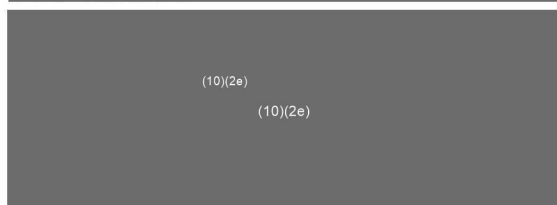
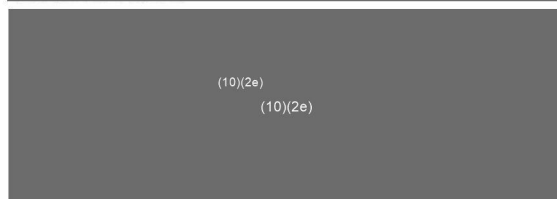
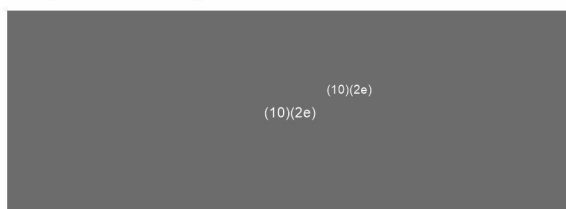


Algemene gegevens / General Information

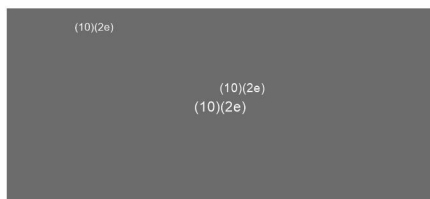
Programma / Programme	:	COVID-19 Programma
Subsidieronde / Subsidy round	:	Bottom-up ronde COVID-19 aandachtsgebied 3
Projecttitel / Project title	:	Towards better crisis and risk communication during pandemics for a better prepared and more resilient society.
Projecttaal / Project language	:	Engels / English
Geplande startdatum / Planned start date	:	03-08-2020
Geplande duur / Planned duration	:	24 maanden / months
Datum indienen / Date of application	:	25-05-2020
Projecttype / Project type	:	Toegepast onderzoek / Applied research
Vervolg eerder ZonMw-project / Continuation previously funded project ZonMw	:	Nee / No

Projectleden / Project members

COVID19 - Lijn 3 of WiP / COVID19 - Lijn 3 or WiP

Dossier nummer / Dossier number: 50-56300-98-1020

DEFINITIEF

**Projectgegevens / Project information****Samenvatting / Summary**

PROBLEM DEFINITION: In the first phase of the corona crisis, the policy in most countries was "flattening the curve", to prevent an overburden of the healthcare system. Governmental crisis communication aimed to lessen negative outcomes of the crisis. After the first outbreak seemed to be under control, other than medical considerations became prominent in policy decision-making. Other communication strategies are then needed which also take into account citizens' information needs, expectations and values. As such, a risk communication approach aims to share risk information to facilitate citizens' decision making.

PROJECT AIM. To study and compare crisis and risk communication strategies of authorities in The Netherlands, Norway, Germany and Italy and improve risk communication for a better acceptance of preventive measures and to foster the public's preventive decision making.

DESIGN:

PART 1: To study governmental crisis and risk communication strategies during the pandemic by analysing exemplar governmental press conferences in the first and second half of 2020 and relate these to the public's support as shown by social media analysis.

PART 2: To analyse people's beliefs, values and information needs about the corona virus and COVID-19 and their preventive decision-making using interviews and a large international survey study.

PART 3: To consult citizens as well as health authorities, health workers and communication experts about the current crisis and risk communication strategies using co-creation sessions and focus groups. To improve the risk communication strategies and test the impact on public trust and citizens' empowerment to make informed preventive decisions.

Using the results of an international invited symposium with all stakeholders, we write a white paper with guidelines for risk communication to be used for future pandemics. This project will therefore contribute to improve preparedness, resilience and social safety of European societies.

