is a benefit for them in performing the behaviours (response efficacy).

Information-Related Factors

Popular media and scientific research widely recognise that the COVID-19 'infodemic' poses a serious threat to the efficacy of risk mitigation through persuading citizens to adopt self-protective behaviours[45]. This is because once false beliefs spread in a population, they are difficultly dissipated[46]. Director General of the World Health Organisation (WHO), Tedros Ghebreyesus, used the term *infodemic* at the height of the COVID-19 pandemic to describe an overabundance of information –

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43 Mihelj, S., Kondor, K., and Štětka, V., 2022, *Establishing Trust in Experts During a Crisis: Expert Trustworthiness and Media Use During the COVID-19 Pandemic*. Science Communication, Vol. 44(3), 292-319. Available at: https://journals.sagepub.com/doi/full/10.1177/10755470221100558?af=R&ai=1gvoi&mi=3ricys.

44 Varghese, N. E., et al., 2021, *Risk communication during COVID-19: A descriptive study on familiarity with, adherence to and trust in the WHO preventive measures*. PloS one, Vol. 16 No. 4. Available at: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0250872.

45 Ghebreyesus, D. T., 2020, *Director General Speeches, Munich Security Conference*, World Health Organization. Available at: https://www.who.int/director-general/speeches/detail/munich-security-conference.

46 Lewandowsky, S., Gignac, G. E., and Oberauer, K., 2013, *The role of conspiracist ideation and worldviews in predicting rejection of science*, PloS one, Vol. 8 No. 10. Available at: https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0075637.

some accurate, some not – that spreads alongside a disease outbreak[36]. Infodemics amplify public risk during pandemics[47] by creating mental noise[48] and affecting how audiences receive and interpret information[49]. Although the term is yet to be established in social science research, it complements Nielsen et al.'s[50] observation regarding the way news and information concerning the COVID-19 are difficultly categorised as either information or misinformation, true or false, reliable or unreliable. Yet credible information and instructive guidance from governments and health officials are essential for saving lives by reducing risk, reinforcing desirable health attitudes, and building institutional trust[51]. When citizens feel they do not have enough quality information from their governments and public health authorities the efficacy of the latter's communication strategy is jeopardised. This might lead citizens to fill perceived information gaps by relying on other sources (see Annex 2).

Additionally, in such a prolonged crisis, several pieces of research also identified a new challenge related to information fatigue. Information fatigue emerged as a prominent factor in Germany, Italy and Lithuania, but in the research on the COVID-19 it is not adequately measured despite the long-established literature on information overload that even connects it to sharing misinformation[52].

Finally, the importance of information literacy is well-established in previous research[53] and was likewise found to influence self-protective behaviours related to COVID-19. In this case, when there is lower information literacy, citizens are more resistant to adopting self-protective behaviours recommended (or required) by governments and public health institutions.

While it is obvious to say that 'good pandemic communication practice' is necessary, good pandemic communication practice requires planning, adaptability, and a strong understanding of citizen attitudes. Specifically, in reviewing practice, reflection from the countries, and research across different countries in the EU, we have identified six distinctive pandemic communication best practices, as well as issue-specific, institutional, citizen, and information-related factors that modify those best practices. These findings suggest that combining a risk and crisis communication approach with direct community engagement during crises and as a part of building better relationships between governments and their citizens, all improves societal security during health crises.

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47 Bursztyn, L., et al., 2020, *Misinformation during a pandemic*, University of Chicago, Becker Friedman Institute for Economics Working Paper No. 2020-44. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3580487.

48 Covello, V. T., et al., 2001, *Risk communication, the West Nile virus epidemic, and bioterrorism: responding to the communication challenges posed by the intentional or unintentional release of a pathogen in an urban setting,* Journal of Urban Health, Vol. 78 No. 2. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3456369/pdf/11524_2006_Article_36.pdf.

49 Baron, J., Hershey, J. C., and Kunreuther, H., 2000, *Determinants of priority for risk reduction: the role of worry,* Risk Analysis, Vol. 20 No. 4. Available at: https://pubmed.ncbi.nlm.nih.gov/11051067/.

50 Nielsen, R. K., et al., 2020, *Navigating the 'infodemic': How people in six countries access and rate news and information about coronavirus*, Reuters Institute. Available at: https://reutersinstitute.politics.ox.ac.uk/infodemic-how-people-six-countries-access-and-rate-news-and-information-about-coronavirus.

51 Marks, D., et al., 2000, *Health psychology: Theory, practice and research,* Sage.

52 Laato, S., et al., 2020, *Why do people share misinformation during the COVID-19 pandemic?*, European Journal of Information Systems. Available at: https://doi.org/10.1080/0960085X.2020.1770632.

53 Fitzpatrick, M. J., and Muelemans, Y. N., 2011, *Assessing an information literacy assignment and workshop using a quasi-experimental design*, College Teaching, Vol. 59. Available at: https://doi.org/10.1080/87567555.2011.591452.

2. DISINFORMATION AND MISINFORMATION PRACTICES DURING THE COVID-19 PANDEMIC

KEY FINDINGS

There is no commonly shared definition of disinformation between the EC, Member States and online platforms, but most approaches cover at least the following aspects:

1) false or misleading information, including any "false, inaccurate or misleading information for political, economic or personal gain";
2) intended to result in harm or gain profit "through mass distribution and by misleading and manipulating the public";
3) usually with the assistance of "well-funded and automated technology".

Unlike disinformation, misinformation is characterised by the absence of a deliberate intention to cause harm. Both of these definitions cover a wide range of actors, tools and practices, including establishing false connections or a false context, the use of satire (misinformation), misleading, imposter, fabricated or manipulated content (disinformation).

In the context of the COVID-19 pandemic, so-called disinfodemic *practices* online have closely mirrored the evolution of the COVID-19 cases and deaths.

The most popular themes in COVID-19 disinformation were related to vaccination and immunisation, severity of COVID-19, government response to COVID-19, and speculation and conspiracy theories surrounding COVID-19.

Russia and China were the main two foreign countries at the frontline of COVID-19 disinformation. During the pandemic, the EC and the EEAS monitored false or misleading narratives and operations by foreign actors. This was done especially through the use of the Rapid Alert System against disinformation (RAS), which was an important element in tackling COVID-19 disinformation across the EU.

Lastly, social media and platforms were a key channel to spread disinformation and misinformation about COVID-19, and they also played an important role in combating this phenomenon. The COVID-19 disinfodemic further revealed the shortcomings of the 2018 Code of Practice on Disinformation. A strengthened Code was ratified by 34 signatories on 16 of June 2022.

The second chapter of this study defines disinformation and misinformation practices as found in current research (section 2.1), describes where these practices were detected during the COVID-19 pandemic, including formats, key themes (section 2.2) and patterns of foreign actors and third-country interference (section 2.3). Lastly, the role played by social media and platforms to counteract disinformation and misinformation during the COVID-19 crisis is highlighted (section 2.4).

2.1. Concepts and types of disinformation and misinformation practices

There is no commonly shared definition of disinformation between the EC, Member States and online platforms[54]. The box below presents some of the key approaches to defining these concepts.

Box 1: Different definitions of disinformation

- The European Democracy Action Plan (EDAP) defines disinformation as "false or misleading content that is spread with an intention to deceive or secure economic or political gain and which may cause public harm"[55].
- From an academic perspective, Wardle and Derakhshan consider disinformation as "information that is false and deliberately created to harm a person, social group, organisation or country"[56].
- The High-Level Expert Group on Fake News and Online Disinformation considers "all forms of false, inaccurate, or misleading information, designed, presented and promoted to intentionally cause public harm or profit"[57].
- Both the 2018[58] and the 2022[59] Code of Practice on Disinformation refer to the EDAP definition.
- Several Member States have regulated notions related to disinformation activities without explicitly labelling them as such (except Lithuania, where it is defined as "intentionally disseminated false information"[60]), either through their criminal legislation or through non-legislative acts, mostly with the goal of prohibiting fake news and false information[61].
- Online platforms have no common definition of disinformation. For example, Facebook holds that disinformation is equivalent to "false or misleading posts shared intentionally to deceive people". At the same time, Google refers to it as "deliberate efforts to deceive and mislead using the speed, scale and technologies of the open web"[62]. While emphasising different aspects, these definitions do highlight the main elements of disinformation[63]:
  - incorrect or misleading information;
  - potentially harmful element, but not necessarily illegal;
  - deliberate intention of the actor spreading disinformation;
  - economic gain for the actor disseminating disinformation;
  - content related to the public interest; and
  - strategic dissemination.

[54] ERGA Report, 2020, *Notions Of Disinformation And Related Concepts*. Available at: https://erga-online.eu/wp-content/uploads/2021/03/ERGA-SG2-Report-2020-Notions-of-disinformation-and-related-concepts-final.pdf.

[55] European Commission, 2020, *Communication on the European Democracy Action Plan*, COM(2020) 790 final. Available at: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/new-push-european-democracy/european-democracy-action-plan_en.

[56] Wardle, C., and Derakhshan, H., 2017, *Information Disorder: Toward an Interdisciplinary Framework for Research and Policy-making,* Council of Europe Report. Available at: https://edoc.coe.int/en/media/7495-information-disorder-toward-an-interdisciplinary-framework-for-research-and-policy-making.html.

[57] European Commission, 2018, *A Multi-dimensional Approach to Disinformation, Report of the High-Level Group on Fake News and Online Disinformation*. Available at: https://digital-strategy.ec.europa.eu/en/library/final-report-high-level-expert-group-fake-news-and-online-disinformation.

[58] European Commission, 2018, *The 2018 Code of Practice on Disinformation*. Available at: https://digital-strategy.ec.europa.eu/en/library/2018-code-practice-disinformation.

[59] European Commission, 2022, *The 2022 Strengthened Code of Practice on Disinformation*. Available at: https://digital-strategy.ec.europa.eu/en/library/2022-strengthened-code-practice-disinformation.

[60] Republic of Lithuania, Law No. I-1418 of 2 July 1996 on the Provision of Information to the Public. Available at: https://e-seimas.lrs.lt/portal/legalAct/lt/TAD/2865241206f511e687e0fbad81d55a7c?jfwid=1clcwosx33.

[61] ERGA Report, 2020, *Notions Of Disinformation And Related Concepts*. Available at: https://erga-online.eu/wp-content/uploads/2021/03/ERGA-SG2-Report-2020-Notions-of-disinformation-and-related-concepts-final.pdf.

[62] Google, 2022, *How Google Fights Disinformation*. Available at: https://blog.google/documents/37/How_Google_Fights_Disinformation.pdf/.

[63] ERGA Report, 2020, *Notions Of Disinformation And Related Concepts*. Available at: https://erga-online.eu/wp-content/uploads/2021/03/ERGA-SG2-Report-2020-Notions-of-disinformation-and-related-concepts-final.pdf.

The approach of the European Regulators Group for Audiovisual Media Services (ERGA) to disinformation brings together the following elements, which could cover the wide-ranging definitions of disinformation provided by the above-mentioned actors:

- **false or misleading information**, including any "false, inaccurate or misleading information for political, economic or personal gain"[64];
- **intended to result in harm or gain profit "through mass distribution and by misleading and manipulating** the public"[65]; and
- **usually with the assistance of "well-funded and automated technology"**[66].

In contrast to disinformation, misinformation is characterised by the absence of a deliberate intention to cause harm[67]. Therefore, misinformation can take place even if it is exercised in good faith and the ERGA report defines it as "false or misleading information, but which has not been created with malicious intent but in good faith"[68]. Additionally, the High-Level Expert Group on Fake News and Online Disinformation also provided a definition, which reads as follows: "misinformation is misleading or inaccurate information shared by people who do not recognise it as such"[69].

Disinformation and misinformation practices can be grouped into two types, depending on i) the actors involved and ii) the tools and practices applied.

i. Actors of disinformation and misinformation

Disinformation and misinformation activities can be conducted by official entities (e.g. intelligence services or political parties) and unofficial entities (e.g. non-state actors or groups of citizens)[70]. They may be domestic or foreign entities, and may target various audiences (e.g. whole society or specific groups) with diverging motives (e.g. political or social)[71]. It is worth noting that both disinformation and misinformation can be exerted top-down (e.g. political leaders) and bottom-up (e.g. a group of citizens)[72]. Two examples demonstrating the diversity of actors carrying out these types of activities are presented below:

64 Ibid.

65 Ibid.

66 Ibid.

67 Wardle, C., and Derakhshan, H., 2017, *Information Disorder: Toward an Interdisciplinary Framework for Research and Policy-making*, Council of Europe Report. Available at: https://edoc.coe.int/en/media/7495-information-disorder-toward-an-interdisciplinary-framework-for-research-and-policy-making.html.

68 ERGA Report, 2020, *Notions Of Disinformation And Related Concepts*. Available at: https://erga-online.eu/wp-content/uploads/2021/03/ERGA-SG2-Report-2020-Notions-of-disinformation-and-related-concepts-final.pdf.

69 European Commission, 2018, *A Multi-dimensional Approach to Disinformation, Report of the High-Level Group on Fake News and Online Disinformation*. Available at: https://digital-strategy.ec.europa.eu/en/library/final-report-high-level-expert-group-fake-news-and-online-disinformation.

70 Wardle, C., and Derakhshan, H., 2017, *Information Disorder: Toward an Interdisciplinary Framework for Research and Policy-making*, Council of Europe Report. Available at: https://edoc.coe.int/en/media/7495-information-disorder-toward-an-interdisciplinary-framework-for-research-and-policy-making.html.

71 Ibid.

72 OECD, 2020, *Transparency, communication and trust: The role of public communication in responding to the wave of disinformation about the new coronavirus*. Available at: https://www.oecd.org/coronavirus/policy-responses/transparency-communication-and-trust-bef7ad6e/.

- **Disinformation:**
  - Non-state actors (e.g. jihadist groups or far-right extremists) intentionally share conspiracy theories promulgating their ideology and blaming certain social groups (e.g. ethnic minorities) for spreading COVID-19[73].
  - Anti-vaccination influencers intentionally select unverified reports from the Vaccine Adverse Event Reporting System public health database in the US to undermine citizen's trust in vaccine safety[74].
- **Misinformation**:
  - In April 2020, in a live press conference US President Donald Trump suggested that injecting disinfectant into the body of COVID-19-infected persons could serve as a possible treatment[75]. Afterwards, experts warned against the risk of undertaking such a treatment[76].
  - Users of social media platforms claim that COVID-19 cannot be transmitted in hot and humid climate[77].

ii. Tools and practices used

Disinformation and misinformation can happen online (e.g. online video) or offline (e.g. leaflet). Compared to offline practices, the pace and audience reach of disinformation through online platforms are remarkably fast. According to the US Congress Investigation of Competition in Digital Markets report, a Breitbart video denying the effectiveness of masks and suggesting hydroxychloroquine as a cure against coronavirus reached 'nearly 20 million views and over 100,000 comments (…)'[78] within five hours, before Facebook acted to remove it[79].

The Wardle and Derakhshan report points out seven types of disinformation and misinformation practices[80]:

1) **False connection** (both): for example, when the visual is not supporting the content;
2) **False context** (both): the shared content has false contextual information;
3) **Satire or parody** (misinformation): not intended to harm but might mislead;
4) **Misleading content** (disinformation): information used misleadingly;
5) **Imposter content** (disinformation): for example, a website pretending to be an actual media publication (e.g. mimicking a global news outlet).
6) **Fabricated content** (disinformation): content designed to mislead and do harm; and

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73 Veilleux-Lepage, Y., van Steen, T., and Kisyova, M-E., 2022, *Terrorism Experts' Predictions Regarding the Effects of the COVID-19 Pandemic on the Activities of Violent Non-State Actors*, Perspectives on Terrorism, vol. 16, No. 4. Available at: https://www.jstor.org/stable/27158151#metadata_info_tab_contents.

