



101005177 — COVID-RED

COVID-RED

**WP6 – Communication,
dissemination and
stakeholder outreach**

D6.9 Report describing a final dissemination, communication and exploitation plan

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Document History

Version	Date	Description
V1.1	28.04.2022	Version 1

Abstract

High quality internal and external communication is key to the success of COVID-RED, underpinning effective collaboration between project partners and maximizing the impact of the project's findings. The consortium therefore developed an initial communication, dissemination and exploitation plan (D6.1) and a report describing communication plan (D7.10). This report (D6.9) is an update of these deliverables, containing the final communication, dissemination, publication, and exploitation plan.

The overall aim is to maximize the impact of COVID-RED by ensuring full use of available communication channels both within and outside of the project.

This plan is a guidance for the planning and execution of communication activities by members of the project in a professional and coordinated manner. Most elements of this plan were adopted by the consortium at the beginning of the project, but this report is the first combination of these separate elements. The adoption of this plan ensures quality and consistency of communication across the project.

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Introduction

High quality internal and external communication is key to the success of COVID-RED, underpinning effective collaboration between project partners and maximizing the impact of the project's findings. To optimize dissemination of the COVID-RED project's results and thereby to maximize the impact of COVID-RED, the consortium developed several materials and deliverables related to communication, dissemination and exploitation:

- The consortium developed a website, social media pages, and templates for communication materials (D6.2)
- In October 2020, a report was created which outlined the target audiences, communication channels, and key messages for COVID-RED (D7.10). This plan also listed clear goals, objectives, and timelines for communication activities, and provided guidance to project participants for the development of communication activities and the preparation and use of materials. The adoption of this plan encouraged the full use of available communication channels from the project and ensured quality and consistency of communication.
- In May 2021, a second report was created, containing the project's visual branding, media and social media strategy, publication strategy, and the consortium's publication policy (D6.1). The aim was to align all parties on dissemination standards and to present a strong external project's image.

This report is an update of these previous deliverables, containing the final dissemination, communication and exploitation plan. To deliver the most impactful project's communication and dissemination campaign, a team of communication and exploitation specialists, including PR and social media managers, has provided input.

It addresses the following topics:

- COVID-RED visual identity
- Communication strategy
- Dissemination strategy
- Publication strategy
- Exploitation strategy

The overall aim is to maximize the impact of COVID-RED by ensuring full use of available communication channels both within and outside of the project. Because of the nature of the COVID-RED project, there have been two phases in communication. The first phase focused on participant recruitment and retention and was much oriented towards the Dutch study participants. The second phase started at the end of the clinical study and is much more internationally oriented, and aims for effective dissemination of the COVID-RED results to maximize the project's impact in the fields of science, technology, healthcare, and society.

This plan is a guidance for the planning and execution of communication activities by members of the project in a professional and coordinated manner. The adoption of this plan will ensure quality and consistency of communication.

1) COVID-RED visual identity

A strong external project image is key to COVID-RED's communication and dissemination strategy. One of the first steps the consortium took was therefore to generate a clear visual COVID-RED identity and online representation with the creation of a logo, dedicated website, social media pages and communication materials.

1.1 Project branding

A project logo has been developed with the aim to present a strong visual COVID-RED identity (Figure 1). This logo is used on the public website, social media accounts, and all other external outputs. In addition, project communication materials were developed in the same style. For example, the branding of the website matches the recruitment folders and posters, and social media messages contained images created in the same style.



Figure 1. Project logo COVID-RED

1.2 Project website

COVID-RED Work Package 6 has developed a public website to serve as the project's showcase and main repository for communication materials. The website lists affiliations, gives insight in the project's aims and structure, and provides updates on project activities. In addition, it contains all publications and deliverables, and (links to) social media posts. The website is available in both Dutch and English.

During the execution of the clinical trial, the project website was an important repository of information for potential study participants. It contained clear overviews of the study setup and a link to sign up for study participation. Once subjects were enrolled in the study, the website remained one of the main communication channels, containing a FAQ-overview, backup participant instruction materials, instruction videos, and information on when and how to contact the helpdesk.