Trefwoorden / Keywords

risk communication, trust, public support, informed decision making, international

Samenwerking / Collaboration**Samenwerking tussen onderzoek en praktijk / Cooperation between research and practice:**

Ja / Yes

Organisaties

Federal Institute for Risk Assessment (BfR)
 FG 46, Antimicrobial Resistance and Resistance Determinants
 National Reference Laboratory for Antimicrobial Resistance (NRL-AR)
 Diedersdorfer Weg 1
 12277 BERLIN

Rijksinstituut voor Volksgezondheid en Milieu
 Centre for Infectious Disease Control (CIb)
 Antonie van Leeuwenhoeklaan 9
 3721 MA BILTHOVEN

COVID19 - Lijn 3 of WiP / COVID19 - Lijn 3 or WiP

Dossier nummer / Dossier number: 50-56300-98-1020

DEFINITIEF

Financiële gegevens / Financial data

ZonMw budget

Kostenpost	Jaar / Year								Totaal / Total
	1	2	3	4	5	6	7	8	
Personeel	98.000	104.766	0	0	0	0	0	0	202.766
Materieel	110.000	118.000	0	0	0	0	0	0	228.000
Implementatie	0	25.000	0	0	0	0	0	0	25.000
Apparatuur	0	0	0	0	0	0	0	0	0
Overig	0	0	0	0	0	0	0	0	0
Totaal / Total	208.000	247.766	0	0	0	0	0	0	455.766

Co-financiering / Cofinancing

Naam co-financier / Name of cofinancier	Bedrag / Amount	Status

Bijzondere gegevens / Additional information

Vergunningen / Permits

	Verklaring nodig / Statement required?		Status verklaring / Statement status		
	Ja / Yes	Nee / No	Verkregen / Acquired	Aangevraagd / Applied	Nog niet aangevraagd / Not applied yet
METC	X				X
DEC		X			
WBO		X			

Onderschrijvingen / Assents

	Ja / Yes	Nee / No	N.v.t. / N.A.
Code biosecurity / Code Biosecurity			X
Code openheid dierproeven / Code Transparency of Animal Testing			X

Andere vergunningen / Other permits

AANVRAAGFORMULIER PROJECTIDEE – BOTTOM-UP RONDE

COVID 19 programma

Deadline voor indiening: 25 mei 2020 (14:00 u)

**LEES ALSTUBLIEFT ALLE INSTRUCTIES IN BIJLAGE "TOELICHTING
INDIENING PROJECTIDEE" VAN DE OPROEPTEKST ZORGVULDIG!**

Wanneer u het formulier heeft ingevuld:

1. Zet het formulier om naar een PDF file en controleer de details
2. Upload het complete formulier als een bijlage bij uw indiening in Projectnet
ProjectNet: [Aandachtsgebied 3 maatschappelijke dynamiek](#)

BASISGEGEVENS (voorpagina)

NAAM VAN DE HOOFDAANVRAGER:

Prof. dr. DRM Timmermans

ORGANISATIE:

Amsterdam UMC, Vrije Universiteit, Public and Occupational Health

PROJECTTITEL:

Towards better crisis and risk communication during pandemics for a better prepared and more resilient society.

DATASTEWARD:

Wie is de datasteward die de open science en FAIR data planning in uw project ondersteunt? Zie de webinars op de [ZonMw website](#) om de datastewards te informeren en ondersteunen.

Ik betrek een datasteward bij mijn project:

Naam: (10)(2e)

Instituut: Amsterdam UMC

E-mail: (10)(2e) @amsterdamumc.nl

Was aanwezig bij de webinar: Ja Nee (Ik heb wel de presentaties bekeken van de webinars)

Ik heb nog geen datasteward.

ONDERZOEKSVORSTEL max 3 pagina's A4 (inclusief literatuurreferenties)	(voorpagina met basisgegevens niet meegerekend - font type Arial 10 pts)
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1. PROBLEEMSTELLING EN DOELSTELLING(EN):

PROBLEM DEFINITION. In the first phase of the corona crisis, the policy in most countries was "flattening the curve", to prevent an overburden of the healthcare system. This approach is not aimed to protect individuals per se, as the risk of contracting COVID-19 is not very high for the majority of people. However, all people need to take preventive measures to protect vulnerable groups and healthcare systems' capacity. Typical for health crises and also for the COVID-19 pandemic is the high level of uncertainty of the knowledge about the hazard, i.e. the virus, as well as about the potential (public) health impact. In these uncertain situations, a precautionary approach is warranted, i.e. a lock down of society in more or less stringent forms and other preventive measures. Almost all citizens complied to these measures in the first phase of the pandemic, as the ongoing Dutch RIVM (<https://www.rivm.nl/onderzoek/gedrag/onderzoek-gedragsmaatregelen-en-welbevinden>) and German BfR studies show (https://www.bfr.bund.de/en/bfr_corona_monitor-244792.html).

