

COVID-19 PROGRAMME

English



COVID-19 Programme

April 2020



Credits

ZonMw promotes health research and healthcare innovation.

Progress requires research and development. ZonMw funds health research and promotes the use of the knowledge developed so that healthcare and health can be improved.

ZonMw's main commissioning bodies are the Ministry of Health, Welfare and Sport and the Dutch Research Council.

For more information about the COVID-19 programme, please see our website or contact us via covid19@zonmw.nl.

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1. Introduction

The world is confronted with a pandemic from the new coronavirus (also called SARS-CoV-2) that can cause the disease COVID-19¹. This pandemic and the measures taken in conjunction with this have a major impact on people and society as well as care, cure and well-being. Since the start of the outbreak, the coronavirus crisis has led to a wide range of challenges for everybody. In the longer term, the pandemic will also have effects that we cannot yet foresee. Knowledge, practical solutions and research are needed to limit the negative consequences of the pandemic and to learn from the negative and positive experiences, both now and in the longer term.

By definition, a pandemic is a global problem. Although the programme primarily focuses on the Dutch situation, the global nature of the coronavirus crisis and the global effects of the measures taken against it requires a broader global view. This is also in the interest of the Netherlands.

1.1 The commission

The Ministry of Health, Welfare and Sport (VWS) and the Dutch Research Council (NWO) asked ZonMw to produce a programme proposal in the very short term for an action and research programme aimed at mitigating both the effects of the coronavirus pandemic and the effects of the measures taken against the pandemic. VWS, the Ministry of Education, Culture and Science (OCW) and NWO have jointly made a total of €27 million available for practice-oriented projects and research projects (VWS €15 million, OCW €2 million, NWO €10 million). This funding will be deployed as much as possible via the so-called second wave COVID-19 programme (see Section 1.3.2) in the short term in 2020 (and where that is still necessary in 2021 too). The entire programme will run until the end of 2024 due to the follow-up, long-term monitoring and the completion of all projects. Throughout the programme, interim results will be communicated to the commissioning bodies.

In March, prior to this programme, VWS and NWO requested ZonMw to fund interventions or intervention studies, with a possible direct effect on public health. In response to this request, ZonMw therefore started a COVID-19 first wave funding programme. The first wave programme has a total budget of €6.5 million. VWS is contributing €4 million to this, NWO €1.5 million and ZonMw €1 million. An expert group has advised ZonMw about the ranking of research projects, about researchers, research groups and consortia that can best realise these projects, and about other boundary conditions. In addition to the recommendations about ranking made by the expert group, two additional projects were added at the advice of the National Institute for Public Health and the Environment (RIVM) and VWS, respectively. The combination resulted in the funding of eight projects that will start shortly². In addition, a behaviour unit funded by this programme will soon be started at RIVM. Also, a funding round has been started aimed at small projects for practical solutions for shortages in material and other practical problems in and outside hospitals³.

The *first wave* COVID-19 programme is by no means enough to answer the many questions and problems from medical and healthcare practice and from society in general. VWS, OCW and NWO therefore decided to fund a second wave programme too.

¹ When the text talks about coronavirus patients it means patients who have (experienced) a SARS-CoV-2 infection.

² <https://www.zonmw.nl/en/news-and-funding/news/detail/item/first-approved-research-projects-subsidy-scheme-covid-19/>

³ <https://www.zonmw.nl/nl/actueel/nieuws/detail/item/extra-geld-voor-creatieve-oplossingen-coronavirus-covid-19/> (Dutch)

2. Objectives and structure of the programme

2.1. Objectives

The programme has three key objectives:

- Contributions to controlling the coronavirus pandemic and preventing or reducing the negative effects of the measures taken against it. For example: helping people who have become ill; supporting vulnerable people in society who are affected by the measures; and describing the negative effects of the redeployment of personnel and resources within (patient) care.
- Generating new knowledge about the control of epidemics and pandemics; generating knowledge about diagnostics, treatment and prevention of COVID-19 and related diseases as well as the recovery from these; generating knowledge about logistics and supply lines for the materials and equipment required, data collection/analysis, modelling and technical possibilities to follow and predict the development of the pandemic.
- Generating knowledge about the (global) societal dynamics during and after this and comparable, drastic health crises and the measures taken against these. This societal dynamic is not limited to within the Netherlands. Worldwide, the consequences of measures taken against the spread of the virus could well be greater than the virus itself.