After the clinical trial ended, the project website was modified. Instead of attracting attention to the website parts for study participation, there is more focus on the project updates and dissemination of project results.

The website and social media outputs are regularly monitored, reviewed and updated by consortium members to maximize the impact among all the stakeholders. In this way, Work Package 6 provides the basis for successful uptake and implementation of COVID-RED results and methodologies.

The website can be accessed here: www.covid-red.eu

1.3 Project communication materials

Communication materials to present the project to a broad audience such as general PowerPoint presentation were developed (Figure 2). This template can be used for online project communication and dissemination and contains general information about the project. The images presented in these slides can also be used separately as infographics.

In addition, a video was developed explaining the project and the relevance of the study. This video is available on the home page of the project website.



Figure 2. PowerPoint Template slides for presenting COVID-RED

1.4 Project recruitment materials

Several materials were developed for study recruitment. This includes a poster infographic (Figure 3) and folders. These materials were created in the same style as the website, to maintain a clear visual COVID-RED identity. The social media channels were also used for recruitment purposes.



Doet u mee aan het COVID-RED onderzoek?

In het onderzoek proberen we al vroeg te bepalen of iemand besmet is met het coronavirus. Het liefst al voordat iemand zelf klachten opmerkt.

Diederik H. Grobbee, hoofonderzoeker

20.000 Deelnemers

Als u meedoelt aan deze studie draagt u voor 7 tot 9 maanden iedere nacht een armband en houdt u een dagelijks logboek bij.

De armband registreert veranderingen in lichaamstemperatuur, hartslag, veranderingen in hartslag en ademhalingsfrequentie.

In het onderzoek proberen we al vroeg te bepalen of iemand corona heeft. Het liefst al voordat iemand zelf klachten opmerkt.

Dit onderzoek vindt plaats in Nederland. Het doel is om te kijken of de gegevens die de sensoren in de armband verzamelen een coronavirus besmetting kunnen voorspellen.

Indien u eerder met behulp van de armband en app weet dat u besmet bent met het coronavirus, kunt u zich sneller isoleren en besmettingen aan anderen voorkomen.

Het COVID-RED onderzoek is opgezet door het Universitair Medisch Centrum Utrecht.

UMC Utrecht

Met uw deelname draagt u bij aan het corona onderzoek, zonder dat uw dagelijks leven veel verandert.

Wilt u deelnemen aan het onderzoek?
Of wilt u eerst meer informatie?

Dat kan allebei via onze website:
www.COVID-RED.EU

COVID-RED

Dit onderzoek ontvangt steun van de ELI-EPIA Innovative Medicines Initiative (IMI) Joint Undertaking COVID-RED grant no 101005177.

efpia **IMI** **innovative medicines initiative**

Figure 3. Poster infographics for presentation to large Dutch audience

2) Communication strategy

Because of the nature of the COVID-RED project, there have been two phases in communication strategy. The first phase focused on project presentation, with the underlying aim of participant recruitment and retention. This was primarily oriented towards potential Dutch study participants and mainly took place via the COVID-RED website, Twitter, and Instagram, as well as via press releases and newsletters for the study participants. The second phase started at the end of the clinical study and is internationally oriented and aims for effective dissemination to a scientific and expert audience. This will become especially important when the results become available, as the dissemination activities will also target the scientific community and experts in the field of wearable technologies. At the same time, the consortium will also keep the trial participants informed, and the consortium will make a summary of the results available in Dutch for them.

2.1 Key messages

At the beginning of the project, the consortium thought of effective communication messages. In support of these messages, specific materials have been developed to promote COVID-RED and to ensure that outputs have impact beyond the scope of defined project activities. These materials are described in the previous chapter. The key messages for COVID-RED are:

- WHAT is COVID-RED?

COVID-RED is an IMI-funded project which aims to develop an algorithm wherein non-invasively collected markers of human health (temperature, heart rate, heart rate variability) can be used to predict the likelihood of Covid-19 infection.