As in the course of the pandemic, more knowledge becomes available and the first outbreak seems to be under control, other than physical health and medical considerations become prominent in policy decision-making, such as economy or public mental well-being. This approach more resembles a risk management model, that aims to deal with the risks caused by COVID-19 taking into account facts as well as the interests of different stakeholders. Other communication strategies are then needed: these should not only be based on medical facts and experts' advice, but also on citizens' information needs, expectations and values. It is widely known that citizens do not base their health decisions solely on provided expert information. Instead, they make their own trade-offs, based on their existing beliefs and values (i.e. the mental model)¹. Expert-based risk communication is often misunderstood and ineffective, because of large differences between experts and citizens in their beliefs and risk perceptions or mental models. A more citizen-based risk communication approach is thus needed. While initial crisis communication was thus aimed at informing the public to prevent or lessen negative outcomes of a crisis, next level risk communication aims to share risk (mitigation) information facilitating people's decision making².

This citizen-based approach is even more urgent as the uncertainty about the scientific underpinning of measures to manage the corona crisis remains relatively high, which may undermine public trust in national and local authorities. It is known that three features contribute to policy and science becoming contested³: (a) conflicts about beliefs and values, e.g., necessity of social distancing, priority of health above economic interests, (b) uncertainty, e.g. about the contagiousness of the virus, or a second outbreak in the fall; (c) critical voices of influential individuals or organized interest groups amplifying concerns and controversies. These features are all present in the second stage of the COVID-19 pandemic. An exclusive focus on facts and evidence, while not adequately taking into account the interests of the general public, may therefore lead to citizens contesting and not accepting expert-based information. In particular in the digital environment, critical voices may become very influential to spread misinformation or disinformation.

Although policy in most European countries was similar in the beginning of the pandemic, there were differences in the strictness of these measures and in people's liberties. These differences were partly due to the impact of the pandemic itself, but also to political and social-cultural differences. Risk communication strategies can thus not adopt a one size fits all approach and should be aligned with the unique situation in each country.

PROJECT AIM. We aim to study and improve risk communication strategies of authorities in different European countries in order to foster acceptance of essential preventive measures among the general public. Sub-aims: (1) to study governmental crisis and risk communication strategies during the COVID-19 pandemic and relate these to the public's support of policies and their trust in authorities; (2) to study the public's beliefs, information needs and values about risks and risk mitigation measures and adherence to governmental guidelines; (3) based on opinions of all stakeholders including citizens, improve risk communication strategies to better empower citizens preventive decision-making and to maintain or increase public support for policy-making. This project will be executed in different European countries to be able to compare governmental crisis and risk communication strategies and the impact on public's trust and preventive behaviour.

2. PLAN VAN AANPAK:

The aims will be addressed in three related parts of the study and will be executed in the Netherlands, Norway, Germany and Italy. We will also collaborate with other consortia we are part of in order build on

already collected data and knowledge. In particular, we will align our research with: (a) The Dutch ongoing study of the RIVM and the Dutch Municipal Health Services (GGD) about behavioural measures and well-being and the ongoing perception study of RIVM and NIVEL (see <https://www.rivm.nl>); (b) The PAN-FIGHT project (P.I. Prof. Frederic Boudier) investigating the political and social dimensions of the COVID-19 pandemic by addressing health risk communication in relation to social and cultural dynamics of Norway, Sweden, Germany, UK and Switzerland. (c) Research work carried out by Dr. (10)(2e) with the Italian Authority for the Communication Guarantees (AGCOM) to investigate the public debate on COVID-19. See https://agcom-ses.github.io/COVID/social_media.html?lang=en; (d) The ongoing German Corona monitor by the BfR (see https://www.bfr.bund.de/en/bfr_corona_monitor-244792.html).