2.2. Programme design

The programme has three focus areas to achieve the objectives stated above:

Focus area	Optimal care for:	During this pandemic:	In the long term, the realisation of:
1. Predictive diagnostics and treatment	Patients with COVID-19 and care providers	Knowledge for the (further) development of (predictive) diagnostics. Individualised treatment and prevention of COVID-19-related symptoms in the early, acute and recovery phases	Usable knowledge concerning the diagnostics and treatment of COVID-19-related conditions
2. Care and prevention	Vulnerable citizens, ex-patients and their families, care organisation	Prevention and limitation of transmission; mitigating negative effects of preventative measures on vulnerable groups; postponed or modified care due to redeploying care capacity or preventative measures Organisation of care in crisis situations Switch in care provision. (Medical) ethical issues	Knowledge about transmission; knowledge about the effectiveness of preventative measures; support of vulnerable and risk groups during and after crisis situations Knowledge about the organisation of care in the future (preparation for future pandemics)
3. Societal dynamics	The Dutch and global society	Strategies for societal effects of the epidemic in the short term for the resilience of the citizen, specific, vulnerable groups and society as a whole	Knowledge about (long-term) societal effects of epidemics/pandemics and the strategies linked to these, for the individual citizen, specific groups and for (global) society as a whole

The following applies for all focus areas:	
-	An interdisciplinary approach is encouraged where relevant. For example, the (experimental) use of smart (key) technologies like artificial intelligence offers many opportunities and can be integrated in the research.
-	For all research projects, connection should preferably be sought with (international) current research projects that, if necessary, can be extended or modified to accommodate these projects.
-	Collaboration with citizens, professionals and private parties is encouraged to realise creative results that are suitable for use.
-	Pandemics are a global problem. Besides a specific Dutch perspective, approaches from a global perspective are encouraged.
-	In projects, due consideration is given to (gender, cultural) diversity.
-	In connection with the Open Science guidelines: application of FAIR data stewardship / management to make data in the project reusable for the entire research community, and preferably computer-readable and with that suitable for artificial intelligence. Where possible and relevant, standards, technologies and infrastructure will be used that are specific for research into COVID-19.
-	In connection with the Open Science guidelines: publication should be immediately (without embargo) be made available in Open Access form with an open licence, and research results, research data, and the measurement and analysis methodologies should be shared in line with the "Joint statement on sharing research data and findings relevant to the novel coronavirus (nCoV) outbreak" ⁴ .

The following applies to the entire programme:

- In terms of themes, the programme has a broad approach, although the coronavirus crisis and the measures against it are the focus. This ties in with the coronavirus crisis, which on the one hand is global and, on the other hand, has an impact on every single aspect of Dutch society.
- Mitigation of the coronavirus crisis requires an interdisciplinary approach; besides medical- and care-related research, sustainable solutions can only be achieved in collaboration with the engineering, physical, natural and social sciences, and the humanities.
- For example, smart (key) technologies and artificial intelligence contribute to all three focus areas of the programme. One such example is digital care and apps for streamlining care requests. Or a so-called rapid response based on real-world data, such as using location data from mobile phones in a privacy-responsible manner to detect chains of infection.
- Also, the use of big data can contribute to answering many, medical, care and also questions for the social sciences and the humanities. This also applies to the development of the new standards, technologies and/or infrastructure for FAIR data (including making the data computer-readable), so far as these are directly related to research into the coronavirus crisis.
- There is a strongly changing dynamic both during and after the crisis. That means that at the time this programme is published, it cannot be adequately predicted what the important and societally and scientifically relevant research questions are. Possible changes to the programme will be implemented in consultation with the commissioning bodies and, in this regard, the societal, professional and scientific field, VWS, ZonMw and NWO will have a signalling function.
- The consequences of the pandemic are different for men and women. There are strong indications that this has both biological and sociocultural causes. In addition, the consequences are different for different socioeconomic or cultural groups due to differences in lifestyle, positions, roles and tasks in society⁵. In all projects, the diversity of target groups requires attention (if relevant)⁶.
- In programme aspects where there is licensing, the "[10 principles for socially responsible licensing](#)" should be applied and the most recent requirements from the agreements from the trajectory concerning socially responsible licensing should be included.