74 De Witte, M., 2022, *Disinformation about the COVID-19 vaccine is a problem. Stanford researchers are trying to solve it.* Available at: https://news.stanford.edu/press-releases/2022/02/24/curbing-spread-cs-disinformation/.

75 BBC, 2020, *Coronavirus: Outcry after Trump suggests injecting disinfectant as treatment*. Available at: https://www.bbc.com/news/world-us-canada-52407177.

76 The Guardian, 2020, *Coronavirus: medical experts denounce Trump's theory of 'disinfectant injection'*. Available at: https://www.theguardian.com/world/2020/apr/23/trump-coronavirus-treatment-disinfectant.

77 Enders, A., et al., 2020, *The different forms of COVID-19 misinformation and their consequences*, Misinformation Review, Shorenstein Center on Media, Politics and Public Policy, Harvard Kennedy School. Available at: https://misinforeview.hks.harvard.edu/article/the-different-forms-of-covid-19-misinformation-and-their-consequences/.

78 US Congress, 2020, *Investigation of Competition in Digital Markets*, Majority Staff Report and Recommendations, Subcommittee on Antitrust, Commercial and Administrative Law of the Committee on the Judiciary. Available at: https://www.govinfo.gov/content/pkg/CPRT-117HPRT47832/pdf/CPRT-117HPRT47832.pdf.

79 Ibid.

80 Wardle, C., and Derakhshan, H., 2017, *Information Disorder: Toward an Interdisciplinary Framework for Research and Policy-making*, Council of Europe Report. Available at: https://edoc.coe.int/en/media/7495-information-disorder-toward-an-interdisciplinary-framework-for-research-and-policy-making.html.

7) **Manipulated content** (disinformation): information manipulated to deceive.

In the next section, these practices are illustrated with concrete examples in the context of the COVID-19 pandemic.

2.1.1. Selected examples of COVID-19 disinformation and misinformation practices

Disinformation examples

An important example of circulating disinformation during the pandemic was related to masks. Actors on various forums stated that masks can deprive the human body of oxygen or that it may be harmful to the immune system[81]. These claims were not supported by any scientific evidence[82].

A further manifestation of disinformation concerns mRNA (messenger ribonucleid acid) vaccines (e.g. Moderna COVID-19 vaccine). In 2021, a blog stated that mRNA vaccines alter human DNA. The blog manipulated information stemming from a controversial study of the Massachusetts Institute of Technology (MIT). In short, the MIT study the blog post referred to did not conclude that mRNA vaccines would change patients' DNA, nevertheless this blog post containing disinformation has reached numerous citizens via social media platforms[83].

Moreover, extremist groups disseminated a number of conspiracy theories and linked them to anti-Asian narratives (for example, the New York City Commission on Human Rights reported a 92% increase in anti-Asian discrimination in Spring 2020) or antisemitic narratives (e.g. the pandemic is a Jewish plot to provoke a civil war)[84]. These groups spread their ideology via automated social media accounts (bots) as well as posts made by real people (organic posts)[85].

Misinformation examples

Internet users have used memes to spread misinformation about the coronavirus and its origins[86] and various anti-vaccine falsities[87]. Such memes tend to exaggerate the side effects of vaccines, increasing mistrust of their safety and distributing a popular message that pharmaceutical companies do not take any responsibility for their product. As a result, those memes evoke negative emotions such as fear or anxiety and enhance mistrust in science and medicine[88]. A popular way of spreading misinformation online is through decontextualised "shocking" videos on video-sharing platforms (e.g. Youtube) that provide a false narrative on specific aspects of the COVID-19. For example, the "film your hospital" campaign alleged that hospitals were empty and not overwhelmed with COVID-19 contaminated

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81 BBC, 2020, *Coronavirus: 'Deadly masks' claims debunked*. Available at: https://www.bbc.com/news/53108405.

82 Ibid.

83 Reuters, 2021, *Fact Check – Controversial MIT study does not show that mRNA vaccines alter DNA*. Available at: https://www.reuters.com/article/factcheck-coronavirus-vaccines-idUSL1N2PK1DC.

84 Cox, K., et al., 2021, *COVID-19, Disinformation and Hateful Extremism*. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/993841/RAND_Europe_Final_Report_Hateful_Extremism_During_COVID-19_Final_accessible.pdf.

85 Ibid.

86 Glaveanu, V., and de Saint Laurent, C., 2021, *Social Media Responses to the Pandemic: What Makes a Coronavirus Meme Creative*, Front. Psychology 12. Available at: https://www.frontiersin.org/articles/10.3389/fpsyg.2021.569987/full.

87 Goodman, J., and Carmichael, F., 2020, *Coronavirus: Fake Cures in Latin America's Deadly Outbreak*, BBC. Available at: https://www.bbc.com/news/53361876.

88 Debunk EU, 2021, *Not just for fun. How memes spread disinformation on Covid-19?*. Available at: https://www.debunkeu.org/not-just-for-fun-how-memes-spread-disinformation-on-covid-19.

patients[89]. Another example is the viral pseudo-documentary "Plandemic," which promoted a variety of falsehoods about the coronavirus and vaccines[90].

The app "Corona Antivirus" claims to be designed by scientists from Harvard University. During instalment, the app infects the system with BlackNET RAT malware, adding infected devices to a botnet[91]. Threat actors can launch DDoS attacks through the botnet, upload files to the device, execute scripts, take screenshots, harvest keystrokes, steal bitcoin wallets, and collect browser cookies and passwords.

In the UK, a fake government website was spotted luring users with the promise of aid or relief. It asks for personal information and collects users' bank account credentials if they enter the correct postcode[92].

Finally, in Estonia, a malicious keylogger platform was used as the official COVID-19 help site established by the Estonian Ministry of Social Affairs[93].

The below table shows the results of a survey conducted by researchers in the framework of a study undertaken by the Harvard Kennedy School[94]. The survey took place in the US in June 2020, the number of respondents was 1,040[95]. The table informs on the number of respondents agreeing or strongly agreeing with certain conspiracy theories and pieces of misinformation.

[89] Ahmed W., et al., 2020, *A Social Network Analysis of Tweets Related to Masks during the COVID-19 Pandemic*, International Journal of Environmental Research and Public Health. Available at: https://pubmed.ncbi.nlm.nih.gov/33171843/.

[90] Nazar. S., and Pieters, T., 2021, *Plandemic Revisited: A Product of Planned Disinformation Amplifying the COVID-19 "infodemic"*, Front. Public Health 9. Available at: https://www.frontiersin.org/articles/10.3389/fpubh.2021.649930/full.

[91] Trend Micro, 2020, *Developing Story: COVID-19 Used in Malicious Campaigns*. Available at: https://www.trendmicro.com/vinfo/fr/security/news/cybercrime-and-digital-threats/coronavirus-used-in-spam-malware-file-names-and-malicious-domains.

[92] Ibid.

[93] Ibid.

[94] Enders, A., et al., 2020, *The different forms of COVID-19 misinformation and their consequences*, Misinformation Review, Shorenstein Center on Media, Politics and Public Policy, Harvard Kennedy School. Available at: https://misinforeview.hks.harvard.edu/article/the-different-forms-of-covid-19-misinformation-and-their-consequences/.

[95] Ibid.

Table 1: Approval rate of conspiracy theories around COVID-19 in the US

Conspiracy/Misinformation Belief Question	% Agree / Strongly Agree
1. The number of deaths related to the coronavirus has been exaggerated. (*Deaths*)	29
2. The threat of coronavirus has been exaggerated by political groups who want to damage President Trump. (*Threat*)	28
3. Coronavirus was purposely created and released by powerful people as part of a conspiracy. (*Bioweapon*)	27
4. The coronavirus is being used to force a dangerous and unnecessary vaccine on Americans. (*Vaccine*)	25
5. Ultra-violet (UV) light can prevent or cure COVID-19 (*UV Light*)	19
6. The coronavirus is being used to install tracking devices inside our bodies. (*Tracking*)	18
7. Hydroxychloroquine can prevent or cure COVID-19 (*Hydroxy*)	18
8. COVID-19 can't be transmitted in areas with hot and humid climates (*Hot/Humid*)	18
9. Bill Gates is behind the coronavirus pandemic. (*Gates*)	13
10. Putting disinfectant into your body can prevent or cure COVID-19 (*Disinfectant*)	12
11. The dangers of 5G cellphone technology are being covered up. (*5G*)	11

Source: Misinformation Review, Shorenstein Center on Media, Politics and Public Policy, Harvard Kennedy School.

2.1.2. Key themes of COVID-19 disinformation and misinformation

The range of themes covered by the disinfodemic is relatively broad and is often classified differently by different sources. Several databases, such as SOMA Disinfobservatory[96], EuvsDisinfo[97], DisinfoWatch[98], etc., collect disinfodemic practices. Most of these databases, however, identify false news in general, and they do not categorise disinformation related to COVID-19 into sub-categories and sub-themes of COVID-19 disinformation.

COVID-19 Misinformation Types Coding Schema & Dashboard[99] is a comprehensive international repository of over 200 active fact-checking groups and organisations that verify COVID-19 misinformation specifically. They work in cooperation with the WHO. From January 2020 to September 2022, these fact-checking groups have identified **over 14 thousand[100] false or misleading COVID-19-related online news articles worldwide**. The evolution of the spread of disinfodemic practices online has been closely linked with the overall COVID-19 trends. The number of misinformation practices online spiked at the beginning of the COVID-19 pandemic in March 2020. It persisted at a high level until February 2022, subsequently dropping to lower levels in the remainder of 2022, mirroring the gradual lift of COVID-19-related restrictions and the drop in confirmed COVID-19 cases and deaths[101]. Figure 5 below shows the evolution of the number of false and misleading COVID-19 related news during the pandemic.

[96] SOMA, *Disinformation Observatory*. Available at: https://www.disinfobservatory.org/.

[97] EUvsDisinfo, *Dinsinfo Database*. Available at: https://euvsdisinfo.eu/disinformation-cases/.

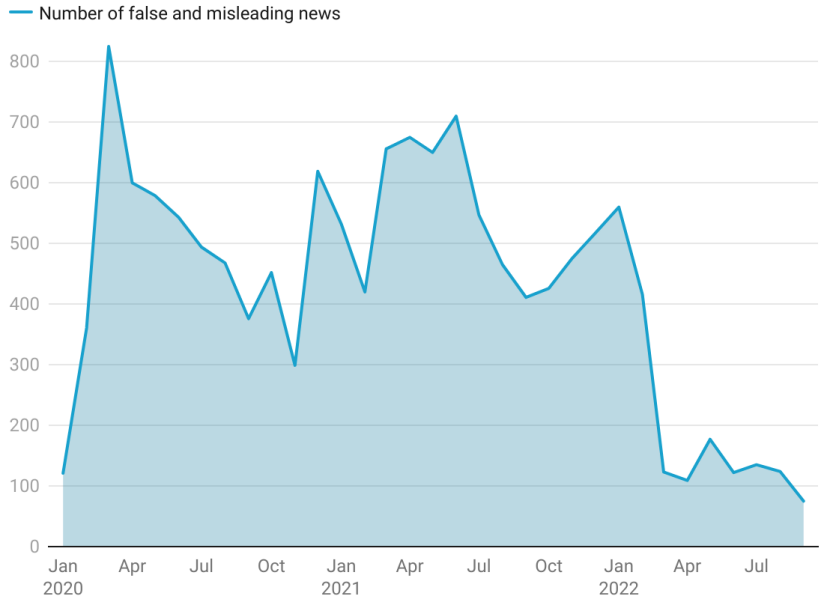
[98] Disinfowatch, *Database*. Available at: https://disinfowatch.org/database/.

[99] COVID19MisInfo.org Portal, *Interactive Data Dashboards*. Available at: https://covid19misinfo.org/.

[100] The exact number is 14063.

[101] Compared to February 2022, the number of confirmed worldwide COVID-19 cases in September has decreased by 74% (from 50.7 million to 13.1 million), while the number of confirmed COVID-19 deaths has decreased by 83% (from 284 thousand cases to 44 thousand cases). For more information, see WHO Coronavirus (COVID-19) Dashboard. Available at: https://covid19.who.int/.

Figure 5: Number of false or misleading COVID-19 related news (January 2020 to September 2022)



Source: COVID-19 Misinformation Types Coding Scheme & Dashboard prepared by the Social Media Lab.

As shown in Figure 6 below, the **most popular themes** of COVID-19 disinformation were related to:

- **Vaccination and immunisation**[102] (24% of the false and misleading news);
- **Severity of COVID-19**[103] (15%);
- **Government response to COVID-19**[104] (12%), and;
- **Speculation and conspiracy theories surrounding COVID-19**[105] (9%).

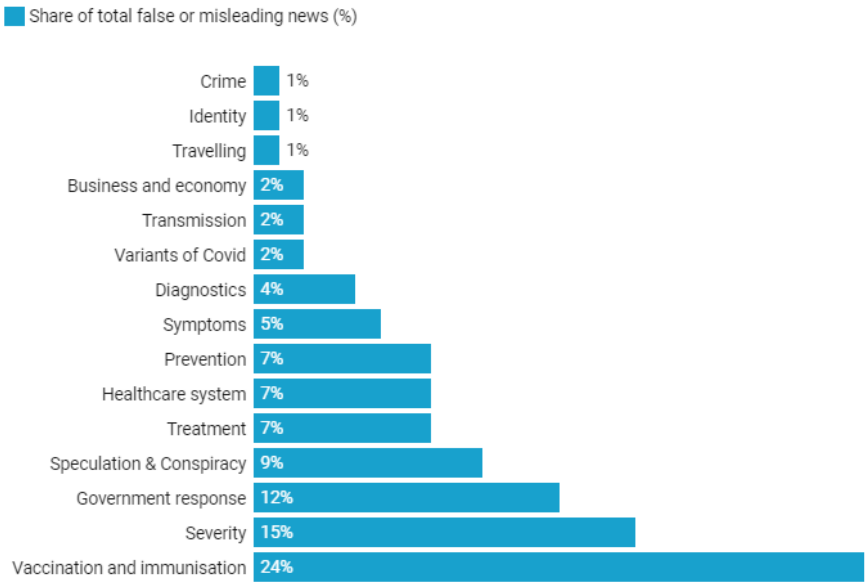
[102] Examples of disinformation practices would include the negative effects on health from vaccines.

[103] Examples of disinformation practices would include information that certain age groups (e.g. children) do not suffer strong symptoms from COVID-19, thus, they do not need to be vaccinated. See https://www.bol.uol.com.br/noticias/2022/10/14/ao-contrario-do-que-diz-bolsonaro-1860-criancas-morreram-de-covid-19.htm.

[104] Examples of disinformation practices would include disinformation regarding the banning of vaccines in some countries, such as the ban on vaccines in Denmark. See for instance https://factual.afp.com/doc.afp.com.32KM8WH.

[105] For example, the theory that COVID-19 was created by the governments to impose the new world order. Available at: https://factual.afp.com/doc.afp.com.32KD3Y4.

Figure 6: Share of total false or misleading news by theme (%)



Source: COVID-19 Misinformation Types Coding Schema & Dashboard prepared by the Social Media Lab.