- WHY is COVID-RED needed?

Owing to the novel nature of COVID-19, its high rate of spread, and the need to rapidly identify and contain cases, new and innovative technologies are needed to identify potential new infections rapidly, safely, and accurately. This will allow more rapid access to treatment, contact tracing and quarantining of at-risk individuals.

- WHAT can be expected from COVID-RED?

The primary expected outcome of COVID-RED is a computationally derived algorithm wherein data from a smartphone app with or without supplemental data from wearable technology will predict potential COVID-19 infections in individuals. This may significantly impact the future spread of COVID-19 (and future pandemics) as well as providing detailed data which will be of high interest to the scientific community, thus facilitating research collaborations.

2.2 Target audience

Communication and dissemination activities are directed towards a wide range of internal and external audiences (stakeholders), including project participants (Table 1). Two-way communication has been achieved, with valued inputs coming into the project from stakeholders both via the COVID-RED Advisory Board, the helpdesk for study participants, and the Twitter channel.

Table 1. COVID-RED Target Audiences/Stakeholders

Audience/Stakeholder	Communication requirements
External	
Study participants	<p>Activate to participate in the study.</p> <p>Inform of project progress, including study protocols, major findings, updates on study steps, and any changes to the study.</p> <p>Motivate to keep participating until the study end; build community.</p>
Patients (including those with and those at risk for COVID-19)	<p>Inform of project concept, progress, and outputs of COVID-RED.</p> <p>Build community by informing of interesting facts or developments in the field of COVID-19, related to COVID-RED.</p>
Patient & disease specific organizations	Inform of project concept, progress, and outputs of COVID-RED.
Health-care providers and clinical researchers	Inform of project concept, progress, and outputs of COVID-RED.
Healthcare provider organizations (including HCPs)	Inform of project concept, progress, and outputs of COVID-RED.
Members of Ethics boards	<p>Inform of project concept, progress, and outputs of COVID-RED.</p> <p>Targeted communications regarding specific developments in COVID-RED related to ethics.</p>
Healthcare payers/insurers	<p>Inform of project concept, progress, and outputs of COVID-RED.</p> <p>Targeted communications regarding developments in Work Package 4: cost analysis.</p>
Industry R&D, Pharma, and related institutions	<p>Inform of project concept, progress, and outputs of COVID-RED.</p> <p>Targeted communications regarding developments in the field of COVID-19 related wearables.</p>
Funding and “parent” organizations	<p>Submit deliverables and periodic reports as scheduled in the project’s Description of Action.</p> <p>Share ‘success stories’ and impact of project outputs.</p> <p>Share communication outputs that they can promote via their communication channels to showcase COVID-RED.</p> <p>Participate in communications and presentations organized by these organizations to showcase IMI projects.</p>
Media and (targeted) general public	Inform of project concept, progress, and outputs of COVID-RED.
Internal	
COVID-RED leadership and consortium management team	<p>Provide bi-weekly updates on activities and progress, including draft project outputs for review.</p> <p>WP leaders to drive topics and identify potential interviewees or speakers for webinars and podcasts</p>
COVID-RED partner assembly	<p>Provide regular updates on project activities and deliverables.</p> <p>Ask for review of public outputs when applicable.</p>
Incoming communications from stakeholders	Use various channels such as the Advisory Board to seek input from stakeholders into project outputs and planned activities, and their communication to generate the most impact

2.3 Communication channels

Communication and dissemination activities are directed towards a wide range of internal and external audiences, as shown in Table 1. In order to communicate effectively with these various target groups, communication channels and tools must be tailored to the needs and expectations of those groups. These channels and tools depend on the complexity, importance, and content of the intended message and should correspond to the expectations of the audience. The list of possible communication channels and their descriptions is listed in Table 2 below.