⁴ <https://wellcome.ac.uk/coronavirus-covid-19/open-data>

⁵ [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(20\)30526-2/fulltext?dgcid=raven_jbs_etoc_ema](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(20)30526-2/fulltext?dgcid=raven_jbs_etoc_ema)

⁶ <https://www.zonmw.nl/nl/over-zonmw/diversiteit/gender-en-gezondheid/faq-gender-in-onderzoek/>

3. Focus areas in the second wave programme

In the following sections, themes that are possibly relevant for research within the three focus areas are stated. However, this summary is in no sense exhaustive. Expert panels will determine the further implementation.

3.1. Predictive diagnostics and treatment

In this focus area, the emphasis is on urgently needed research for the prevention (prophylactic) and treatment of COVID-19-related complaints in the early, acute and recovery phases.

Research into new or existing therapies, and their working mechanisms, in coronavirus patients, is important for optimal care for the patients concerned and the care professionals involved. There is a lack of knowledge about how existing therapies and interventions can be satisfactorily applied. Furthermore, new (technological) interventions are being (further) developed.

The adequate application of the treatment and care of COVID-19-related symptoms also requires insights into, amongst other things, the microbiome, immunity, predictive parameters and individualised treatment, including the measurement of lung damage and lung physiology. This partly concerns fundamental research as well as analyses of artificial intelligence and existing databases or cohorts to make this knowledge available in the short term.

Diagnostics related to infection

There are various rapid tests (suitable for the so-called point-of-care diagnostics), serological tests and CT-based algorithms for diagnostics that are under development or almost ready. In consultation with experts, it will be determined whether, and in which areas, public funding is necessary for the (further) development and/or application of these COVID-19 diagnostics.

Vaccine

The development of a new vaccine will not be worked on within the programme. Research into the reuse of existing vaccines is, however, appropriate.

Connecting with current initiatives

All of these projects can concern studies that are realised within a current study or are part of an international study. If there is a clinical study that still needs to be set up, then it must be critically assessed whether that is feasible and realistic within the current setting and under the current high time pressure.

In the programme, connection with worldwide multicentre studies will also be sought. ZonMw can possibly fund the Dutch participants in these international trials where public funding is necessary for the successful realisation and/or acceleration of the trial.

Types of project: urgent clinical and non-clinical studies

- A. **Urgent clinical studies** that can start quickly, aimed at the use of (existing) treatment (both pharmacotherapeutic as non-pharmacotherapeutic) to treat or prevent COVID-19-related symptoms.

A1) Clinical studies

Clinical studies are needed to determine the effectiveness and safety. The size of the study is dependent on the study design and the outcome parameters. Funding can be used so that centres can participate in international studies. Funding can also be used for other studies that, where possible, are embedded in or linked to current studies at the international level.

A2) Early phase/proof-of-concept studies

The programme offers opportunities for studies in limited groups of patients, which can give an indication of the effectiveness of a therapy. Also, clinical research with healthy study subjects into a mode of action of a potential treatment belongs to the possibilities.

B. Urgent non-clinical research towards treatment or prevention

B1) Basic mechanistic validation studies

This type of research can lay the foundation for possible drug rediscovery or (further) development of technological interventions. The studies concerned are aimed at testing the mode of action a therapy in an experimental, non-clinical setting (for example, in-vitro research or animal studies).

B2) Research that makes use of existing databases or cohorts

This type of research has the aim of collecting applicable knowledge for individualised treatment, (digital) biomarkers, predictive tools et cetera.