The spread of such dis(mis-)information practices **directly impacted public opinion**. Rumours casting into doubt the efficacy of social distancing or misleading "information" about how contagion occurs have convinced some segments of the population to continue their activities in defiance of official guidance, potentially contributing to the virus' increased spread[106]. In addition, in terms of vaccination, a study carried out in the UK, for example, indicates that, in September 2020, at a time when vaccines were not yet widely available, exposure to misinformation was responsible for around **6.2% decrease in the intent of vaccination among the general population**[107]. Another study analysing vaccine hesitancy also showed that **vaccination compliance, even among medically informed individuals such as health care workers,** relies on a personal risk–benefit perception that **may be influenced by misinformation regarding vaccine safety**[108]. Individuals considering themselves to be at a higher risk of disease, on the other hand, demonstrated higher vaccine acquiescence[109]. Furthermore, in Bulgaria, the spread of disinformation and a lack of a centralised response to combat such practices has been recognised by the national public authorities as one of the key reasons for the low levels of vaccination in 2021[110].

Misinformation has also impacted mental health as the propagation of misleading information in relation to COVID-19 caused a wave of stress, anxiety, confusion, and depression amongst the global population[111]. A study demonstrated that **social media sites exacerbated anxiety and panic** among individuals during the pandemic[112]. For instance, misinformation shared online regarding impending

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106 Seitz, A., 2020, *Virus misinformation flourishes in online protest groups*. Available at: https://apnews.com/article/donald-trump-us-news-ap-top-news-politics-virus-outbreak-5862a9201c7b1bea62069a9c5e5fbb1c.

107 Loomba, S., et al., 2021, *Measuring the impact of COVID-19 vaccine misinformation on vaccination intent in the UK and USA*, Nature Human Behaviour 5, 337–348. Available at: https://doi.org/10.1038/s41562-021-01056-1.

108 Dror, A., et al., 2020, *Vaccine hesitancy: the next challenge in the fight against COVID-19*. European Journal of Epidemiology 35, 775–779. Available at: https://doi.org/10.1007/s10654-020-00671-y.

109 Ibid.

110 Ministry of Health Republic of Bulgaria, 2022, *+ ME*. Available at: https://plusmen.bg/.

111 Ferreira Caceres, M. M., et al., 2022, *The impact of misinformation on the COVID-19 pandemic*, AIMS Public Health. Available at: https://pubmed.ncbi.nlm.nih.gov/35634019/.

112 Ibid.

lockdowns during the first months of the pandemic led to panic buying resulting in a shortage of much-needed supplies[113].

Furthermore, it should be highlighted that disinformation and misinformation practices related to COVID-19 have led to **harassment of and violence against public health workers, health professionals, airline staff, and other frontline workers tasked with communicating evolving public health measures**[114].

In conclusion, **COVID-19 related disinformation and misinformation practices jeopardised the efficacy of, and compliance with, the emergency measures being enacted against the virus, giving rise to uncooperative behaviour among the general population**[115]. The polarisation and distrust that derive from it can generate long-lasting adverse implications for government action, public opinion, mental health of society, and individuals working in the field of COVID-19 prevention.

2.2. Role and impact of foreign actors and third countries in COVID-19 misinformation campaigns across the EU

This section analyses the role of foreign actors and third-country interference in COVID-19 misinformation campaigns during the pandemic.

According to EU officials[116] and the EUvsDisinfo reports[117], Russia and China were the two central countries at the frontline of COVID-19 disinformation. Some Middle Eastern and North African countries (MENA) and some countries in the Western Balkans similarly played a role in promoting anti-EU narratives but to a smaller extent. Russian and Chinese campaigns mainly influenced the latter countries[118]. Due to the limited availability of information concerning the MENA and Western Balkans[119], this section will primarily focus on the campaigns and techniques used by Russia and China.

Foreign actors mainly promoted misinformation and disinformation campaigns by using domestic networks[120, 121]. Russian disinformation campaigns were primarily sourced from state-backed media outlets and reinforced through social media. From late January to early April 2020, the EEAS detected through its disinformation platform (EUvsDisinfo) 150 cases of pro-Russian campaigns published by Russian-controlled media platforms (i.e. RT and Sputnik). Until June 2020, the EEAS detected and exposed over 550 narratives about disinformation and misinformation from pro-Kremlin

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113 Islam, M., et al., 2020, *COVID-19-related infodemic and its impact on public health: a global social media analysis*, The American Journal of Tropical Medicine and Hygiene, 1621–1629. Available at: https://www.semanticscholar.org/paper/COVID-19%E2%80%93Related-Infodemic-and-Its-Impact-on-Public-Islam-Sarkar/f543627aedd386cdc8314c6a564d34cb7d4f3c8e.

114 Mello, M. M., Greene, J. A., and Sharfstein, J. M., 2020, *Attacks on public health officials during COVID-19*, JAMA, 324(8), 741. https://jamanetwork.com/journals/jama/fullarticle/2769291.

115 OECD, 2020, *Transparency, communication and trust: The role of public communication in responding to the wave of disinformation about the new Coronavirus*. Available at: https://www.oecd.org/coronavirus/policy-responses/transparency-communication-and-trust-bef7ad6e/.

116 Information received from an interview conducted by the research team with EU officials.

117 Published by the European External Action Service, all 6 reports are available at: https://euvsdisinfo.eu/eeas-special-report-disinformation-on-the-coronavirus-short-assessment-of-the-information-environment/.

118 Bressanelli, E., et al., 2020, *Institutions and foreign interferences*, Publication for the Committee on Constitutionals Affairs, Policy Department for Citizens' Rights and Constitutional Affairs, European Parliament, Luxembourg. Available at: https://www.europarl.europa.eu/thinktank/en/document/IPOL_STU(2020)655290.

119 This is because the EEAS disinformation reports would only offer a snapshot of the practices used by MENA and neighbouring countries.

120 These networks were also based in EU Member States or neighbouring countries.

121 Bressanelli, E., et al., 2020, *Institutions and foreign interferences*, publication for the Committee on Constitutional Affairs, Policy Department for Citizens' Rights and Constitutional Affairs, European Parliament, Luxembourg. Available at: https://www.europarl.europa.eu/thinktank/en/document/IPOL_STU(2020)655290.

sources[122]. Chinese disinformation campaigns similarly followed the Russian "playbook". The Chinese state media would purchase online political advertisements and use social media platforms (e.g. Twitter bot accounts) and official diplomatic social media accounts[123].

Foreign countries and actors[124] used the health crisis to advance their geopolitical interests[125]. More specifically, according to EU officials[126], the Chinese intention was to change the narrative regarding the origin of the pandemic. Indeed, Chinese state media would disseminate "Chinese propaganda" on mainstream foreign media outlets, such as the Economist and the Wall Street Journal, in relation to its positive response to the virus[127]. Chinese diplomatic officials, in addition, spread conspiracy theories, especially regarding the US and the origins of the COVID-19[128].

On the other hand, the Russian intention was to primarily promote the successful approaches used domestically against the virus. At an aggregate level, the two foreign actors tried to achieve their objectives by challenging the Western vaccination process and the reliability of the EU, domestic governments and media.

Between December 2020-April 2021, around two-thirds of pro-Russian campaigns concerned vaccine disinformation[129]. More specifically, Russia promoted Sputnik V within the Western Balkans via pro-Russian media outlets, such as Sputnik Serbia, and discredited Western vaccines, especially those produced by Pfizer and AstraZeneca. Furthermore, Russian state-controlled media outlets, e.g. the "Sputnik V" account on Twitter, fragmented the European approach to securing vaccination supplies. They campaigned against the European Medicines Agency (EMA) thereby undermining public trust and creating doubts about the procedures used by EMA[130]. This fuelled anti-vaccination movements in Europe and promoted the Russian and Chinese vaccines as a better alternative[131].

Disinformation and misinformation by foreign countries undermined the European measures used to tackle the pandemic[132]. Pro-Kremlin sources described Russia's preparedness in combating the virus as efficient and promoted messages, such as "Russia and China are responsible powers" and the "EU is failing to deal with the pandemic; the Union is about to collapse"[133].

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122 European Commission, 2020, *EU Strengthens Action to Tackle Disinformation about COVID-19*. Available at: https://euraxess.ec.europa.eu/worldwide/south-korea/eu-strengthens-action-tackle-disinformation-about-covid-19.

123 Bressanelli, E., et al., 2020, *Institutions and foreign interferences*, publication for the Committee on Constitutional Affairs, Policy Department for Citizens' Rights and Constitutional Affairs, European Parliament, Brussels. Available at: https://www.europarl.europa.eu/thinktank/en/document/IPOL_STU(2020)655290.

124 With Russia and China being the main identified countries.

125 European Commission, 2020, *Joint Communication to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions on Tackling COVID-19 disinformation - Getting the facts right*, JOIN(2020) 8 final. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020JC0008.

126 Information received from an interview conducted by the research team with EU officials.

127 Cook, S., 2020, *Beijing's Coronavirus Propaganda Has Both Foreign and Domestic Targets: Disinformation peddled abroad may be most successful in China itself*, Freedom House. Available at: https://freedomhouse.org/article/beijings-coronavirus-propaganda-has-both-foreign-and-domestic-targets.

128 Ibid.

129 EUvsDisinfo, 2020, *EEAS Special Report Update: Short assessment of narratives and disinformation around the COVID-19 pandemic (Update 23 April – 18 May)*. Available at: https://euvsdisinfo.eu/eeas-special-report-update-short-assessment-of-narratives-and-disinformation-around-the-covid19-pandemic-updated-23-april-18-may/.

130 EUvsDisinfo, 2021, *EEAS Special Report Update: Short assessment of narratives and disinformation around the COVID-19 pandemic (Update December 2020 – April 2021)*.. Available at: https://euvsdisinfo.eu/eeas-special-report-update-short-assessment-of-narratives-and-disinformation-around-the-covid-19-pandemic-update-december-2020-april-2021/.

131 Ibid.

132 Ibid.

133 Ibid.

Russian and Chinese campaigns would, in particular, present themselves as humanitarian actors[134]. For example, pro-Kremlin media displayed the Russian aid offered to Italy as "Russia helping Italy and the EU is not". This campaign circulated within Italy, where videos in Italian were posted on social media (e.g. Instagram), showing Italians swapping the EU flag for the Russian one[135].

Through mask and vaccine diplomacy, Chinese state-controlled media globally advertised the generosity offered by the Chinese to third countries. For example, this included the Chinese shipment of more than 115 million vaccines worldwide by the end of March 2021, making the country appear highly generous compared with the EU's 58 million exports[136].

The overall impact of foreign narratives is difficult to define and quantify. However, the external campaigns in this section led European citizens to question the credibility of the EU and national or regional authorities and permeated mainstream European media[137]. As a result, official health advice was often ignored hence triggering risky behaviours

A study conducted by the Center for European Policy Analysis (CEPA) found European and North American domestic sources (coming from both left and right wing groups) amplifying existing foreign campaigns[138]. These foreign narratives, primarily originate from Russian and, to a lesser extent, from Chinese narratives. With a particular focus on the US, the study identified domestic left-wing outlets (e.g. Watching the Hawks) were targeting the failure and inequality of the US healthcare system. Right-wing US outlets (which used veteran commentators, such as Alex Salmond), on the other hand, portrayed the US as becoming a totalitarian state and published messages on the mismanagement of the government's response to the pandemic[139]. In contrast to the US, there is a limited number of databases available which identify whether European domestic groups amplify false foreign narratives. Instead the EU and several European governments have used effective measures in countering Russian and Chinese disinformation and malign influence. This is largely because Europe has been dealing with foreign disinformation and misinformation campaigns from both Russia and China for a long time[140]. **During the pandemic, the EC and the EEAS monitored false or misleading narratives and operations by foreign actors. This was done primarily through the use of the Rapid Alert System against disinformation (RAS),** which was an important element in tackling COVID-19 disinformation across the EU[141]. The RAS is a dedicated digital platform where EU institutions and Member States share insights on disinformation and coordinate responses. More specifically, the RAS is based on open-source information and draws insights from academia, fact-checkers, online platforms and international partners. During the pandemic, the RAS gathered information by frequently updating the

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134 Ibid.

135 EUvsDisinfo, 2020, *EEAS Special Report Update: Short assessment of narratives and disinformation around the COVID-19 pandemic (Update 23 April – 18 May)*. Available at: https://euvsdisinfo.eu/eeas-special-report-update-short-assessment-of-narratives-and-disinformation-around-the-covid19-pandemic-updated-23-april-18-may/.

136 Leigh, M., 2021, *Vaccine diplomacy: soft power lessons from China and Russia?* Available at: https://www.bruegel.org/blog-post/vaccine-diplomacy-soft-power-lessons-china-and-russia.

137 Kakutani, Y., 2020, *'Economist' Runs Chinese Coronavirus Propaganda Disguised as News*, The Washington Free Beacon. Available at: https://freebeacon.com/media/economist-runs-chinese-coronavirus-propaganda-disguised-as-news/.

138 Dubow, B., et al., 2021, *Jabbed in the Back: Mapping Russian and Chinese Information Operations During the COVID-19 Pandemic*, CEPA. Available at: https://cepa.org/comprehensive-reports/jabbed-in-the-back-mapping-russian-and-chinese-information-operations-during-the-covid-19-pandemic/.

139 Ibid.

140 Lucas, E., et al., 2022, *Owning the Conversation: Assessing Responses to Russian and Chinese Information Operations Around COVID-19*, CEPA. Available at: https://cepa.org/comprehensive-reports/owning-the-conversation-assessing-responses-to-russian-and-chinese-information-operations-around-covid-19/.

141 European Commission, 2022, *Tackling coronavirus disinformation*. Available at: https://commission.europa.eu/strategy-and-policy/coronavirus-response/fighting-disinformation/tackling-coronavirus-disinformation_en.

system, and in June 2020 this led to almost 300 messages from Member States[142]. This helped to observe which campaigns were targeted at the EU and its MS and to design responses at the EU level and in collaboration with the Group of Seven (G7) countries[143].

2.3. Role played by social media and platforms to counteract disinformation and misinformation

Social media and platforms were pivotal channels for spreading disinformation and misinformation about the COVID-19, and they should also play an important role in combating this phenomenon. Indeed, a crucial aspect of the EC's strategy was **to intensify the role played by social media and platforms to counteract COVID-19-related disinformation and misinformation**[144]. Notably, the Commission Communication called on social media and platforms to counteract disinformation and misinformation by joining the **2018 Code of Practice on Disinformation** – the first self-regulatory code setting standards to address the spread of online disinformation agreed by representatives of online platforms, leading tech companies and the advertising industry.

Although the actions implemented by the signatories of the 2018 Code in response to COVID-19-related disinformation technically fell outside the scope of the first-year evaluation of the 2018 Code**, the Code was preliminarily assessed as an effective tool to limit the spread of online disinformation**. For example, it **helped to ensure due prominence on online platforms to information provided by public health authorities, to reduce the distribution of false or misleading content, or to remove content directly harming public health, safety and security in violation of the terms of service**[145].

Conversely, **certain non-signatory platforms of the 2018 Code contributed significantly to the spread of disinformation around the crisis**[146]. In particular, Messenger and WhatsApp were considered to be significant vectors contributing to the spread of disinformation within closed groups[147].

Online platform signatories of the 2018 Code were asked to start publishing **baseline reports** in September 2020 **on their policies and actions to address COVID-19 related disinformation** covering a period from August 2020 until May 2022. This was done in the spirit of establishing a **monitoring and reporting programme** as requested by the EC[148]. The EC also strongly encouraged other relevant stakeholders that were not signatories to the 2018 Code to participate in the monitoring programme voluntarily.

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142 Bressanelli, E., et al., 2020, *Institutions and foreign interferences*, publication for the Committee on Constitutional Affairs, Policy Department for Citizens' Rights and Constitutional Affairs, European Parliament, Luxembourg. Available at: https://www.europarl.europa.eu/thinktank/en/document/IPOL_STU(2020)655290.