Table 2. COVID-RED communication channels

Channel	Description
External	
COVID-RED website	The website is an important window into the project, housing original content generated by project partners. It also contains important information for study participants and update messages on project progress. Project results and outputs are also shared here.
COVID-RED Twitter	Through Twitter, the consortium showcases project developments. During the study execution phase, it focused on participant recruitment and retention. After this, the focus moved towards the dissemination of project results.
COVID-RED Instagram	Through Instagram, the CRO posts interesting messages for study participants to stimulate recruitment and retention.
Journal publications	To be developed and submitted by internal project partners. Links to publications, summaries of content (abstracts), and full manuscripts (where permitted) will be made available on the COVID-RED website.
Conference presentations	To be developed and submitted by internal project partners. COVID-RED will maintain a register of project presentations.
Press releases	There has been extensive press coverage at the start of COVID-RED and in the recruitment phase. Project members are encouraged to highlight further major project events such as meetings, completion of key deliverables, presentations, and publications through a press release. All press releases need to be reviewed by COVID-RED project management to ensure that they are written in line with the key messages of the project.
Specific stakeholder engagement	Reaching out to scientific, clinical, and patient-focussed stakeholders to engage in discussion with research partners, provide review of COVID-RED progress and outputs (Advisory Board), and/or provide insight in the stakeholder field (HI-NL).
Academic collaborations	Collaborations with other relevant European projects to maximize the impact of EU funded research, especially in those in IMI call 21.
Internal	
Management Team meetings	A bi-weekly opportunity to discuss overall progress, risks, and decisions, and to review draft project outputs.
Management Board meetings	A monthly opportunity for all core team members to meet in an online space and discuss overall progress and progress within each WP.
Quarterly project meetings	A regular opportunity for all project partners to meet in an online space and discuss overall project progress
Project reports	Internal dissemination of project results and protocols for review and revision among partners

“Kick-off” meetings A series of online meetings at project initiation to allow all partners to present and discuss their role and progress within the project.

2.4 Communication activities

The COVID-RED consortium will execute communication activities at (major) project milestones to raise awareness and increase project visibility, while reaching a wide range of stakeholders. Proposed communication measures are described in Table 3, which aim to reach a wide audience and create broad public support for the project activities. All consortium partners will be encouraged to communicate COVID-RED’s outputs and activities through their own channels.

Table 3. Proposed communication activities

	Proposed channels	Target audience	Content	Frequency	Proposed metrics
Digital tools	External website, project-unique logo, social media accounts, and templates	Consortium partners and all relevant stakeholders	Regular updates; news and upcoming events	Major milestones	Number of new visitors, number of returning visitors, number of page views
Written formats	Scientific publications, white papers	Scientific community. Industrial partners and regulators	Relevant scientific outcomes	At least once during the project duration	Impact factor, number of citations
	Content marketing/ press releases	All stakeholders	Updates; major milestones	Major milestones	Media coverage
	Newsletters	Study participants	Study updates; instructions	Major milestones	Number of newsletters
Events and meetings	Internal and consortium meetings	Consortium partners	Project progress	At least annually	Number of participants
	External conferences	Clinicians, SMEs, and other industrial partners, regulatory bodies, other relevant stakeholders	Project progress	At least 2 times during the project duration (depending on whether such conferences will take place)	Number of conferences
	Webinars	All relevant stakeholders	Updates; major milestones	Major milestones	Number of views/ shares/ likes
Social media	Twitter, Instagram, Reddit	All relevant stakeholders, including study participants	Project progress; recruitment and	Major milestones	Number of posts; number of followers/

retention
messages

shares/ likes/
retweets

2.5 Social media strategy

Work Package 6 has set up a Twitter account (@CovidRed) and an Instagram account (covidredproject). These accounts have been set up according to EC's guidance note on social media (04/2018). In addition, a Reddit account (covid-red) has been used to post a few messages focused on recruitment only. During the clinical study setup and execution, the social media sources were mainly focused on patient recruitment and engagement. As the project's results come in, the focus will shift towards dissemination activities, targeting not only study participants but also people active in the fields of healthcare, science, and wearable technologies.