PART 1: Study governmental crisis and risk communication strategies during the pandemic and the public's support and trust. We will study the crisis and risk communication strategies of the participating countries and the public's response during the first and second half of 2020.

Methods: (1A) Governmental risk communication strategies: Crisis and risk communication strategies as expressed in governmental press conferences during the first and second half of 2020 will be analysed. In each country, 4 exemplar press conferences will be selected. These will be analysed and compared using the Crisis and Emergency Risk Communication (CERC) framework⁴. At the heart of the CERC framework is a five-stage developmental model of risk and crisis risk communication strategies for emergencies when risks are uncertain. It is a systemic approach that requires ongoing and escalating communication processes throughout the stages of pre-crisis, initial event, maintenance, resolution, and evaluation. In each stage, specific communication activities are described along with the expected relationships between the communication strategies and outcomes. This framework is considered to be a solid guideline for risk communication practices during outbreaks and pandemics. We will analyse to what extent the CERC framework is reflected in the communication strategies applied by the countries in the study. (1B) **The public's response.** We will apply quantitative methods and techniques from social media analysis to investigate the public's response to these press conferences and institutional accounts on mainstream platforms such as Facebook, Instagram and YouTube. In particular, we will characterize main topics and users' perception in terms of engagement and sentiment across countries. Moreover, we will analyse the content with a focus on trust in and support for preventive measures. Finally, we will relate these to the communication about the COVID-19 pandemic and measures in the preceding press conference.

PART 2: Analyse people's beliefs, values about the corona virus and COVID-19 and preventive decision-making. We will study people's beliefs about COVID-19, preventive measures and their decision making to prevent infection while also taking into account other goals, e.g., seeing friends or running their business.

Methods: (2A) Qualitative study: In accordance with the Mental Model Approach¹, we will start with online interviews with about 40 people (N=10 per country) with a diverse background (educational level, profession, gender, age, health status) using a snowballing recruitment strategy. Mental Model interviews start as open-ended interviews with more specific questions towards the end. Interview questions will pertain to people's beliefs about the corona virus and COVID-19 (e.g. contagiousness of disease, ways of getting contaminated, chance of contamination) and effectiveness of preventive measures, their use and evaluation of information of the government and public health authorities (e.g. how trustworthy is the information and the source), their values and decision-making about how to deal with the health risk of COVID-19. **Analysis:** the interviews will be verbatim transcribed, coded by two researchers and analysed using thematic analysis with ATLAS-ti. (2B) **Quantitative survey:** Based on the analysis of the interviews, a survey will be developed to study the representativeness of the beliefs and opinions of the interview study. Questionnaire items will be based on the themes identified in the interviews and will cover the same topics. In addition, we will specifically address how trust in the government, public health authorities and science are associated with peoples' beliefs, values and typical decision making. We will further assess associations between people's beliefs and values (using the Portrait Values Questionnaire⁹) on the one hand and their acceptance of preventive measures on the other hand. We will recruit a representative sample N=4000 participants (N=1000 participants per country) using an internet panel. **Analysis:** Data will be analysed using descriptive statistics to analyse differences between beliefs of lay people and experts as well as between different subgroups. Regression analysis and ANOVAs in SPSS will be used to analyse the relation of people's values and trust in authorities and science with people's beliefs about COVID-19 and evaluation of preventive measures. Furthermore, differences between countries will be analysed.

PART 3: Improve risk communication strategies about COVID-19 public health policies which better empower citizens and strengthen public support. We will involve different stakeholders, i.e. health authorities and communication experts advising the government, as well as health workers and citizens to improve current risk communication strategies.

The public. In each country, in (online) co-creation sessions with citizens (N=10 in each country) we will discuss current risk communication strategies and ways to improve these. Citizens will be able to bring in

their values, beliefs and expectations. In these sessions we will specifically focus on (a) trust in and support for governmental policies; (b) empowerment of citizens to make informed preventive decisions (i.e. hygienic measures and social distancing) to mitigate the risks of COVID-19.

Experts: health authorities and communication experts. Experts will be presented with the results of parts 1 and 2 of the project, and main insights of the co-creation sessions with citizens. Experts will comment and discuss the results in online focus groups. Based on the discussions of the expert panels and the results of the co-creation sessions, we will develop improved risk communication strategies.