143 Ibid.

144 European Commission, 2020, *Joint Communication to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions on Tackling COVID-19 disinformation - Getting the facts right*, JOIN(2020) 8 final. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020JC0008.

145 European Commission, 2020, *Assessment of the Code of Practice on Disinformation – Achievements and areas for further improvement.* Available at: https://ec.europa.eu/newsroom/dae/document.cfm?doc_id=69212.

146 Ibid. See also Strapagiel, L., *COVID-19 Conspiracy Theorists Have Found A New Home On TikTok*, Available at: https://www.buzzfeednews.com/article/laurenstrapagiel/pandemic-conspiracy-theorists-disinformation-tiktok.

147 ERGA Report, 2020, *Notions Of Disinformation And Related Concepts*. Available at: https://erga-online.eu/wp-content/uploads/2021/03/ERGA-SG2-Report-2020-Notions-of-disinformation-and-related-concepts-final.pdf.

148 European Commission, 2020, *Assessment of the Code of Practice on Disinformation – Achievements and areas for further improvement.* Available at: https://digital-strategy.ec.europa.eu/en/library/assessment-code-practice-disinformation-achievements-and-areas-further-improvement.

Specifically, these reports highlight the following:

- **Initiatives to promote authoritative content at EU and Member State level** – for example, through their "COVID-19 Information Center", Facebook and Instagram directed over 2 billion people globally to resources from the WHO and other health authorities, with over 600 million people clicking through to learn more at the height of the pandemic between January and July 2020[149];
- **Initiatives and tools to improve users' awareness** – for example, TikTok developed the "Know your Facts" tool inviting users to pause before they share unsubstantiated content[150]. Beyond the scope of their services, social media and platforms have also established partnerships with third-party organisations, including fact-checkers, to support user awareness;
- **Manipulation and malign influence operations or coordinated inauthentic behaviour detected and terminated on their services** – Yet, the first set of baseline reports reveal that while platforms detected a high number of content, including false information related to COVID-19, they did not identify any coordinated disinformation operations with a specific focus on the COVID-19 run on their services[151]; and
- **Data on flows of advertising linked to COVID-19 disinformation –** Signatories of the 2018 Code were asked to provide data broken down by Member State on policies undertaken to limit advertising placement linked to COVID-19 disinformation.

In practice, according to the DCU Institute for Future Media, Democracy and Society, which analysed the 47 transparency reports, a quarter of all actions concerned the promotion of authoritative content, such as links to information provided by the WHO or national health authorities. The most common action areas were advertising responses (17%) and blocking, removing or demoting content (13%)[152]. Possible critic to such reporting concerns the fact that some reported actions seemed unrelated to COVID-19 disinformation, as well as the lack of disaggregated data per Member State. Beyond the 2018 Code, other platform initiatives proved essential in the fight against COVID-19 misinformation and disinformation. Collaborations with fact-checkers and health authorities to flag and remove disinformation and the provision of free advertising credits to health authorities, such as the WHO and national health authorities, to help them disseminate critical information regarding COVID-19, are examples of such initiatives[153].

Overall, the COVID-19 "disinfodemic" revealed further the shortcomings of the 2018 Code that is inherent in its self-regulatory nature. Building on the Commission's Guidance to strengthen the 2018 Code of Practice on Disinformation issued in May 2021[154], which outlined several shortcomings of the

[149] European Commission, 2020, *Facebook response to the European Commission Communication on COVID-19 Disinformation*, First baseline reports – Fighting COVID-19 disinformation Monitoring Programme. Available at: https://digital-strategy.ec.europa.eu/en/library/first-baseline-reports-fighting-covid-19-disinformation-monitoring-programme.

[150] European Commission, 2021, *TikTok March 2021 Report*, Reports on March actions – Fighting COVID-19 Disinformation Monitoring Programme. Available at: https://digital-strategy.ec.europa.eu/en/library/reports-march-actions-fighting-covid-19-disinformation-monitoring-programme.

[151] European Commission, 2020, *First baseline reports – Fighting COVID-19 disinformation Monitoring Programme*. Available at: https://digital-strategy.ec.europa.eu/en/library/first-baseline-reports-fighting-covid-19-disinformation-monitoring-programme.

[152] Culloty, E., et al., 2021, *COVIDCHECK - Assessing the implementation of EU Code of Practice on disinformation in relation to COVID-19 Report*, DCU Institute for Future Media, Democracy and Society. Available at: https://doras.dcu.ie/26472/1/20210914_Final-Report_DCU.pdf.

[153] EU DisinfoLab, 2021, *One Year Onward: Platform Responses to COVID-19 and US Elections Disinformation in Review*. Available at: https://www.disinfo.eu/publications/one-year-onward-platform-responses-to-covid-19-and-us-elections-disinformation-in-review/.

[154] European Commission, 2021, *Guidance on Strengthening the Code of Practice on Disinformation,* COM(2021) 262 final. Available at: https://eur-lex.europa.eu/legal-content/en/TXT/?uri=CELEX%3A52021DC0262.

existing monitoring framework, 34 signatories ratified the **strengthened Code of Practice on Disinformation** on 16 June 2022[155] (further discussed in section 3.3).

[155] European Commission, 2022, *The 2022 Strengthened Code of Practice on Disinformation.* Available at: https://digital-strategy.ec.europa.eu/en/library/2022-strengthened-code-practice-disinformation.

3. ADDRESSING COVID-19 DISINFORMATION AND MISINFORMATION PRACTICES

KEY FINDINGS

A significant number of important measures to counter disinformation and misinformation and manipulative foreign influence have been taken within the EU, both by the EC (Communication on Tackling COVID-19 disinformation - Getting the facts right, European Democracy Action Plan and DSA) and through a diverse set of legal and non-legal instruments in the Member States.

Some Member States, namely Bulgaria, Hungary, Romania, Spain and Sweden, made or planned to make changes in their legislation by criminalising the dissemination of false information. The only Member State in the EU which passed a law to counter disinformation related to COVID-19 is Hungary. However, all Member States introduced restrictions on the freedom of assembly, except Sweden.

From a fundamental rights perspective, the COVID-19 pandemic forced decision-makers into uncharted territory, as they had to introduce measures effectively protecting public health and public order, which at the same time had to pass the test of necessity and proportionality to avoid unjustified restrictions to fundamental rights.

Lastly, the "infodemic" and disinformation surrounding COVID-19 have highlighted the challenges still to be overcome and the need to equip the EU with new instruments to improve responses to disinformation in the future. In this respect, the strengthened Code of Practice on Disinformation adopted on 16 June 2022 follows a co-regulatory backstop interlinked with the DSA, and aims to address the shortcomings identified in the 2018 Code. In times of crisis, the DSA foresees the initiation of crisis response by Very Large Online Platforms and Very Large Online Search Engines (VLOPSEs). However, it is regrettable that the 2022 Code does not define precisely the notions of special situations or crisis cases in the context of the Code.

Beyond the EU Code and the DSA, a multi-stakeholder co-operation and co-ordination on a common transparency reporting from online platforms should be encouraged, as well as international cooperation between countries and international institutions.

This third chapter presents an overview of measures taken at the EU and national level to address COVID-19 disinformation and misinformation; it assesses the potential risks of these measures and indicates ongoing developments that could improve the future crisis response in Europe.

3.1. Responses to COVID-19 disinformation and misinformation practices across the EU

A significant number of important measures to counter disinformation, misinformation, and manipulative foreign influence have been taken within the EU by the EC and the Member States.

At EU level, measures to counter the spread of disinformation were detailed in the Communication on Tackling COVID-19 disinformation – Getting the facts right[156] of 6 June 2020. The EU demanded that Member States, international organisations, and third countries work together more closely, both through established channels like the RAS launched by the EEAS[157], and through strategic communications that combat disinformation. Communication is part of a broader approach to strengthening democracy highlighted in the EDAP and complemented by the DSA, which will be further detailed in section 3.3 below.

At national level, this analysis focuses on emergency measures tackling disinformation on COVID-19 taken in **nine Member States** (Bulgaria, France, Germany, Hungary, Italy, Lithuania, the Netherlands, Portugal and Sweden).

Countermeasures to COVID-19 disinformation and misinformation in Bulgaria

During the COVID-19 pandemic, Bulgaria was one of the worst-performing Member States regarding the vaccination rates and the spread of disinformation practices related to COVID-19. By 1st March 2022, an average of 71% of the EU population had completed the vaccination course, while in Bulgaria, this share was only 29%, the lowest result among EU Member States[158]. In addition, Bulgarian consumers have been ranked as the most vulnerable to fake news and disinformation out of the 27 Member States[159].

Considering this critical situation, public authorities and non-governmental organisations initiated several measures to reduce the impact of the COVID-19 disinfodemic on Bulgarian society.

Concerning public authorities, the public campaign "+ Me"[160], initiated by the Ministry of Health, raised awareness about the benefits of vaccines and vaccination against COVID-19. The campaign website presents information regarding the variants of COVID-19, types of vaccines, and the benefits of vaccination. The information on the website is provided in multiple forms: articles, videos, statistical data, and images.

According to the Ministry of Health, prior to the launch of this campaign, information regarding COVID-19 was provided by independent stakeholders, including multiple hospital associations, medical societies, individual medical facilities, doctors, experts, and other stakeholders[161]. To remedy the lack of a centralised approach, the Ministry of Health launched the campaign at the beginning of 2022[162]. In comparison, national informational campaigns and websites regarding COVID-19 in other Member

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156 European Commission, 2020, *Joint Communication to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions on Tackling COVID-19 disinformation - Getting the facts right*, JOIN(2020) 8 final. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020JC0008.

157 The Rapid Alert System is a dedicated digital platform where EU Member States and EU institutions can share insights on disinformation and coordinate responses and where national contact points coordinate their government's participation and share information and best practices. See: https://www.eeas.europa.eu/sites/default/files/ras_factsheet_march_2019_0.pdf.

158 Ministry of Health Republic of Bulgaria, 2022, + *ME*. Available at: https://plusmen.bg/.

159 Open Society Institute – Sofia, 2021, *Media Literacy Index 2021*. Available at: https://osis.bg/?p=3750&lang=en.

160 Ministry of Health Republic of Bulgaria, 2022, + ME. Available at: https://plusmen.bg/.

161 Ibid.

162 Ibid.

States had been launched already in 2020. This suggests that that for a long time, the information about COVID-19 in Bulgaria was disseminated by multiple independent sources, leading to varying levels of awareness among Bulgarian society with regard to vaccination, variants of COVID-19, protection against COVID-19, etc.

Another key measure against COVID-19 disinformation practices in Bulgaria stems from the Association of European Journalists-Bulgaria (AEJ). In May 2021, the association launched Bulgaria's first fact-checking platform [163]. Similarly to other fact-check platforms online, the Bulgarian platform aims to provide verified and reliable information on topics which are frequently targeted by disinformation campaigns. The platform checks information and articles on various topics, including sustainability, telecommunications, international relations, etc. However, the two most prominent topics investigated are the war in Ukraine and COVID-19. In fact, key reasons for launching this platform were the spread of "fake news" related to COVID-19 and to address the low vaccination rates in Bulgaria [164].

The initiation of these measures is an overall positive development in terms of introducing tools for Bulgarian society to detect and combat disinformation practices online.

Nonetheless, further efforts are needed by public authorities and non-governmental organisations to continue tackling disinformation and to raise awareness within Bulgarian society. COVID-19 has proven that Bulgaria is one of the most vulnerable Member States in the EU regarding the spread of disinformation and misinformation. Further measures are needed to combat this phenomenon.

Countermeasures to COVID-19 disinformation and misinformation in France

In France, the law of 22 December 2018 (before COVID-19) addresses the manipulation of information in the digital age and the spread of false information ("fake news") and disinformation [165]. While this law came into force before the COVID-19 crisis and could act as a starting point for tailored action in the context of the pandemic, its application is limited in time to electoral campaign periods.

In the specific context of the COVID-19 "infodemic" and initiatives taken to counteract disinformation and misinformation in France, it is necessary to recall the overall context at that time. Indeed, the disputed proposed "Avia law" [166] aiming to strengthen the contribution of digital operators to the fight against certain manifestly hateful content online was the subject of a decision by the Constitutional Council [167]. The bill required online platforms and search engines to remove, within 24 hours, after notification by one or more persons, manifestly illegal content such as incitement to hatred and racist or anti-religious insults. Following the appeal initiated by at least 60 senators, in June 2020 the Constitutional Council ruled that provisions infringing freedom of expression were unconstitutional. This ruling had a considerable impact in France and beyond, including on the DSA negotiations. Therefore, no specific law on COVID-19 disinformation came into being at the time.

Overall, most government initiatives in France focused on sharing reliable health information about COVID-19 to counter disinformation and misinformation. The French government added selected news outlets that were conducting fact checks to their dedicated coronavirus information webpage in

[163] Association of European Journalists-Bulgaria (AEJ), 2022, *Factcheck.bg*. Available at: https://factcheck.bg/.

[164] Ibid.

[165] Parliament of the French Republic, Law no. 2018-1202 of the 22nd of December 2018 on the fight against information manipulation (LOI no 2018-1202 du 22 décembre 2018 relative à la lutte contre la manipulation de l'information). Available at: https://www.legifrance.gouv.fr/jorf/_id/JORFTEXT000037847559.

[166] Parliament of the French Republic (Assemblée nationale), 2020, *Proposition de loi n°419 visant à lutter contre les contenus haineux sur internet*. Available at: https://www.assemblee-nationale.fr/dyn/15/textes/l15t0419_texte-adopte-seance.

[167] Conseil Constitutionnel, Décision n° 2020-801 DC du 18 juin 2020. Available at: https://www.conseil-constitutionnel.fr/decision/2020/2020801DC.htm/.

mid-April 2020. However, this was later deleted because of a backlash due to a potential infringement of the freedom of the press and their independence from public authorities[168]. In addition, the French Health Ministry set up a task force to promote authoritative content, together with a network of experts.

Regarding foreign information manipulation and interference, a new agency called "Viginum" (Vigilance and Protection Service against Foreign Digital Interference) was established in July 2021 and became operational later that year to respond to foreign interference in the French presidential election in 2017. Its mission is to identify foreign disinformation campaigns (either from a foreign state or a foreign non-state entity) that disseminate online manifestly inaccurate or misleading accusations aimed at harming the fundamental interests of France.

Countermeasures to COVID-19 disinformation and misinformation in Germany

As an introductory remark, Germany has no specific legislation on countering disinformation but plans to amend laws and introduce new regulatory approaches are underway[169].

Nevertheless, certain measures are worth mentioning as, to some extent, they could prove to be effective in the fight against disinformation and misinformation. The first measure – already in force in 2018 – is the German Network Enforcement Act (Netzwerkdurchsetzungsgesetz - NetzDG)[170], which aims to counter hate speech on online platforms. The German Federal Office of Justice is responsible for enforcing this act, which encompasses the handling of a complaint system of reported cases of hate speech and the monitoring of compliance by online platforms with decisions taken on hate speech cases by the authorities. However, the Federal Office of Justice or other authorities do not have the power to delete content from, or suspend accounts of, online platforms. Disinformation activities can also fall under the scope of the NetzDG and German media authorities are mapping opportunities of further regulation related to disinformation[171].

A second provision that is worth mentioning is Article 83 of the German Criminal Code[172] (already in force before the pandemic), according to which anyone who establishes a specific treasonous enterprise (*hochverräterisches Unternehmen*) against the Federal Republic of Germany or against another country is punishable by imprisonment[173]. However, it remains uncertain whether an organisation conducting disinformation activities could be regarded as falling under the scope of this provision.