3.2. Care and prevention

This focus area concerns research aimed at the organisation of care and vulnerable citizens. In addition, there is specific attention for care providers in the approach for preventing infection and in the (psychosocial) supervision during and after crisis situations in care institutions. The focus lies on both the impact of behaviour and behavioural changes on the spread of the virus, as well as the consequences of the measures for the individual or for specific vulnerable groups.

This focus area has the following themes:

Organisation of care

- Research that contributes to the improvement of the organisation of care
- Evaluating the organisation of care of (ex)patients and their families during and after treatment
- Effect of the pandemic and the measures on the functioning of the care (also for the long-term)
- Research into care that has been postponed or modified due to the redeployment of care or preventative measures
- Research with specific attention for care providers, and the approach for preventing infection and in the (psychosocial) supervision during and after crisis situations in care institutions
- Research into care for care providers during and after the crisis situation

Care for vulnerable citizens

- Mitigating the negative effects of preventative measures on vulnerable groups
- Research into issues concerning the avoidance of care
- Research into (medical) ethical issues
- Research into issues in palliative care

Transmission

- Epidemiological modelling of the progression of the epidemic in the Netherlands, including various interventions and the effects of these. Transmission studies into the development of infections (possible research into the development of a coronavirus test falls under line 1)
- Research into the development of individual and group immunity, both before and after the infection as well as virus factors and host (human) factors
- Research into the effect of interventions on infection prevention
- Modelling of exit strategies and other preventive measures

3.3. Societal dynamics

Research within this focus area concerns the impact of the coronavirus crisis and the measures on (aspects of) the broad Dutch and global society. What are the societal consequences of the coronavirus crisis? Which social and economic problems have been exposed or have arisen as a

result of this? But also: which positive effects does the crisis have? Which restart scenarios are available after a shorter or longer period of economic and widespread societal disruption? What can we learn from the crisis for the future?

Research into the effectiveness of measures/strategies to regulate the coronavirus

- Crisis management of governments (relationship government-society and politics-science, cultural context)
- Logistics (care, vital sectors, humanitarian help, repatriation)
- Communication about prevention, care and measures (reliable reporting, trust of the citizen)
- Use of technologies such as data science, artificial intelligence and sensor systems
- Ethical and legal aspects

Research into the resilience of society

- Backlogs and unequal opportunities due to the measures taken (education, social inequality, segregation)
- Technological and social innovations as a response to the measures (for example 1.5 metre society, education, security, work, mobility, retail sector, democracy, care)
- Communication and media (misinformation, stigmatisation, reliable reporting)
- Consequences of social distancing (loneliness, domestic violence, mental health, vulnerable groups)

Research into the economic resilience

- Impact on different sectors of the economy (for example culture, retail sector, mobility)
- Labour market effects and support measures (with attention for the different groups such as multinationals, SMEs, self-employed persons, informal sector)
- Effects on different population groups (gender, age, socioeconomic status, migration background, health)
- International trade, collaboration and self-sufficiency

4. Organisation of the programme

4.1. Expert panels and selection committees

Within each focus area, use will be made of an expert panel and selection committees. The members of these will be appointed by ZonMw.

4.1.a. COVID-19 expert panels

Every focus area will have an expert panel. The following applies to these panels:

- Expert panels will be made up of experts from science, policy and professional practice. In a short space of time, the experts will assess which priorities there are for the different focus areas.
- In principle, each of the expert panels will have a multidisciplinary composition, and for each panel, NWO can nominate at least one member.
- Members of expert panels must have a preeminent position and be informed about Dutch current affairs and dynamics. These can be experts with a large international network and involvement in various partnerships.
- RIVM will provide a member for each of the expert panels.
- The expert panels will also contain observers from VWS.

With a view to due diligence rigorousness and transparency, we will ask the panel members to sign an integrity declaration in which they state that they will immediately report any conflicting interests. If panel members state that they have conflicting interests, then this does not immediately have to lead to exclusion from the panel. In the panel, it is important to be able to reach a consensus within the group of experts, as only together do they have the necessary oversight of the situation in the Netherlands concerning the current state of research related to the coronavirus crisis.