Experiment: In an online proof-of-concept study we will compare the improved risk communication strategies used by governments (as identified in Part 1) with respect to (a) trust in and support for governmental policies; (b) empowerment of citizens to make informed decisions about health. We will recruit a representative sample of N=1000 (N=250 in each country) via an internet panel.

In the last phase of the project results of all parts of the project will be integrated into scientific papers and a white paper with guidelines for risk communication during pandemics or outbreaks for (health) authorities. The white paper and the recommendations will be discussed in an invited (online) international symposium and the output will be used to update the white paper.

3. HAALBAARHEID VAN HET PROJECT:

TIME SCHEDULE: Month 1-6: part 1: analysis of governmental risk communication strategies; social media analysis; part 2: focus groups and surveys to study public's beliefs. Month 7 preliminary report with results. Months 8-12: further analysis and writing up results; Months 13-15: part 3: co-creation sessions with citizens; expert meetings; Months 16-18 proof-of-concept study; Months 19-22 analysis and writing up results; Months 23-24 dissemination results and online symposium.

MOTIVATON FEASIBILITY: The study will be performed by an existing, interdisciplinary consortium of researchers from universities and public health organisations from the Netherlands, Germany, Italy, and Norway. This consortium has a unique combination of disciplines, i.e. psychology, public health, policy analysis, and data science. We will involve different stakeholders, i.e. public health officials, communication experts, and citizens. By doing so, we will combine scientific, political and community expertise and link theory and practice. We will use a multi-method approach by combining qualitative methods such as focus groups interviews, qualitative media analysis and co-creation sessions with quantitative methods such as big data analysis, surveys, and experimental tests. Our project will thus be characterized by a wide spectrum of expertise, knowledge and empirical methods. We will also collaborate with relevant other ongoing studies, e.g. the RIVM studies (Timmermans is member of the Scientific Advisory Board of the RIVM/GGD study and co-researcher in the RIVM/NIVEL study). **CONSORTIUM:** other members Dr. (10)(2e), Università Ca'Foscari, Venice, Italy; Prof Dr Frederic Boudier, University of Stavanger, Norway; Dr. (10)(2e), Federal Institute for Risk Assessment, Germany (see also appendix).

4. RELEVANTIE VOOR DE PRAKTIJK:

Studies from a risk communication perspective about COVID-19 are not yet executed in the Netherlands. The current project aligns with international studies on this topic. Consortium members are from different European countries and multiple disciplines and from universities as well as public health organisations. This project leads to an enhanced understanding of the impact of risk communication policies during outbreaks and pandemics on the support and trust of the public for these policies. This unique situation of a pandemic allows us to compare risk communication strategies between countries and to relate these strategies to the public's support of the policies, their trust in authorities and the public's adherence to governmental guidelines. After 6 months, preliminary results of parts 1 and 2 will be published in a report to be used at the local and national level. By publishing a white paper with guidelines for risk communication at the end of the project, project results can be used for future pandemics. This project will therefore contribute to improve preparedness, resilience and social safety of European societies.

5. DEELNAME VAN DE STAKEHOLDER(S) (e.g. patiënten, zorgprofessionals, etc.):

Citizens are involved in part 2 and part 3 of the project (and indirectly in part 1b). Health authorities and communication experts will be consulted in part 3. All stakeholders will be invited for a final symposium. National public health institutes RIVM and the German BfR participate in this project and the Robert Koch Institute (Germany) has been asked to collaborate.

6. LITERATUURREFERENTIES (optioneel):

(1) Morgan, M. Granger, et al. Risk communication: A mental models approach. Cambridge University Press, 2002. (2) Reynolds & Seegers, 2005 (3) Blankesteyn, M et al. Contested science: Public controversies about science and policy. Rathenau 2014. (4) Reynolds, B et al. Crisis and Emergency Risk Communication. CDC, USA 2012. (5) Schwartz, S. et al. Extending the cross-cultural validity of the theory of basic human values with a different method of measurement. Journal of Cross-cultural Psychology 2001.