The third legislative tool countering disinformation and misinformation identified in Germany is the Interstate Media Treaty (Medienstaatsvertrag - MStV), which entered into force in November 2020. According to the MStV, advertisements of a political, ideological, and religious nature are prohibited.

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168 Institut Montaigne, 2020, *Information Manipulations Around Covid-19: France Under Attack*. Available at: https://www.institutmontaigne.org/ressources/pdfs/publications/information-manipulations-around-covid-19-france-under-attack-policy-paper_0.pdf.

169 Media Authority of North Rhine-Westphalia, 2021, *Disinformation Risks, Regulatory Gaps and Adequate Countermeasures*, Expert Opinion Commissioned by the Landesanstalt für Medien NRW. Available at: https://www.medienanstalt-nrw.de/fileadmin/user_upload/NeueWebsite_0120/Themen/Desinformation/Leibnitz-Institute_LFMNRW_StudyDisinformation.pdf.

170 Act of 1 September 2017 to Improve Law Enforcement in Social Networks (Network Enforcement Act – NetzDG). Available at: https://www.gesetze-im-internet.de/netzdg/BJNR335210017.html.

171 ERGA Report, 2020, *Notions Of Disinformation And Related Concepts*. Available at: https://erga-online.eu/wp-content/uploads/2021/03/ERGA-SG2-Report-2020-Notions-of-disinformation-and-related-concepts-final.pdf.

172 Article 83 of the German Criminal Code (Strafgesetzbuch – StGB). Available at: https://www.gesetze-im-internet.de/stgb/BJNR001270871.html#BJNR001270871BJNG003602307.

173 ERGA Report, 2020, *Notions Of Disinformation And Related Concepts*. Available at: https://erga-online.eu/wp-content/uploads/2021/03/ERGA-SG2-Report-2020-Notions-of-disinformation-and-related-concepts-final.pdf.

While online platforms are not covered by this provision, they still must clearly indicate the advertiser or client[174]. Furthermore, based on Article 19 of the MStV, services with 'journalistically and editorially designed offers'[175] are required to comply with journalistic principles, which means – although not explicitly mentioned – that journalists must refrain from disinformation activities and take the necessary steps to avoid misinformation.

A fourth measure implemented by the Federal Centre for Health Education (Bundeszentrale für gesundheitliche Aufklärung - BZgA) was the further improvement of its webpage (www.infektionsschutz.de), containing frequently asked questions concerning inquiries related to COVID-19[176]. Moreover, the BzgA provided telephone counselling for COVID-19-related health questions and a website (www.zusammengegencorona.de) supporting especially persons with mental health issues and their relatives.

Fifthly, the German government has created a steering committee (Service Centre Corona Vaccination Dialogue) at federal level to 'ensure comprehensive and targeted communication'[177], consisting of representatives of, among others, the Federal Ministry of Health, the Robert Koch Institute (RKI) and the BzgA.

With regard to non-state actors' action in Germany, CORRECTIV's fact-checking team (founded in 2014) plays a vital role in discovering and countering disinformation and misinformation. The organisation monitors possible cases of disinformation circulating on the internet and runs a channel on WhatsApp where readers can signal potential disinformation cases[178].

Countermeasures to COVID-19 disinformation and misinformation in Hungary

Hungary is the only Member State in the EU that passed a law to counter disinformation related to COVID-19[179]. Act XII of 2020 on the protection against the coronavirus amended section 337 on fearmongering (*rémhírterjesztés*) of the Hungarian Criminal Code by introducing a new paragraph. The amendment stipulates that:

"any conduct of uttering or publishing a statement one knows to be false or with a reckless disregard for its truth or falsity at times of special legal order with intent to obstruct or prevent the effectiveness of protective measures shall be construed as a felony offence and shall be punishable by imprisonment between one to five years"[180].

Consistently, the Hungarian Media and Infocommunications Authority (Nemzeti Média- és Hírközlési Hatóság - NMHH) maintains an Internet Hotline service where acts of fearmongering in the online

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174 Möller, J., Hameleers, M., and Ferreau, F., 2020, *Typen von Desinformation und Misinformation, die medienanstalten – ALM GbR (Hrsg.)*. Available at: https://www.die-medienanstalten.de/publikationen/weitere-veroeffentlichungen/artikel/typen-von-desinformation-und-misinformation.

175 Article 19 of the Second Interstate Treaty Amending Media Law of 27 December 2021 (Medienstaatsvertrag - MStV). Available at: https://www.die-medienanstalten.de/fileadmin/user_upload/Rechtsgrundlagen/Gesetze_Staatsvertraege/Medienstaatsvertrag_MStV.pdf.

176 von Rüden, et al., 2021, *Bedarfsbezogene Kommunikationsstrategie der Bundeszentrale für gesundheitleiche Aufklärung (BzgA) während der COVID-19-Pandemie*. Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7893380/.

177 Seefeld, L., et al., 2022, *Häufig gestellte fragen (FAQ) in der Risikokommunikation zu COVID-19: Erstellung und Bedeutung als interinstiutionelles Krisenreaktionsinstrument*. Available at: https://link.springer.com/article/10.1007/s00103-022-03532-z.

178 European Committee of the Regions, 2022, *Developing a handbook on good practice in countering disinformation at local and regional level*. Available at: https://cor.europa.eu/en/engage/studies/Documents/Developing%20a%20handbook%20on%20%20good%20practice%20in%20countering%20%20disinformation%20at%20local%20%20and%20regional%20level/Online-disinformation_full%20study.pdf.

179 ERGA Report, 2020, *Notions Of Disinformation And Related Concepts*. Available at: https://erga-online.eu/wp-content/uploads/2021/03/ERGA-SG2-Report-2020-Notions-of-disinformation-and-related-concepts-final.pdf.

180 Article 337 of Act C of 2012 on the Criminal Code. Available at: https://net.jogtar.hu/jogszabaly?docid=A1200100.TV.

sphere can be reported (which are forwarded to the police for further scrutiny)[181]. Alongside, other 'misleading online news' can also be notified to the NMHH. An additional measure by NMHH to be underlined is that in March 2020, the authority 'called on content and media service providers (…) to strive to provide precise, comprehensive information'[182].

For the sake of clarity, it should be added that Hungary declared a state of danger (*veszélyhelyzet*) in March 2020 as an emergency response to the outbreak of the coronavirus pandemic. The state of danger is a type of special legal order laid down in the Hungarian constitution (Fundamental Law of Hungary). Where a state of danger is declared, the government is authorised to emit decrees, by which it may suspend the application of, or derogate from, the provisions of certain acts.

To pursue a centralised and coherent crisis communication on COVID-19, the government established the Task Force responsible for protecting the public against the coronavirus pandemic. Throughout the COVID-19 waves, the Task Force held daily meetings (until 2021), followed by a press briefing. It was led by the Minister of Interior and the Minister of human resources. The chief medical officer of Hungary and the chief of the national police headquarters were also members of the Task Force.

Countermeasures to COVID-19 disinformation and misinformation in Italy

Italy was the country with the highest percentage of people accessing news and information about the virus daily (58%). Indeed, during the course of the pandemic, it overtook countries like Korea, Japan and US. The proportion of disinformation accessed by the Italian public was published online[183]. According to the Italian Communications Authority (Autorità per le Garanzie nelle Comunicazioni - AGCOM), coronavirus content rose from 5% in early January to 46% in late March 2020[184]. During this timeframe, COVID-19 posts increased to 36% of all messages produced by disinformation sources[185].

Attempts to tackle disinformation by the Italian government were made before the pandemic. Indeed ahead of the Italian general elections in 2018, the AGCOM created a self-regulation initiative to combat online disinformation. The AGCOM set up a working group comprising social media platforms and Italian newspaper representatives and issued a set of guidelines, which members of the working group could adopt to ensure equal party treatment[186]. In addition, in 2018, the Italian Government created a portal through the Commissariato di Polizia Postale e delle Comunicazioni (Postal and Communications Police Office), where citizens could report disinformation. Citizens would highlight suspicious news by sending an email and the link of the suspected article to the online website of the "Commissariato di P.S online". The state police would then review and fact-check the information, and legal action would be taken where required. Furthermore, since 2018, local Italian groups have been collaborating with Facebook to fact-check disinformation found online.

The Ministry of Health played a central role in communicating and transferring the correct information to the Italian population. The Ministry would address these issues through its Facebook page to respond to the inaccurate information circulating across the country. The ministerial Facebook page

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181 Hungarian Media and Infocommunications Authority (NMHH), 2020, *NMHH market research: fake news is most prominent on social media websites*. Available at: https://english.nmhh.hu/article/213077/NMHH_market_research_fake_news_is_most_prominent_on_social_media_websites.

182 Ibid.

183 Lovari, A., 2020, *Spreading (Dis)Trust: Covid-19 Misinformation and Government Intervention in Italy*, Media and Communication, Volume 8, Issue 2, pp. 458–461. Available at: https://www.cogitatiopress.com/mediaandcommunication/article/view/3219.

184 Ibid.

185 Ibid.

186 ERGA Report, 2020, *Notions Of Disinformation And Related Concepts*. Available at: https://erga-online.eu/wp-content/uploads/2021/03/ERGA-SG2-Report-2020-Notions-of-disinformation-and-related-concepts-final.pdf.

acted as a reliable institutional source. Within the first two months of the pandemic, the page published 301 posts, 94% of which were about COVID-19[187]. In addition, the Ministry of Health also devoted its attention to its ministerial website by providing a thematic page (published in Italian and English) disproving more than 50 COVID-19 hoaxes circulating on social media[188].

Finally, the AGCOM published special reports on online disinformation, assessing online platforms' role in misinforming the public, providing fact checks and identifying manipulative trends[189].

Italian fact-checking platforms were also involved in addressing COVID-19 disinformation. For instance, Pagella Politica and SOMA Disinfobservatory, two apolitical non-governmental editorial platforms (registered in the Court of Milan), have been fighting misinformation in the country before the rise of the pandemic. In the early periods of COVID-19, Pagella Politica, in collaboration with SOMA Disinfobservatory, organised workshops on how to administer fact-checking and debunking in a time of crisis as well as understanding the importance of international cooperation to counter cross-border disinformation[190].

Countermeasures to COVID-19 disinformation and misinformation in Lithuania

Lithuania is the sole Member State with a definition of disinformation enshrined in its domestic legislation[191]. According to Lithuanian Law on the Provision of Information to the Public, passed already before 2019, disinformation is 'intentionally disseminated false information'[192], and its dissemination is prohibited. However, the law's wording bans disinformation towards individuals but does not explicitly prohibit disinformation towards groups of society or countries[193].

Moreover, Lithuania has taken significant steps to counter disinformation before the COVID-19 pandemic[194]. Proactive engagement from both state (e.g. Lithuanian Ministry of Defence[195]) and non-state actors (e.g. Lithuanian 'elves' fighting disinformation[196]) was observed prior to the pandemic, as shown by the following examples. Firstly, the government tightened media rules by restricting access

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187 Lovari. A, 2020, *Spreading (Dis)Trust: Covid-19 Misinformation and Government Intervention in Italy*, Media and Communication, Volume 8, Issue 2, pp. 458–461. Available at: https://www.cogitatiopress.com/mediaandcommunication/article/view/3219.

188 Ibid.

189 AGCOM, 2022, *Report on online disinformation*. Available at: https://www.agcom.it/ricerca-sito?p_p_id=ricercasito_WAR_ricercasitoportlet&p_p_lifecycle=1&p_p_state=normal&p_p_mode=view&p_p_col_id=column-1&p_p_col_count=1&_ricercasito_WAR_ricercasitoportlet_javax.portlet.action=userSearch&_ricercasito_WAR_ricercasitoportlet_ins_fulltext=report+on+disinformation&x=0&y=0.

190 The Beacon Project, 2020, *The Italian Infodemic: Lessons From Fact-Checking on COVID-19*. Available at: https://www.iribeaconproject.org/event/italian-infodemic.

191 ERGA Report, 2020, *Notions Of Disinformation And Related Concepts*. Available at: https://erga-online.eu/wp-content/uploads/2021/03/ERGA-SG2-Report-2020-Notions-of-disinformation-and-related-concepts-final.pdf.

192 Article 1 (point 13) and Article 19 of Law No. I-1418 of 2 July 1996 on the Provision of Information to the Public of the Republic of Lithuania. Available at: I-1418 Republic of Lithuania Law on the Provision of Information to the Public (lrs.lt).

193 ERGA Report, 2020, *Notions Of Disinformation And Related Concepts*. Available at: https://erga-online.eu/wp-content/uploads/2021/03/ERGA-SG2-Report-2020-Notions-of-disinformation-and-related-concepts-final.pdf.

194 Kersanskas, V., 2021, *Deterring Disinformation? Lessons from Lithuania's Countermeasures since 2014*. Available at: https://www.hybridcoe.fi/wp-content/uploads/2021/04/20210427_Hybrid-CoE-Paper-6_Deterring_disinformation_WEB.pdf.

195 NATO, 2020, *NATO's Approach to Countering Disinformation: A Focus on COVID-19*. Available at: https://www.nato.int/cps/en/natohq/177273.htm.

196 Kersanskas, V., 2021, *Deterring Disinformation? Lessons from Lithuania's Countermeasures since 2014*. Available at: https://www.hybridcoe.fi/wp-content/uploads/2021/04/20210427_Hybrid-CoE-Paper-6_Deterring_disinformation_WEB.pdf.

to online resources[197]. Secondly, two NGOs, namely Debunk.eu[198] along with Demauskok[199], monitor disinformation activities and use technological tools based on Artificial Intelligence to counter it.

Moreover, the Lithuanian Defence Policy White Paper from 2017 mentioned monitoring and analysing disinformation activities[200]. It should be added that the National Threat Assessments for 2021[201] and 2022[202] both highlighted the importance of foreign interference (referring to disinformation rather as 'propaganda').

In addition, the majority of the disinformation practices monitored by the Lithuanian authorities concern the practices from third countries regarding national safety and defence. Furthermore, most measures against disinformation in Lithuania focus on identifying disinformation practices via monitoring social media platforms and websites, and educating the general public on how to identify such practices and how to avoid disinformative or misleading data sources[203].

Nonetheless, a legislative initiative is ongoing in the Parliament of Lithuania (proposed by the Committee on National Security and Defence) to establish penalties (e.g. fines) for creators and editors of disinformative content (e.g. fake accounts on social media platforms, bots, phishing websites, etc.)[204].

Countermeasures to COVID-19 disinformation and misinformation in the Netherlands

In the Netherlands, fake news played a prominent role during the second pandemic wave. Vaccination risk levels, use of alternative remedies, long term side-effects on children and fertility were the main themes circulating across the country.

Disinformation and misinformation were mainly tackled through research and fact-checking institutions. Independent institutions in the Netherlands, such as Leiden University[205] and DPA Factcheck[206], were under intense pressure to correct incomplete information and prevent it from spreading. Alleged disinformation would be forwarded to them for independent verification. Only in highly exceptional cases would the government respond to alleged disinformation.

Government involvement would mainly occur when an incorrect message was disseminated with the false allegation that the Dutch government published it[207]. The Dutch Ministry of Health prepared its disinformation and misinformation strategy by following the EU guidelines for tackling disinformation[208]. The Ministry of Health would publish articles, post on their social media and create

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197 Romanova, T.A., Sokolov, N.I., and Kolotaev, Y.Y., 2020, *Disinformation (fake news, propaganda) as a threat to resilience: approaches used in the EU and its member state Lithuania*, Balt. Reg., Vol. 12, No. 1. Available at: https://cyberleninka.ru/article/n/disinformation-fake-news-propaganda-as-a-threat-to-resilience-approaches-used-in-the-eu-and-its-member-state-lithuania/viewer.