Tasks:

The expert panels provide direction to the interpretation of the focus areas.
Expert panels determine:

- The selection of urgent subjects and whether these need to be realised via an urgent track
- The realisation of the themes and the specific substantive criteria for the bottom-up round

The expert panel is not responsible for the final selection of the projects based on quality. The ZonMw board will approve the themes.

4.1.b. COVID-19 selection committees

For each focus area, an ad hoc selection committee will be appointed. The selection committees will contain experts from research and professional practice who can oversee the field of the focus area concerned. The committee members must satisfy the conditions stated in the Code for Dealing with Personal Interests⁷. ZonMw will work with a pool of assessors, drawn from members of current ZonMw and NWO committees due to their expertise with assessing proposals and their familiarity with the Code for Dealing with Personal Interests. One or two members from the expert panel should preferably participate in the selection committee. The committees will advise the ZonMw board about the awarding of funding.

Tasks:

The committees will be used to assess proposals for relevance (only bottom-up round), quality and feasibility.

Project proposals submitted in the track urgent research questions that satisfy the quality criteria according to the selection committees will be submitted for funding to the ZonMw board. The board will decide about the granting.

From the project ideas submitted in the bottom-up rounds, the selection committee will make a selection. Selected project ideas can be elaborated into a concise full proposal.

⁷ <https://www.zonmw.nl/en/about-zonmw/integrity-and-conflicts-of-interest/>

These will be ranked by the selection committee.

The best project proposals will, as far as the total available budget permits that, be put forward for funding to the ZonMw board. The board will decide about granting.

4.1.c. Programme secretariat

The programme secretariat ensures short lines of communication with the societal, professional and scientific fields and supervises the direct input from society, professional practice and science.

For the focus area "Societal dynamics" in particular, NWO employees will be part of the ZonMw programme secretariat.

4.2 Working methods and procedures

In this programme, the following working methods will be used. For each subject, the expert panel will determine which working method will be used, taking into account the urgency of the research. For each working method, the speed of the procedure is paramount.

Due to the high urgency, this programme will work with adjustments to the standard ZonMw procedures. This is because ZonMw, in view of the preamble of the General Grant Conditions of ZonMw, can deviate from the granting conditions if there are compelling reasons to do so. The deviations will be announced in this programme text, invitations and the call texts. Furthermore, individual deviations from the general granting conditions can also be described in the grant award. In the procedures, however, the safeguarding of due diligence, the Code for Dealing with Personal Interests and the prevailing legislation will still remain paramount. Applicants who submit proposals within this programme agree with the modified procedures as described in the programme text, invitation and call.

4.2.a Urgent research questions track

There are currently urgent questions to which a rapid (within six months) answer is needed to solve the current bottlenecks in treatment and care or to be able to establish which measures can be taken under which circumstances. There are also tracks that now urgently need to start in order to deliver results for the long term.

Criteria

Criteria for these urgent research questions are:

1. The research is vitally important because in the short term it can have an impact on the focus area.
2. The Netherlands has a unique position to do this, in other words: research with which the Netherlands can provide added value to what is already being done internationally.
3. The research is not taking place elsewhere.
4. There is a competent research group available to tackle this within two weeks (feasibility), unless there are serious limiting factors, such as obtaining a medical ethics research committee statement.

Procedure

These projects must be assessed and start very quickly (within two weeks after granting). Therefore a considerably shortened procedure is needed.

- a. The expert panels will make the initial selection of the subjects eligible for the urgent-track round. These panels will analyse which urgent knowledge question and subjects there are, what research is already taking place in that area and which necessary knowledge is still missing. Based on this, they will establish priority questions and the conditions which parties must satisfy to be able to realise research in the very short term. For this, the expert panels will make use of the inventories from various professional groups, research organisations and health foundations.
- b. The expert panels will advise ZonMw about which research questions should be studied by which research groups, or that an available and appropriate proposal is already sufficient to submit to the selection committee straightaway.
- c. ZonMw will invite research groups to submit a concise proposal.
- d. Due to the desired speed, the proposals will not be submitted to referees.
- e. The selection committees will assess the proposals for feasibility and quality.
- f. The selection committees will advise the ZonMw board about the proposals to be granted.
- g. The ZonMw board will decide about the awarding of funding.