THE CONSORTIUM

Prof. Danielle Timmermans is professor of Public Health Risk Communication at Amsterdam UMC, and former Chief Science Officer Risk Communication at the National Institute for Public Health and the Environment (RIVM). She is head of the interdisciplinary research group RISC Amsterdam. As Chief Science Officer Risk Communication at the RIVM, she developed a coherent and interdisciplinary research line on risk communication and decision making with topics such as infectious diseases, vaccination, cancer screening. She is/was a member of several national and international committees, such as the Health Research Council of the Netherlands (e.g. Standing Committee Health and Environment), the Netherlands Organisation for Health Research and Development. She advises for several ministries and health programs in the Netherlands. In 2019 she received the *Marian Sybilla Merian fellowship* of the German Federal Institute for Risk Assessment BfR. She is member of the scientific advisory board of the Corona Behavioural Unit of the RIVM, who advises the government about behavioural aspects of the corona crisis.

Prof. Aura Timen is head of the Center for National Coordination of Infectious Disease Control of RIVM, a permanent member of the Outbreak Management Team of RIVM, and professor 'Responses to communicable diseases in global health' at VU University. She is a medical doctor, registered as medical specialist (infectious disease control profile) and wrote a dissertation about "Outbreak Management: towards a model for the next crisis". She has extensive research experience in the field of communicable diseases, both in the Netherlands and internationally. She is currently chair of the Infectious Disease Control section of the European Public Health Association (EUPHA European Public Health Association) and a member of the Advisory Forum of the European Center for Disease Prevention and Control (ECDC European Center for Disease Prevention and Control).

(10)(2e) is assistant professor at the Amsterdam UMC. Originally trained as a social psychologist, her current research focusses on risk communication, Patient Engagement, and Shared Decision Making in public health and healthcare. Olga has obtained multiple research grants related to these topics in different patient populations. She is also involved in large consortia, such as a Health Holland funded consortium about combining prediction modeling with user-centered research. Her work is strongly characterized by a multidisciplinary approach, combining theories and methodologies from psychology, health services research communication sciences, and human-centered design.

(10)(2e) is a researcher in the Department of Risk Communication at the German Federal Institute for Risk Assessment (BfR), a scientific institution within the portfolio of the Federal Ministry of Food and Agriculture (BMEL) in Germany. BfR has the statutory remit for risk communication and informs the public at large about possible health risks and the research findings on which they are based in the fields of food, chemical and product safety. The interdisciplinary Department of Risk Communication conducts research projects on risk perception, early risk detection and risk impact assessment. Natalie is a cognitive psychologist and involved in projects on risk perception and risk communication. She is particularly interested in target-group specific risk communication. Before joining the BfR she did her PhD in London and taught research methods at Birkbeck, University of London. She is involved in a BfR research project about visualisation of risk information for COVID-19.

(10)(2e) is Professor in Risk Management at the Universitetet i Stavanger (UiS) in Norway. He has developed extensive work on risk policy from a comparative perspective. He has integrated cognitive insights from decision science into making risk policy more science-informed. Throughout his academic career, Frederic Boudier has developed research on risk policy and risk communication, with a strong European and transatlantic dimension. Frequently, his research has

focused on critical decisions that fall within a grey area where the benefits for society are clearly recognizable but where simultaneously the risks are perceived as significant. He has built strong collaborations with 1- Regulatory agencies (FDA,EMA and European National Competent Authorities, HSE, IenM, EFSA) 2- Networks of experts on both sides of the Atlantic 3-Industry players especially in the medical, food and energy sectors 4- Consumers and Patient Groups (e.g. European Patients' Forum, ViVi) and 5- International organisations (OECD, World Bank, EPO).

(10)(2e) is an Assistant Professor in the Dept. of Environmental Sciences, Informatics and Statistics and Research Fellow in the Center for the Humanities & Social Change at Ca' Foscari University of Venice. Her research investigates (mis)information spreading on online social media, with a special focus on the dynamics of polarization and intolerance, and the evolution of collective narratives. She is Principal Investigator of EU H2020 project QUEST on quality and effectiveness of science communication, and of EU REC project IMSyPP on innovative systems for monitoring and preventing online hate speech. Since April 2020, she is member of the Working Group established by the Italian Presidency of Council to investigate the phenomenon of disinformation on COVID-19.