198 "Debunk EU" is an independent technological analytical centre and an NGO, whose main task is to research disinformation in the public space and execute educational media literacy campaigns. Available at: https://debunk.eu/about-debunk/.

199 Demauskok (WEB). Available at: https://demaskuok.lt/apie-projekta/.

200 Romanova, T.A., Sokolov, N.I., Kolotaev, Y.Y., 2020, *Disinformation (fake news, propaganda) as a threat to resilience: approaches used in the EU and its member state Lithuania*, Balt. Reg., Vol. 12, No. 1. Available at: https://cyberleninka.ru/article/n/disinformation-fake-news-propaganda-as-a-threat-to-resilience-approaches-used-in-the-eu-and-its-member-state-lithuania/viewer.

201 State Security Department of Lithuania, 2021, *National Threat Assessment 2021*. Available at: https://www.vsd.lt/en/threats/threats-national-security-lithuania/.

202 State Security Department of Lithuania, 2022, *National Threat Assessment 2022*. Available at: https://www.vsd.lt/en/threats/threats-national-security-lithuania/.

203 Interview with the Strategic Communication Unit of the Government Communication Department conducted on 23.11.2022.

204 Interview with the Strategic Communication Unit of the Government Communication Department conducted on 23.11.2022.

205 Leiden University, 2022, *Newscheckers*, Netherlands. Available at: https://nieuwscheckers.nl/.

206 DPA, 2022, *Factchecking*. Available at: https://dpa-factchecking.com/about/netherlands/.

207 National Coordination for Security and Counterterrorism, 2021, *Guide to the COVID-19 strategy in the Netherlands*, Netherlands. Available at: https://www.nctv.nl/documenten/publicaties/2021/06/21/guide-to-the-covid-19-strategy-in-the-netherlands-june-2021.

208 European Commission, 2020, *Tackling corona virus disinformation*. Available at: https://commission.europa.eu/strategy-and-policy/coronavirus-response/fighting-disinformation/tackling-coronavirus-disinformation_en.

leaflets to raise awareness of disinformation, how to avoid it and the benefits of the vaccine. In addition, the Dutch government designed a game[209] where people could learn about the strategies used to combat disinformation[210].

Many influencers contributed to the spread of false information[211], including some medical professionals. Examples of incorrect information originating from professionals include promoting medicines that are not intended against corona and advising against COVID-19 vaccination[212]. From March 2020 to January 2022, the Ministry of Health received over 300 (anonymous) reports of incorrect information provided by doctors. Making unfounded statements is not prohibited in the Netherlands. However, if the statements endanger the public health of the country, then the ministry could take action[213].

In such cases, the Ministry of Health's Inspectorate would take action by offering an instruction, an order or imposing a fine on the medical professional. A fine of 3000 EUR was imposed on medical providers who prescribed medicines that were not intended against the virus. At an extreme level, the inspectorate could also forward the matter to the disciplinary court[214], that would issue a warning or a suspension of the healthcare professional.

No studies have so far been conducted to assess the effectiveness of the measures used by the government and independent institutions.

Countermeasures to COVID-19 disinformation and misinformation in Portugal

Similarly to other EU Member States, Portugal has been addressing misinformation before the rise of COVID-19. More specifically, two newspapers, Polígrafo and Observador[215], have created their own fact-checking department. Both newspapers are certified by the International Fact-Checking Network (IFCN). In 2015, the Observador decided to create a section dedicated to fact-checking, thereby becoming the first Portuguese newspaper with a department entirely dedicated to fact-checking duties. Today, Observador has more than three hundred published news articles[216].

The Portuguese Ministry of Health launched a website during the pandemic which offered official and updated information on COVID-19. The website is no longer accessible, possibly because the Portuguese government no longer sees the virus as a threat to the country[217].

Countermeasures to COVID-19 disinformation and misinformation in Sweden

At the beginning of the COVID-19 pandemic, Sweden implemented a similar strategy to most other countries, working to "flatten the curve" by slowing transmission so that the healthcare system could

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209 With the help of the University of Cambridge.

210 University of Cambridge, 2022, *Cambridge Social Decision-Making Lab*. Available at: https://www.sdmlab.psychol.cam.ac.uk/research/bad-news-game.

211 National Coordination for Security and Counterterrorism, 2021, *Guide to the COVID-19 strategy in the Netherlands*, Netherlands. Available at: https://www.nctv.nl/documenten/publicaties/2021/06/21/guide-to-the-covid-19-strategy-in-the-netherlands-june-2021.

212 Ministry of Health, Welfare and Sport, 2022, *Coronavirus disinformation*. Available at: https://www.igj.nl/onderwerpen/desinformatie-covid-19.

213 Ibid.

214 Ibid.

215 Observador, 2022, *Fact Check*. Available at: https://observador.pt/seccao/observador/fact-check/.

216 Batista, F., et al., 2020, *Towards the Identification of Fake News in Portuguese*, Slate. Available at: https://repositorio.iscte-iul.pt/bitstream/10071/22745/1/conferenceobject_74085.pdf.

217 ePortugal, 2022, *COVID-19: informative portal of the Directorate General of Health*. Available at: https://eportugal.gov.pt/en/noticias/dgs-lanca-portal-com-informacoes-sobre-coronavirus.

cope with the disease[218]. However, unlike most other countries, much of Sweden's implementation focused on voluntary and stepwise action rather than legislation and compulsory measures[219]. This type of strategy led to an increase in disinformation practices (driven mainly by third countries) regarding the effectiveness of Sweden's response to COVID-19.

In terms of the disinformation originating from third countries, international media described the Swedish approach in a negative way referring to it as 'the herd immunity strategy' and a 'risky experiment'[220]. Some of these narratives result from the convergence between domestic advocacy and foreign influence campaigns. For instance, both Chinese- and Russian-owned publications (the Global Times, RiaFan.ru) suggested that the international community should intervene in Sweden[221].

The spread of such narratives from abroad influenced groups of people in Sweden who relied on news about the disease's spread, its actual mortality, prevention strategies, and the political motivation behind the Swedish approach to COVID-19[222]. For example, some of these groups[223] have spread the disinformative and misinformative narratives originating from third countries that Sweden applies herd community strategy regardless of the recommendations from health experts or the WHO resulting in far higher mortality rates in Sweden than in other countries[224].

As a consequence, the government of Sweden implemented several measures to limit the spread of COVID-19 disinformation among its citizens. According to the Public Health Agency of Sweden and the Swedish Civil Contingencies Agency (Myndigheten för samhällsskydd och beredskap - MSB), dealing with disinformation from foreign channels was difficult, and the key countermeasures focused on increased availability of information (particularly information in multiple foreign languages) and increased training of the communicators[225].

In March 2020, the government tasked MSB to build crisis resilience and reduce vulnerabilities on a whole-of-society basis. MSB has since developed targeted efforts to increase local crisis communication and dialogue with vulnerable groups, most notably through the training of communicators and more targeted information campaigns (for instance, towards minority groups in vulnerable areas)[226].

In addition, in response to COVID-19 and the disinformation coming from foreign countries, a new governmental agency (the Swedish Psychological Defence Agency) was established in 2022 to identify, analyse and confront influencing operations and 'to strengthen the overall societal resilience'[227]. The

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218 Irwin, R. E., 2020, *Misinformation and de-contextualization: international media reporting on Sweden and COVID-19*, Global Health 16, 62. Available at: https://globalizationandhealth.biomedcentral.com/articles/10.1186/s12992-020-00588-x.

219 Ibid.

220 Vériter, S. L., et al., 2021, *Responding to the COVID-19 'infodemic': National countermeasures to information influence in Europe*, The Hague: The Hague Program for Cyber Norms. Available at: https://www.thehaguecybernorms.nl/research-and-publication-posts/responding-to-the-covid-19-infodemic-national-countermeasures-against-information-influence-in-europe.

221 Jerdén, B., 2020, *Sweden in: Covid-19 and Europe-China Relations a Country-Level Analysis*, edited by John Seaman, European Think-tank Network on China (ETNC). Available at: https://www.realinstitutoelcano.org/en/monographs/covid-19-and-europe-china-relations-a-country-level-analysis/.

222 Vériter, S. L., et al., 2021, *Responding to the COVID-19 'infodemic': National countermeasures to information influence in Europe*, The Hague: The Hague Program for Cyber Norms. Available at: https://www.thehaguecybernorms.nl/research-and-publication-posts/responding-to-the-covid-19-infodemic-national-countermeasures-against-information-influence-in-europe.

223 Closed Facebook groups, most notably one called 'Mediawatchdogs Sweden' and a group of scientists known as 'the 22'.

224 Irwin, R. E., 2020, *Misinformation and de-contextualization: international media reporting on Sweden and COVID-19*, Global Health 16, 62. Available at: https://globalizationandhealth.biomedcentral.com/articles/10.1186/s12992-020-00588-x.

225 Interviews with the Swedish stakeholders conducted on 21.11,2022 and 23.11.2022.

226 Svenonius, O., 2020, *Perspektiv på pandemin - Inledande analys och diskussion av beredskapsfrågor i ljuset av Coronakrisen*, Perspektiv på pandemin, edited by Eva Mittermaier, Niklas Granholm och Ester Veibäck, Stockholm: FOI, Swedish Defence Research Agency. Available at: https://www.researchgate.net/publication/342764693_Psykologiskt_forsvar_-_forebyggande_i_fokus.

227 Swedish Psychological Defence Agency, 2022, *Our Mission.* Available at: https://www.mpf.se/en/mission/.

agency's main mission is to lead the coordination and development of Sweden's psychological defence in collaboration with public authorities and other societal stakeholders[228].

Sweden has been reluctant to introduce any legal measures that would investigate and potentially limit the availability of information and punish the creators of disinformative content. This is due to the broad Swedish consensus around safeguarding citizens' freedom of expression. As a result, Sweden supports limiting moderation under the DSA to strictly illegal content and focusing on enhancing the transparency of social media companies[229].

3.2. Potentials risks associated with restrictive measures for the fundamental rights

Since countering disinformation has appeared on the agenda of the EC, safeguarding fundamental rights has also received particular attention[230]. In addition, the 2021 Guidance on Strengthening the 2018 Code of Practice on Disinformation states that the EU must focus on making 'the online environment and its actors more transparent and accountable' in its mission of coping with disinformation instead of criminalising or prohibiting disinformation itself. Following this trend, the 2022 Strengthened Code of Practice on Disinformation stipulates that the signatories are 'mindful of the fundamental right to freedom of expression, freedom of information, and privacy, and of the delicate balance that must be struck between protecting fundamental rights and taking effective action to limit the spread and impact of otherwise lawful content'[231].

From a fundamental rights perspective, the COVID-19 pandemic forced decision-makers into uncharted territory, as they had to introduce measures effectively protecting public health and the public order. These measures had to pass the tests of necessity and proportionality to avoid unjustified restriction of fundamental rights. In the same vein, the Venice Commission underlined that limitations to freedom of expression must be kept to a minimum even in emergencies, and parliamentary control over restrictive measures must be upheld[232].

Legislative measures taken against disinformation are part of this balancing action. As the EC pointed out, laws created to counter disinformation should avoid vague and non-specific language, as well as definitions and rules that are open to interpretation[233]. Imprecise regulation surrounding disinformation can lead to arbitrary evaluation and decisions by authorities, thus causing harm to fundamental rights, in particular to freedom of expression and freedom of the press. In other words, as indicated by the EC in its 2018 Communication on Tackling Online Disinformation, 'legal content, albeit

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228 Ibid.

229 Vériter, S., 2021, *European Democracy and Counter-Disinformation: Toward a New Paradigm?*, Carnegie Endowment for International Peace. Available at: https://carnegieendowment.org/2021/12/14/european-democracy-and-counter-disinformation-toward-new-paradigm-pub-85931.

230 The EDAP stresses that: "Democracy, the rule of law and fundamental rights are the foundations on which the European Union is based. Democracy can only thrive in a climate where freedom of information and freedom of expression are both upheld, in line with the Charter of Fundamental Rights (…)". See European Commission, 2020, *Communication on the European Democracy Action Plan*, COM(2020) 790 final. Available at: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/new-push-european-democracy/european-democracy-action-plan_en.

231 European Commission, 2022, *Shaping Europe's digital future: The 2022 Code of Practice on Disinformation*. Available at: https://digital-strategy.ec.europa.eu/en/policies/code-practice-disinformation.

232 Council of Europe, 2020, *COVID and Free Speech: The impact of COVID-19 and ensuing measures on freedom of expression in Council of Europe member states*, Available at: https://edoc.coe.int/fr/intelligence-artificielle/9284-covid-and-free-speech-the-impact-of-covid-19-and-ensuing-measures-on-freedom-of-expression-in-council-of-europe-member-states.html.

233 ERGA Report, 2020, *Notions Of Disinformation And Related Concepts*. Available at: https://erga-online.eu/wp-content/uploads/2021/03/ERGA-SG2-Report-2020-Notions-of-disinformation-and-related-concepts-final.pdf.

allegedly harmful content, is generally protected by freedom of expression and needs to be addressed differently than illegal content, where removal of the content itself may be justified'[234].

Some Member States, namely Bulgaria, Hungary, Romania, Spain and Sweden, made or planned to make changes in their legislation criminalising the dissemination of false information. On the other hand, all Member States introduced restrictions on the freedom of assembly, except Sweden[235]. In the following paragraphs, the steps taken by certain Member States will be briefly analysed, indicating their potential risk to fundamental rights.

In Bulgaria, a draft law was introduced to criminalise internet misinformation and vest the media authority with the competence to block websites deemed as conducting misinformation activities[236] A similar measure by a Presidential Decree was adopted in Romania in 2020, laying down that the communications authority has the power 'to order the removal of and block access to online content that "promotes false news" regarding COVID-19 protection and prevention measures'[237]. Moreover Spain criminalised misinformation by amending the Penal Code[238], and from November 2020 the Spanish government started monitoring disinformation activities and, in parallel, sharing so-called affirmative information (i.e. correct information) related to COVID-19 to counter disinformation, based on the Procedure for Intervention Against Disinformation Act[239]. These steps taken by the Spanish decision-maker met criticism by stakeholders due to the unclear wording of the new criminal law provision on misinformation which entails the risk of arbitrary evaluation of what is considered as disinformation (although the definition laid down by the EC on disinformation was applied in the new act). As mentioned earlier, the article on fearmongering of the Criminal Code was amended in Hungary. In practice, criminal procedures based on this felony were launched following online comments related to the government's measures or COVID-19 in general. In parallel, the police announced that its cybercrime unit was observing Internet activities for possible cases of COVID-19-related disinformation[240].

These measures could have a detrimental effect on the freedom of expression, as they could restrict access to information necessary for citizens to formulate their own opinions. A diversity of views is essential in a pluralist democracy. These acts could prevent individuals from exchanging ideas, sharing doubts or, in some cases raising important issues posing a potential danger to the society as a whole (i.e. whistleblowers) in the online (and offline) sphere, as a result of the lack of legal certainty stemming from the absence of clearly formulated concepts[241]. Secondly, this amendment could also have an

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[234] European Commission, 2018, *Communication to the European Parliament, the Council, the European Economic and Social Committee, the Committee of the Regions - On the road to automated mobility: An EU strategy for mobility of the future*, COM(2018) 283 final. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52018DC0283.