Within this track, it is possible to fund current research that due to the urgency has already started without (full) funding.

4.2.b Rounds with bottom-up submission

Besides the urgent research questions, there are also many other questions per focus area for which research must start in the short term. For these questions, bottom-up rounds with a thematic focus will be formulated for each focus area. The expert panels will prioritise the themes for each focus area and if necessary the additional criteria that projects have to satisfy.

These rounds will be open for a short period (maximum two weeks) for submitting project ideas within the prioritised themes. For this, a simple template and procedure will be used.

Within this round, it is possible to fund current research that due to the urgency has already started without (full) funding.

Criteria

The criteria for these rounds are:

1. The research is urgently needed and vitally important because it can have an impact on the focus area in the short or long term.
2. The Netherlands has a unique position to do this, in other words: research with which the Netherlands can provide added value to what is already being done internationally.
3. The research is not taking place elsewhere.
4. A competent research group is available to tackle this within a very short period (within two months).

Procedure (preferably no more than six to eight weeks)

- a. Rounds will be open for bottom-up submission with a clearly defined theme (stated and prioritised by the expert panels) that provides direction for the project ideas to be submitted
- b. The selection committees will make a selection from the project ideas submitted, based on criteria formulated in advance, and will recommend whether the researchers can elaborate their idea into a (concise) full proposal.
- c. ZonMw will translate this advice into a positive advice to elaborate the proposal for the selected applicants and a negative advice for all other applicants.
- d. The referees' process will be replaced by the COVID-19 committee members making an initial assessment of all (concise) full proposals. These will be submitted within a very short turnaround time to the applicants for a written or verbal rebuttal.
- e. During the committee meeting, the proposals will be assessed for relevance, feasibility and quality, with due consideration to the rebuttal. If the budget available for the focus area is not sufficient to award funding to all eligible proposals, then the committee will produce a ranking proposal. The committee will advise the ZonMw board about the proposals to be awarded funding.
- f. The ZonMw board will take the granting decision.

4.2.c Practice boosts and policy questions

In the programme, a budget is available for small projects and studies up to a maximum of €50,000. How this will be realised has yet to be determined.

5. Cooperation

The coronavirus pandemic is a global problem and the approach requires global cooperation, European coordination and an integrated national strategy. This programme is a part of that.

Viral Outbreak Data Network

The Viral Outbreak Data Network (VODAN)⁸ is a rapidly growing international network of FAIR data experts and researchers with a biomedical background (including infectious diseases). VODAN has received a start-up grant from ZonMw⁹. Experts from VODAN are developing the necessary standards and infrastructure to make valuable data from research and clinical settings reusable (FAIR) and processable for learning algorithms. For example, the *clinical research form* (CRF) from the WHO is available in a format that makes the data recorded in it suitable for learning algorithms and artificial intelligence. The activities are now aimed at the current coronavirus crisis but will also provide a facility that will be directly available in the event of possible future infectious disease outbreaks.

Further developments are taking place, and information about usable tools (et cetera) will be published on the ZonMw website.

Global

ZonMw continually aligns its activities with the [WHO Coordinated Global Research Roadmap: 2019 novel coronavirus](#), and with [GloPID-R](#), an international network of research funding bodies in the area of infectious disease outbreaks. Vaccine-related research is being coordinated by the Coalition for Epidemic Preparedness Innovations ([CEPI](#)). The European Union is represented in both groups; the coordination of funding bodies proceeds via the GloPID-R network. This network includes the American National Institutes of Health (NIH), the British Wellcome Trust and the Bill and Melinda Gates Foundation. An [overview of current calls for proposals](#) can now be found on the GloPID-R website. UK Collaborative on Development Research (UKCDR) in collaboration with GloPID-R has set up an international overview database of current and completed projects¹⁰ to help funding bodies determine which studies are still needed.

European

The programme seeks connection with different research trajectories set up by the European Commission and the Dutch research groups participating in these¹¹. That concerns both broader programmes for relevant research infrastructure (networks and platforms) and specific trajectories aimed at COVID-19.

National

Collaboration and continuous alignment with RIVM is essential. Close consultation is also taking place with the Top Sector Life Sciences & Health (LSH) about a possible joint approach, and with the Central Committee on Research Involving Human Subjects (CCMO) about how we can comply with their urgent procedures. A part (€6 million) of the financial resources from NWO and OCW is intended for non-medical and/or care-related research. These funds are specifically intended for research into the dynamics in society, the role of (new applications of) technologies and natural and physical sciences research in relation to the (consequences of the) coronavirus crisis, and the measures taken against the coronavirus both now and in the future.

⁸ <https://www.go-fair.org/implementation-networks/overview/vodan/>

⁹ <https://www.zonmw.nl/en/news-and-funding/news/detail/item/start-datanetwork-coronavirus/>

¹⁰ <https://www.ukcdr.org.uk/funding-landscape/covid-19-research-project-tracker/>

¹¹ https://ec.europa.eu/info/research-and-innovation/research-area/health-research-and-innovation/coronavirus-research-and-innovation_en

6. Open Science

ZonMw and NWO pursue a policy to encourage Open Science. They have signed the international statement¹² to make research results and data public as fast as possible in the fight against COVID-19.

Open Science: Transparency and (pre)registration

Even before the results and data from the project become available, it is important to know which research is being funded. That will make it possible to realise an international synergy of the research efforts.

ZonMw will place a description of the projects on the COVID-19 Research Tracker¹³ of GloPID-R. With this, the projects will be linked to the WHO priorities for COVID research¹⁴. Other platforms to pre(register) research proposals, research protocols and research projects will also be recommended by ZonMw.

Open Science: FAIR data

In accordance with the standard guidelines for data management from ZonMw and NWO, the research data generated in the project should be made available as quickly as possible for the use on a "trusted repository". Data and methods of measurement and analysis must be made reusable according to the FAIR principles¹⁵.

For projects in the first focus area (Predictive diagnostics and treatment) and in the second focus area (Care and prevention) additional requirements apply. In these projects, the data must be made computer-readable (therefore suitable for artificial intelligence) and (where possible and relevant) standards, technologies and infrastructure for research into COVID-19 will be used, as developed by, amongst others, VODAN¹⁶.

No data stewardship plan needs to be submitted with the funding proposal. However, applicants should determine together with a data steward from their organisation to what extent the COVID-19 specific standards, techniques and infrastructure can be used, and they must include the (estimated) costs for data stewardship throughout the project in the proposal budget.

After granting, a data stewardship plan must be submitted to ZonMw. The programme will offer researchers support for the planning and later realisation of the data stewardship once a grant has been awarded. For this, an agreement will be made with the data competence centres and/or data stewards at universities, university medical centres and several research institutes. The support is nationally coordinated to make an unequivocal approach possible.

A more detailed explanation can be found on ZonMw's website under FAIR data and data management¹⁷.

Open Science: Open Access publications

All publications emerging from scientific research that is partly or entirely funded within this ZonMw programme should be made immediately available by the researchers (without embargo) in Open Access form with an open licence. In this manner, we will share all new knowledge that can contribute to the improvement of public health with respect to COVID-19 as quickly as possible. Furthermore, research results that are produced within this programme should be shared in line with the Joint statement on sharing research data and findings relevant to the novel coronavirus (SARS-CoV-2) outbreak¹⁸.

The costs for full golden Open Access publications will be remunerated by ZonMw up to a maximum amount of €5000 per project, in accordance with European and other legislation. Immediate Open Access publication via routes other than the complete golden route is also permitted, but ZonMw will not make any funding available for this. More information about the conditions for Open Access publishing will be made available when the programme is realised.