[235] Bayer, J., et al., 2021, *Disinformation and propaganda: impact on the functioning of the rule of law and democratic processes in the EU and its Member States – 2021 update*, publication for the Special Committee on Foreign Interference in all Democratic Processes in the European Union, including Disinformation, Policy Department for External Relations, European Parliament, Available at: https://www.europarl.europa.eu/RegData/etudes/STUD/2021/653633/EXPO_STU(2021)653633_EN.pdf.

[236] van Hoboken, J., and Ó Fathaigh, R., 2021, *Regulating Disinformation in Europe: Implications for Speech and Privacy*, UC Irvine Journal of International, Transnational, and Comparative Law, 6. Available at: https://hdl.handle.net/11245.1/11887c32-606f-44e2-86e6-f60fa97a7de7.

[237] Ibid.

[238] Article19, 2020, Spain: Concerns as Penal Code used to criminalise jokes and misinformation about coronavirus. Available at: Spain: Concerns as Penal Code used to criminalise jokes and misinformation about coronavirus – ARTICLE 19.

[239] El País, 2020, *Spain to monitor online fake news and give a 'political response' to disinformation campaigns*. Available at: Fake news in Spain: Spain to monitor online fake news and give a 'political response' to disinformation campaigns | Spain | EL PAÍS English Edition (elpais.com).

[240] Ibid.

[241] Council of Europe, 2020, *COVID and Free Speech: The impact of COVID-19 and ensuing measures on freedom of expression in Council of Europe member states*. Available at: https://edoc.coe.int/fr/intelligence-artificielle/9284-covid-and-free-speech-the-impact-of-covid-19-and-ensuing-measures-on-freedom-of-expression-in-council-of-europe-member-states.html.

adverse effect on the freedom of the press and the freedom of assembly, as it makes journalists and groups of individuals more cautious about publicly expressing their opinion[242].

Furthermore, restrictions on press briefings during the pandemic in certain Member States (e.g. Hungary and Spain) also harmed the freedom of the press. Press briefings usually 'provide good opportunities to gather accurate and updated information'[243]. Due to health considerations, a journalist could not participate in these events in person but was required to submit questions via email to the government in advance. The questions were filtered by the government, which raised issues of transparency and weakened press scrutiny and access to information[244].

3.3. Ways to improve crisis responses to disinformation in the future: the expected impact of 2022 the Code of Practice on disinformation and the DSA

The combination of the EDAP and the DSA proposal was pivotal in shaping EU policy against disinformation. The "infodemic" and disinformation surrounding COVID-19 have nevertheless emphasised the challenges still to be overcome and the need to equip the EU with new instruments to improve responses to disinformation in the future. In that respect, the **role of the updated version of 16 June 2022 of Code of Practice on disinformation and the expected impact of the DSA should be analysed**.

First, in contrast with the 2018 Code, the **strengthened Code adopted on 16 June 2022 follows a co-regulatory backstop interlinked with the DSA**[245], as recommended by ERGA in its assessment of the implementation of the 2018 Code[246]. As mentioned in the Preamble of the 2022 Code, actions under the Code will complement and be aligned with regulatory requirements and overall objectives in the DSA, and the 2022 Code should be regarded as a Code of Conduct under Article 35 of the DSA regarding Very Large Online Platforms and Very Large Online Search Engines (VLOPSEs) that sign up to its Commitments and Measures. The DSA, which entered into force on 16 November 2022, sets out a co-regulatory framework for VLOPSEs. Article 34 requires VLOPSEs to carry out risk assessments of any systemic risks in the Union stemming from the design or functioning of their service and related systems, including algorithmic systems, or from the use made of their services.

Once systemic risks have been identified, Article 35 requires VLOPSEs to put in place reasonable, proportionate and effective mitigation measures to address systemic risks such as the dissemination of illegal content through their services or actual or foreseeable adverse effects on civic discourse and electoral processes, and public security. Such risk mitigation measures may then include the initiation and cooperation under the Codes of Conduct and the crisis protocols. While this Article does not refer

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242 Bayer, J., et al., 2021, *Disinformation and propaganda: impact on the functioning of the rule of law and democratic processes in the EU and its Member States – 2021 update*, publication for the Special Committee on Foreign Interference in all Democratic Processes in the European Union, including Disinformation, Policy Department for External Relations, European Parliament, Available at: https://www.europarl.europa.eu/RegData/etudes/STUD/2021/653633/EXPO_STU(2021)653633_EN.pdf.

243 Council of Europe, 2020, *COVID and Free Speech: The impact of COVID-19 and ensuing measures on freedom of expression in Council of Europe member states*. Available at: https://edoc.coe.int/fr/intelligence-artificielle/9284-covid-and-free-speech-the-impact-of-covid-19-and-ensuing-measures-on-freedom-of-expression-in-council-of-europe-member-states.html.

244 Ibid.

245 European Commission, 2020, *Communication on the European Democracy Action Plan*, COM(2020) 790 final. Available at: https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/new-push-european-democracy/european-democracy-action-plan_en.

246 ERGA Report, 2020, *Notions Of Disinformation And Related Concepts*. Available at: https://erga-online.eu/wp-content/uploads/2021/03/ERGA-SG2-Report-2020-Notions-of-disinformation-and-related-concepts-final.pdf.

directly to disinformation as a systemic risk, the Preamble of the DSA makes clear that one of the areas for consideration for the development of Codes of Conduct is the possible negative impacts of systemic risks on society and democracy, such as disinformation[247]. Of particular importance considering the 2020 "Infodemic" is that another category of systemic risks includes the manipulation of VLOPSEs with an actual or foreseeable negative effect on the protection of public health, such as coordinated disinformation campaigns related to public health[248]. In addition, Article 45 foresees that the EC and the newly established "European Board for Digital Services" shall facilitate the drawing up of Codes of Conduct to address 'significant systemic risks'.

A major novelty brought by this co-regulatory framework is that **although signing up to the Commitments and Measures of Codes of conduct, such as the 2022 Code, remains voluntary, this is considered a possible risk mitigation measure under Article 27 of the DSA**. Moreover, one of the main weaknesses highlighted in the assessment of the 2018 Code was the lack of meaningful key performance indicators to assess the effectiveness of platform policies to counter disinformation. The DSA now explicitly states that codes of conduct shall contain key performance indicators to measure the achievement of those objectives and take due account of the needs and interests of all interested parties, and in particular citizens, at Union level.

Furthermore, as mentioned by the EC in the DSA proposal[249], the patchwork of emerging national rules on the moderation of illegal content online is another challenge to be addressed, especially from the point of view of **respect for fundamental rights**. As shown in section 3.2, national legislative initiatives to address COVID-19 disinformation can pose risks to fundamental rights. The fact that disinformation is not directly regulated in the DSA, which aims instead to foster the co-regulatory framework, is a positive aspect, which is in line with EP's calls to distinguish between disinformation as 'illegal' content from 'harmful' and other content, considering that disinformation and misinformative or harmful content is not always illegal[250].

As the war in Ukraine shows, the **expected impact of the DSA in times of crisis is also relevant**. The DSA defines a crisis as extraordinary circumstances that can seriously threaten public security or public health in the Union or significant parts thereof[251]. Following recommendation by the "European Board for Digital Services", the **EC should be able to require VLOPSEs to initiate a crisis response as a matter of urgency to take appropriate measures.** These include:

- adapting content moderation processes;
- increasing the resources dedicated to content moderation;
- adapting terms and conditions, relevant algorithmic systems and advertising systems;
- further intensifying cooperation with trusted flaggers;
- taking awareness-raising measures, promoting trusted information; and
- adjusting the design of their online interfaces[252].

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247 Recital 104, DSA.

248 Recital 83, DSA.

249 European Commission, 2020, *Proposal for a Regulation of the European Parliament and of the Council on a Single Market For Digital Services (Digital Services Act) and amending Directive 2000/31/EC, COM(2020) 825 final*. Available at: https://ec.europa.eu/info/sites/default/files/proposal_for_a_regulation_on_a_single_market_for_digital_services.pdf.

250 European Parliament, *Resolution of 20 October 2020 on the Digital Services Act and fundamental rights issues posed*, P9_TA(2020)0274. Available at: https://www.europarl.europa.eu/doceo/document/TA-9-2020-0274_EN.html.

251 Recital 91, DSA.

252 Ibid.

Another noticeable novelty is that Article 48 encourages the drawing up of **voluntary crisis protocols for addressing crisis situations**.

Taking into account the lessons learnt during the COVID-19 crisis, the **Strengthened Code of Practice on disinformation adopted on 16 June 2022** aims to address the gaps and shortcomings identified in the 2018 Code of Practice on Disinformation, including through:

- A **broader participation in the Code**, with new signatories such as private messaging services, which were used to fuel disinformation during the COVID-19 pandemic.
- Additional commitments and measures to **promote reliable information of public interest in times of crisis.** For example, the Signatories formally committed to design and apply products and features (e.g. information panels, banners, pop-ups, maps and prompts, trustworthiness indicators) that lead users to authoritative sources on topics of particular public and societal interest or in crisis situations[253].
- A **Transparency Centre** set up by the 2022 Code to enhance transparency and accountability in the fight against online disinformation by providing information about the implementation of the Code. This will translate into a publicly available Transparency Centre website, which should be operational and open to the public by the end of 2022, according to the Code. Importantly, in crises, Signatories shall use the Transparency Centre to publish information regarding the specific mitigation actions related to the crisis[254].
- A framework for further collaboration through a **permanent Task-force**, where Signatories should cooperate and coordinate their work in special situations such as elections or crises[255].
- Another important element is that the 2022 Code **institutionalises the practice of transparency reports** undertaken by Signatories during the COVID-19 outbreak as **in special situations like elections or crises, the EC can request Signatories to provide proportionate and appropriate information and data**, including ad-hoc specific reports and specific chapters within the regular monitoring, by the rapid response system established by the Task-force[256]. However, it is regrettable that the Signatories disagreed on a more precise definition of the notions of special situations or crisis cases in the context of the 2022 Code.
- Lastly, signatories significantly increased fact-checking activities on their services during the COVID-19 "infodemic". However, due to the lack of a centralised fact-checks repository, content labelled as false by independent fact-checkers tends to resurge across platforms [257]. To combat this phenomena, the 2022 Code foresees that Signatories will create a **repository of fact-checking content**, in collaboration with EDMO and an elected body representing independent European fact-checking organisations[258].

While the 2022 Code aims to ensure greater transparency and accountability of platform policies on disinformation across the EU, international cooperation should be sought and promoted due to the international dimension of disinformation. As highlighted by the Special Rapporteurs of the UN, the OSCE, the OAS and the ACHPR in a joint declaration, all stakeholders should work towards a common

[253] See Measure 22.7 of the Strengthened Code of Practice on Disinformation.
[254] See Measure 35.4 of the Strengthened Code of Practice on Disinformation.
[255] See Measure 37.2 of the Strengthened Code of Practice on Disinformation.
[256] See Commitment 42 of the Strengthened Code of Practice on Disinformation.
[257] European Commission Guidance on Strengthening the Code of Practice on Disinformation, 2021, COM(2021) 262 final.
[258] See Measure 31.3 of the Strengthened Code of Practice on Disinformation.

approach to improve appropriate responses to disinformation in full respect of fundamental rights[259]. For example, the partnership between the EU, the United Nations Educational, Scientific and Cultural Organisation (UNESCO) and Twitter to promote media and information literacy amid the COVID-19 disinformation crisis was a commendable initiative to be replicated by relevant stakeholders[260]. The OECD encourages **multi-stakeholder cooperation and coordination on common transparency reporting from online platforms**, built on the same model as the "Voluntary Transparency Reporting Framework" - a new portal launched by the OECD in 2022 for standardised transparency reports on policies and actions to combat terrorist and violent extremist content online[261]. As noted by the OECD, the war in Ukraine reiterated the potential benefits of policies that increase the transparency of online platforms[262].

Beyond the major role that online platforms and social media have to play, international cooperation between countries and international institutions is key, e.g. with NATO and the G7, which established the G7 Rapid Response Mechanism to anticipate, better understand and fight disinformation and misinformation and identify coordinated responses[263].

[259] The United Nations (UN) Special Rapporteur on Freedom of Opinion and Expression, the Organization for Security and Co-operation in Europe (OSCE) Representative on Freedom of the Media, the Organization of American States (OAS) Special Rapporteur on Freedom of Expression and the African Commission on Human and Peoples' Rights (ACHPR) Special Rapporteur on Freedom of Expression and Access to Information, Joint Declaration on "Fake News," Disinformation and Propaganda, 3 March 2017. Available at: http://www.osce.org/fom/302796?download=true.

[260] UNESCO, *European social media campaign to address disinformation on Covid-19 & #ThinkBeforeSharing*. Available at: https://www.unesco.org/en/articles/european-social-media-campaign-address-disinformation-covid-19-thinkbeforesharing.

[261] OECD, 2020, *Combatting COVID-19 disinformation on online platforms*. Available at: https://read.oecd-ilibrary.org/view/?ref=135_135214-mpe7q0bj4d&title=Combatting-COVID-19-disinformation-on-online-platforms. See also the OECD Voluntary Transparency Reporting Framework: https://www.oecd.org/digital/vtrf/.

[262] OECD, 2022, *Disinformation and Russia's war of aggression against Ukraine - Threats and governance responses*. Available at: https://www.oecd.org/ukraine-hub/policy-responses/disinformation-and-russia-s-war-of-aggression-against-ukraine-37186bde/.

[263] Government of Canada, 2019, *G7 Rapid Response Mechanism*. Available at: https://www.canada.ca/en/democratic-institutions/news/2019/01/g7-rapid-response-mechanism.html.

4. CONCLUSIONS AND RECOMMENDATIONS

Responding to the "infodemic", governments and public health experts worldwide have taken public communication initiatives, particularly to combat the spread of disinformation about the COVID-19 pandemic and raise awareness of the risks of disinformation. The "infodemic" and disinformation surrounding COVID-19 have nevertheless highlighted the challenges still to be overcome and the need to equip the EU with new instruments to improve responses to disinformation in the future.

Chapter 1 found that most of the countries included in this pan-European analysis have relied on several effective pandemic communication strategies, and identifies six best practices for pandemic communication drawn from the COVID-19 pandemic response:

1) Examples of identified good practices include the French, German, Italian, Dutch, Portuguese, and Swedish communication strategies all centred on **explaining to their citizens what self-protective behaviours should be taken and why**, within each country's national contexts.
2) Findings from the literature show that the most successful government communication strategies, in the context of a pandemic, adopt **a positive tone supporting citizen confidence in taking action (efficacy) and communicating engagement and responsiveness.** In contrast, the least successful government strategies focus on defensive messages, blaming the government's response, or fear-based messaging.
3) This points towards an **overall citizen preference for transparency** as well as the need to manage in a more constructive way the fear and anxiety that may emerge as a result of a global health pandemic (see Annex 1).
4) Additionally, in countries like France, the Netherlands, and Portugal, **two-way communication or citizen engagement** was a central feature in their relative communication success.
5) It was also recognised across countries – regardless of relative success – that **tailoring the messages to meet different demographics' information needs and attitudes** about government was essential. For example, analyses from Bulgaria and the Netherlands directly recognised the importance of adapting messages and reaching out to minority communities within their countries.
6) Finally, regardless of relative success in managing the pandemic, a central – if not **the main feature of communication success is trust in the communicating institutions**. In countries with low levels of institutional trust, this represents a chasm to the success of any health intervention, whereas in countries with high levels of institutional trust, it meaningfully increases citizen willingness to enact recommendations from governments and/or public health institutions.

Chapter 1 also summarised each country's response and assessed that **France, Germany, Italy, the Netherlands, Portugal, and Sweden all demonstrated good communication practices.** Likewise, based on the analysis, there were **limitations or challenges to effective communication practices identified in Bulgaria, Hungary, and Lithuania**.