¹² <https://www.zonmw.nl/nl/actueel/nieuws/detail/item/nwo-en-zonmw-open-access-in-strijd-tegen-coronavirus/> (Dutch)

¹³ <https://www.ukcdr.org.uk/funding-landscape/covid-19-research-project-tracker/>

¹⁴ <https://www.glopid-r.org/wp-content/uploads/2020/03/who-2019-novel-coronavirus-global-research-roadmap.pdf>

¹⁵ <https://www.go-fair.org/fair-principles/>

¹⁶ <https://www.go-fair.org/implementation-networks/overview/vodan/>

¹⁷ <https://www.zonmw.nl/en/research-and-results/fair-data-and-data-management/>

¹⁸ <https://wellcome.ac.uk/coronavirus-covid-19/open-data>

7. Communication and implementation

Involvement of relevant persons and organisations from professional practice and policy in the research is vitally important for sharing interventions that have proven to be effective as well as new knowledge about COVID-19 and to make this usable and applicable. ZonMw encourages this involvement in the realisation of projects and within the programme. Communication plays a vital role in this.

The basic premises for communication and implementation are:

- Communication about research projects and research initiatives initially takes place at the national level. Where possible, connection is also sought with international initiatives.
- In all projects, the programme will focus on stimulating, facilitating and supporting collaboration.
- Granting conditions will be included for implementation in collaboration with other interested parties.
- Communication about the programme and the projects and results emerging from this will take place jointly and with reference to VWS, ZonMw, OCW and NWO as the funding bodies.
- Communication from ZonMw will mainly be supportive in the area of Open Science: making data and publications about COVID-19 public as fast as possible.

General activities prior to the realisation of the second wave programme:

- Communication and alignment with the commissioning bodies
- Involvement of the stakeholders/management network of the programme, and where relevant of individual projects

Activities at the programme level:

- Collaboration with relevant stakeholders, such as municipal health services and *GGD GHOR Nederland* [association of municipal health services and regional medical emergency services in the Netherlands], RIVM, the various *Academische Werkplaatsen*¹⁹ [Academic Collaborative Centres], the Netherlands Institute for Social Research (SCP), the Netherlands Bureau for Economic Policy Analysis (CPB) and professional organisations such as the Federation of Medical Specialists (FMS) and V&VN [professional association for nursing and caring staff]

Central communication approach towards researchers

Researchers must know whether and where (extra) funding possibilities are available, which projects are currently being realised and what the (interim) results are. The information about funding possibilities and projects awarded will be shared on a central COVID/coronavirus sub-site of the ZonMw website (www.zonmw.nl/en/about-zonmw/coronavirus/research-on-corona-and-covid-19/). NWO will place a link on the NWO website to this sub-site. Information about funding possibilities, projects awarded funding and results from the regular routes of the various ZonMw programmes will also be shared via the ZonMw and NWO newsletters and via reporting on the programme pages.

Insight in current initiatives in the Netherlands

ZonMw will make an overview of current initiatives from ZonMw programmes in the area of the coronavirus and health. In addition, links to relevant websites will be published on which (inter)national initiatives will be collected, such as those from Health-RI²⁰, GloPID-R²¹ and UKCDR project tracker²². This overview and these links can also be found at www.zonmw.nl/en/about-zonmw/coronavirus/research-on-corona-and-covid-19/.

¹⁹ Such as *Academische Werkplaatsen Infectieziektebestrijding* [Academic Collaborative Centres for Infectious Disease Control] via <https://www.zonmw.nl/nl/onderzoek-resultaten/gezondheidsbescherming/infectieziektebestrijding/academische-werkplaatsen-infectieziektenbestrijding/> (Dutch)

²⁰ <https://www.health-ri.nl/covid-19-related-data-initiatives>

²¹ https://www.glopid-r.org/resources/?type=funding_opportunities

²² <https://www.ukcdr.org.uk/funding-landscape/covid-19-research-project-tracker/>

8. Budget

The budget for the programme has been allocated as follows:

Predictive diagnostics and treatment	€9,645,000
Care and prevention	€7,945,000
Societal dynamics	€6,809,000
Practice boosts and policy questions	€1,351,000
Communication and implementation	€250,000
Realisation costs	€1,000,000
Total	€27,000,000

Vooruitgang vraagt om onderzoek en ontwikkeling. ZonMw financiert gezondheidsonderzoek én stimuleert het gebruik van de ontwikkelde kennis – om daarmee de zorg en gezondheid te verbeteren.

ZonMw heeft als hoofdplichtgevers het ministerie van VWS en NWO.

ZonMw stimuleert
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