Finally, chapter 1 supports that, in the context of the COVID-19 pandemic, instead of employing traditional theoretical approaches to identify and evaluate effective communication practices, a **contingency approach** exploring the factors known to influence self-protective behaviours would better enable scholars and practitioners to design, execute, and evaluate pandemic communication strategies. The analysis also identified issue-specific, institutional, citizen, and information-related factors that shape pandemic communication best practices.

In **chapter 2**, after defining misinformation and disinformation on the basis of research, the analysis found that in the context of the COVID-19 pandemic, disinfodemic practices online have closely and misleadingly mirrored the evolution of the COVID cases and deaths. The most prevalent themes in COVID-19 disinformation were **vaccination and immunisation, the severity of COVID-19, government response to COVID-19, and speculation and conspiracy theories surrounding COVID-19**. The study also reveals that the spread of **disinformation and misinformation practices directly impacted public opinion**, potentially contributing to the virus' increased spread. Such practices jeopardised the efficacy of and compliance with the emergency measures being enacted against the virus, giving rise to uncooperative behaviour among the general population. Regarding **foreign interference, Russia and China** emerged as the two central foreign countries at the frontline of COVID-19 disinformation.

Social media and platforms were a key channel for spreading disinformation and disinformation about COVID-19, and the **COVID-19 disinfodemic further revealed the shortcomings of the 2018 Code of Practice on Disinformation**. On 16 June 2022, 34 signatories ratified the strengthened Code of Practice on Disinformation.

Lastly, chapter 3 provided a comprehensive overview of EU-level and national-level measures to counter disinformation, misinformation, and manipulative foreign influence in nine Member States (Bulgaria, France, Germany, Hungary, Italy, Lithuania, the Netherlands, Portugal, and Sweden). Some Member States, namely Bulgaria, Hungary, Romania, Spain and Sweden, made or planned to make **changes in their legislation criminalising the dissemination of false information**. Hungary is the only Member State in the EU that passed a law to counter disinformation related to COVID-19. On the other hand, all Member States introduced restrictions on the freedom of assembly, except Sweden. From a fundamental rights perspective, the COVID-19 pandemic forced decision-makers into uncharted territory, as they had to introduce measures effectively protecting public health and the public order, whilst passing the test of necessity and proportionality to avoid unjustified harm to fundamental rights.

Chapter 3 also analysed ways to improve these responses in the future, in particular by focusing on the potential of the **strengthened Code of Practice on Disinformation adopted on 16 June 2022**, which follows a **co-regulatory backstop interlinked with the DSA** and aims to address the shortcomings identified in the 2018 Code.

Beyond the EU Code and the DSA, **multi-stakeholder cooperation and coordination on common transparency reporting** from online platforms should be encouraged, as well as **international cooperation** between countries and international institutions.

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ANNEX 1: CRISIS COMMUNICATION STRATEGIES DURING THE COVID-19 PANDEMIC

Strategy Category	Strategy	Description	Country								
			Bulgaria	France	Germany	Hungary	Italy	Lithuania	Netherlands	Portugal	Sweden
Platform	Face-to-Face	Interpersonal communication – direct interventions (e.g., health care settings)	✓[1]						✓[70, 72]		
	Legacy Media	Messages designed for traditional mass media channels via print or television media organizations	✓[4]	✓[7, 21]	✓[26, 27, 28, 33, 34, 36]	✓[44]	✓[33, 34, 51]	✓[61, 62, 66]	✓[33, 34, 36, 68, 70, 71, 74]	✓[77, 80, 82, 84]	✓[28, 36]
	Digital Media	Messages designed & communicated on new media platforms (e.g., Facebook, Twitter, meeting platforms)	✓[1, 3]		✓[22, 23, 25, 26, 27, 28, 31, 33, 34, 36, 37, 38, 39, 40, 41]	✓[45, 46]	✓[33, 34, 48, 54, 55, 59]	✓[38, 65]	✓[33, 34, 36, 48, 68, 69, 70, 74]	✓[37, 76, 78, 80, 82, 83, 84, 86, 91]	✓[28, 36, 59]
Source	Government	Inclusive of political government sources (e.g., local, regional, national elected leaders)	✓[1, 2]	✓[5, 6, 7, 13, 16, 19, 20, 21]	✓[5, 16, 19, 20, 21, 26, 28, 29, 36, 37, 38]	✓[21, 42, 43, 44, 46, 47]	✓[5, 13, 16, 29, 49, 50, 51, 52, 53, 54, 55, 58]	✓[13, 38, 63, 65]	✓[5, 13, 36, 67, 68, 72, 74, 75]	✓[36, 37, 53, 76, 78, 79, 83, 86, 89, 91]	✓[13, 19, 20, 21, 28, 93, 94, 95, 96, 97, 98, 99]
	Public Health/ Science	Inclusive of all public health and science-related sources (e.g., health institutions, doctors, virologists, etc.)	✓[1, 2, 3]	✓[5, 13, 14, 15, 17, 20]	✓[17, 20, 26, 27, 28, 30, 39, 40]	✓[45, 46]	✓[5, 13, 17, 49, 52, 55, 56, 59]	✓[13, 64, 66]	✓[5, 13, 17, 68, 74]	✓[17, 80]	✓[13, 20, 28, 59, 92, 97, 100]
Message Strategy	Self-Enhancement	Brand-based communication, image promotion, image advertising related to the crisis	✓[4]	✓[5, 8, 9, 11, 16, 20]	✓[5, 11, 16, 20]	✓[11, 47]	✓[5, 9, 11, 16, 58]	✓[9]	✓[5, 68]	✓[78, 83]	✓[11, 20]
	Routine Communication	Non-crisis specific contexts like daily information releases, parliamentary debates that address the crisis		✓[5, 11]	✓[5, 11, 37, 38, 40]	✓[11]	✓[5, 11, 49, 53, 58]	✓[38, 64, 65]	✓[5, 67, 71, 72]	✓[37, 53, 77, 89]	✓[11, 20, 96, 98]
	Instructive Communication	Providing people with clear guidance (either voluntary or non-voluntary) to support self-protective behavior during crises.	✓[1, 3]	✓[5, 6, 7, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21]	✓[5, 10, 11, 12, 16, 17, 18, 19, 20, 21, 22, 23, 24, 26, 27, 29, 30, 31, 32, 33, 34, 36, 39]	✓[10, 11, 21, 45]	✓[5, 9, 10, 11, 13, 16, 17, 29, 33, 34, 50, 52, 54, 55, 56, 57, 60]	✓[9, 13, 63, 66]	✓[5, 13, 17, 33, 34, 36, 68, 69, 70, 72, 73, 74, 75]	✓[17, 36, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 90, 91]	✓[10, 11, 12, 13, 18, 19, 20, 21, 36, 92, 94, 95, 97, 99, 100]

Strategy Category	Strategy	Description	Country								
			Bulgaria	France	Germany	Hungary	Italy	Lithuania	Netherlands	Portugal	Sweden
	Framing the Crisis	Providing an account of the crisis to improve sensemaking, situational clarity, status updates		✓[7, 8, 9, 11, 12, 14, 17, 18, 19, 20, 21]	✓[11, 12, 17, 18, 19, 20, 21, 22, 23, 24, 26, 27, 28, 29, 31, 33, 34, 36, 37, 39]	✓[11, 21, 42, 45]	✓[9, 11, 17, 29, 33, 34, 36, 50, 51, 52, 53, 59, 60]	✓[9, 61, 62, 65, 66]	✓[17, 33, 34, 36, 67, 68, 69, 70, 71, 74]	✓[17, 36, 37, 53, 78, 79, 80, 81, 84, 85, 86, 87, 88, 90]	✓[11, 12, 18, 19, 20, 21, 28, 36, 59, 91, 99, 100]
	Framing the Organization	Providing information about the organization's role and performance in the crisis	✓[4]	✓[5, 11, 13, 16, 18, 19]	✓[5, 11, 16, 18, 19, 29, 36, 37]	✓[11, 42, 44, 47]	✓[5, 11, 13, 16, 29, 58]	✓[13]	✓[5, 13, 36, 67, 70]	✓[37, 76, 78, 84, 90]	✓[11, 13, 18, 19, 97]
	Defensive	Messages that try to mitigate or shift blame about crisis away from the organization or diminish the risk of the situation.		✓[7]		✓[42, 44, 47]	✓[5]				
	Accommodative	Messages that focus on the organization's actions to protect & build stakeholder efficacy in actions	✓[1, 2]	✓[10, 11, 14, 15, 18, 19, 20]	✓[10, 11, 18, 19, 20, 22, 24, 26, 30, 32, 33, 34, 40]	✓[10, 11, 45]	✓[10, 11, 33, 34, 36, 56, 57, 59, 60]	✓[66]	✓[5, 33, 34, 68, 69, 73]	✓[36, 79, 81, 83, 84, 85, 87, 88, 89, 90]	✓[10, 11, 18, 19, 20, 59, 99]
	Excellence/ Renewal	Messages that demonstrate the effectiveness of the organization during the crisis – forward looking (beyond the crisis), highlights citizen engagement		✓[5, 9, 11, 13, 16, 18, 19, 20]	✓[5, 11, 16, 18, 19, 20, 23, 26, 27, 28, 29, 30, 36]	✓[11, 43, 45]	✓[5, 9, 11, 13, 16, 29, 36, 50, 54, 56, 59]	✓[9, 13]	✓[5, 13, 36, 67, 68, 69, 70, 75]	✓[36, 78, 83, 86]	✓[11, 13, 18, 19, 20, 28, 36, 59, 97]
	Emphasizing Interorganizational Relationships	Messages that emphasize positive or negative relationships with other organizations as a way of contextualizing the organization's response to the crisis	✓[2]	✓[5, 8, 9, 13, 16, 18, 20]	✓[5, 16, 18, 27, 28, 36]	✓[44, 47]	✓[5, 9, 13, 16, 49, 50, 59]	✓[9, 13, 64]	✓[5, 13, 67, 68, 72, 74]		✓[13, 18, 28, 36, 59, 96, 97, 100]

Sources: Authors' own elaboration. See below the full source list for the table. Message strategy categories based on a theoretical review of primary crisis response strategies in Diers-Lawson, A., 2020, *Crisis Communication: Managing Stakeholder Relationships*. Routledge. Instructive communication based on Sellnow, D. D., et al., 2017, *The IDEA Model as a Best Practice for Effective Instructional Risk and Crisis Communication*, Communication Studies, 68(5), 552-567

Source list - Table Annex 1

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ANNEX 2: FACTORS INFLUENCING CITIZEN SELF-PROTECTIVE BEHAVIOR DURING COVID-19

Factor	Description	Country										
		Bulgaria	France	Germany	Hungary	Italy	Lithuania	Netherlands	Portugal	Sweden	UK	US
Cognitive Elaboration / Uncertainty Discrepancy	Extent to which people think about a message depends on association with prior knowledge about health crises and emotional arousal – it can be a way to manage threat.	✓[30, 33]		✓[18]		✓[6, 22, 24, 27]		✓[3, 28]	✓[26]		✓[27]	✓[2, 20]
Demographics	Who the person is can affect information processing. For example, gender, language, age, culture	✓[30, 31]	✓[29]	✓[1, 17, 29]	✓[10]	✓[29]	✓[4]	✓[3, 8, 28, 29]	✓[7, 29]	✓[15]	✓[29]	✓[23]
Efficacy	Belief both in the ability to perform a behavior and/or by performing the action, protecting self from the hazard/risk (i.e., self and response efficacy).		✓[16]	✓[16, 18, 19]	✓[16]	✓[16, 24]			✓[5]	✓[16]	✓[9, 16]	✓[16, 23]
Epistemic Mistrust	Combination of trust violation, threat/uncertainty/trauma, xenophobia, and suspiciousness (conspiracy theory)	✓[30, 32]	✓[14]	✓[1]		✓[14]	✓[12, 14]					
Information Insufficiency	Degree to which person lacks information about a risk issue	✓[32]		✓[1, 17]	✓[10]	✓[17, 22, 24]			✓[13, 26]		✓[9]	
Information Equivocality	Degree to which multiple conclusions can be reasonably drawn from information presented				✓[10]				✓[13]			
Information Fatigue	Degree to which an excess of information causes people to stop paying attention to messaging			✓[17]		✓[17]	✓[4]					
Institutional Trust	Trust in agencies responsible for managing harms related to technology, environment, and public health; making decisions to protect public	✓[30, 31, 32]	✓[21, 29]	✓[17, 18, 21, 29]		✓[6, 17, 29]	✓[12]	✓[8, 29]	✓[7, 29]	✓[15, 21]	✓[21, 29]	✓[20, 21]

Factor	Description	Country										
		Bulgaria	France	Germany	Hungary	Italy	Lithuania	Netherlands	Portugal	Sweden	UK	US
Misinformation Processing	Combination for certainty, uniqueness, biases (confirmation, attribution, and perceptual), with lack of analytic thinking, science illiteracy	✓[30, 32]	✓[14]	✓[1, 11]		✓[14]	✓[14]		✓[13]			
Negative Affect	Emotions including anxiety, fear, uncertainty, or anger towards risk issue	✓[30, 33]			✓[10]				✓[5]			✓[2]
Perceived Risk (Threat Appraisal)	A combination of problem recognition, susceptibility, and severity in judging risky behavior or issues	✓[30]	✓[16]	✓[16, 19]	✓[10, 16]	✓[6, 16, 22, 24]	✓[4, 12]	✓[3, 8, 28]	✓[7, 26]	✓[16, 25]	✓[9, 16, 27]	✓[2, 16, 20]
Self-Other Gap (Third Person Effect)	Assumption that media messages, issues have greater effect on others, not themselves					✓[6]		✓[3]				
Social Support	Resources exchanged through social ties. It is comprised of tangible, emotional, esteem, and appraisal support. It also includes social distance.	✓[33]		✓[1]				✓[3, 28]	✓[7]			
Source Accessibility	Ease of access of the information by information seekers	✓[32]		✓[1, 11]	✓[10]			✓[8]	✓[13, 26]		✓[9]	
Source Credibility	Belief the source of information itself is credible – particularly scientific knowledge		✓[29]	✓[11, 18, 29]	✓[10]	✓[6, 29]	✓[12]	✓[8, 29]	✓[29]		✓[29]	✓[20]
Subjective Knowledge	What people think/believe they know		✓[14, 29]	✓[1, 18, 29]		✓[14, 27, 29]	✓[4, 14]	✓[28, 29]	✓[26, 29]		✓[27, 29]	

Sources: Authors' own elaboration. See Annex 2 for the full source list for the table. Categorization of factors is based on a theoretical review of 13 communication theories related to information seeking in health crises (including COVID-19).

Source list - Table Annex 2

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This research paper analyses how governments, public health experts and other professionals communicated during the COVID-19 pandemic, and the impact of the latter on these communication strategies. It investigates COVID-19 misinformation and disinformation practices, and how these practices were addressed in the EU by the Member States and the European Commission. It draws up recommendations to improve these responses in the future, including by analysing the role of the Code of Practice on disinformation ad the expected impact of the Digital Services Act.

This document was provided by the Policy Department for Economic, Scientific and Quality of Life Policies at the request of the Special Committee on the COVID-19 pandemic: lessons learned and recommendations for the future.

PE 740.063
IP/A/COVI/2022-04

Print ISBN 978-92-848-0147-3 | doi:10.2861/501274 | QA-09-23-004-EN-C
PDF ISBN 978-92-848-0146-6 | doi:10.2861/04583 | QA-09-23-004-EN-N