A Facebook group has been created as well, where study participants discussed their study experiences. Notably, this group was created by the participants themselves. The consortium did monitor these discussions but in principle did not interfere with them.

Work Package 6 has developed a social media strategy for Twitter and Instagram with support from UMCU and Julius Clinical communication experts, in order to stimulate the recruitment and retention campaigns in the best possible way. During the recruitment and retention phase, a social media community manager actively monitored the social media channels and responded to questions and comments to COVID-RED posts. The general principles can also be applied to the use of social media for communication about COVID-RED in general.

Target audiences + intent of messaging

Twitter

Focus: communication + dissemination of project progress, special focus on study progress. During study, the primary focus was (potential) study participants and most messages were in Dutch. After the study this shifted more towards people interested in project results, including the scientific community, and dissemination of findings. Message content was adjusted to this broader stakeholder group and messages were posted in English. For study participants, the consortium refers to the website for updates in Dutch.

WHO	MESSAGE TYPES	LANGUAGE
1. Study participants, lay people interested in the study, press	1. Inform about global study progress 2. Motivate to join/stay in study (community building) 3. Inform about global project progress	Dutch, level B1
2. Interested people from industry/academia/other projects	1. Inform about project progress 2. Inform about study progress 3. Inform about publications, conferences where COVID-RED is presented, etc. (project dissemination)	English

Instagram

Focus: recruitment + retention. Instagram is only focused on study participants and will not be used to target other stakeholder groups.

WHO	MESSAGE TYPES	LANGUAGE
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1. Study participants, lay people interested in the study	1. Motivate to join/stay in study (make people feel part of a community) 2. Inform about global study progress 3. Inform about global project progress	Dutch, level B1, quite informal
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Internal approval procedures

Responsibility for the COVID-RED Twitter content lies with UMCU PMO. An exception is made for Julius Clinical as CRO: Julius Clinical can post messages regarding global study progress and messages aiming at patient retention, without PMO approval.

Responsibility for the COVID-RED Instagram lies with Julius Clinical; no PMO approval is required for Julius Clinical before posting messages there.

PMO/Julius Clinical decide on case-by-case basis whether MT approval is needed.

Editorial ethics

- Rigor, accountability, and transparency: before posting information, the content of the post is double-checked. For Twitter, the content is being checked with someone from PMO UMCU. For Instagram, the content is being checked with a Julius Clinical colleague.
- Anonymization: the consortium does not mention contact details of participants in their tweets.
- Minimization of harm: when in doubt about disclosing data, always take the path that will ensure the least damage to the participants.

Reposting content by study participants

On Twitter, the consortium can “like” messages posted by study participants but does not retweet them.

On Instagram the consortium can share posts by study participants in their story, but not as a post on their page. Before sharing posts on Instagram, the consortium reaches out to the person and ask for their consent before the consortium shares it in their story.

On both Twitter and Instagram, the consortium does not follow study participants, see follower policy below.

Relevant hashtags

#pandemic #coronaviruspandemic #CoV #Coronavirus #quarantine #staysafe #corona #stayathome #lockdown #covid #socialdistancing #stayhealthy #virus #covid19 #Coronavirus #quarantine #corona #covid #socialdistancing #virus #pandemia #pandemic #trials or #clinicaltrials

Content

Tweets

- Global progress of the study (milestones)
- Milestones of recruitment
- Milestones of study duration (‘recruitment started 1 month ago’, first patient out)
- Messages focused on recruitment/retention (when relevant, similar to Instagram posts or referring to the COVID-RED Instagram account)
- COVID-RED exposure in press
- Global progress of the project (milestones)
- Public deliverable reports when they are shared on the website
- Updates from IMI with regard to COVID-RED

- Articles being published by the consortium
- Other general project updates

Retweets

- Content that directly addresses COVID-RED (for example, from press or participating organisations or partners)
- Content that addresses wearables and/or covid-19 and are of interest to the target audience

Instagram

- Posts and stories that motivate people to join the study and, once joined, keep participating in the study.
- “Behind the scenes” (activities done for COVID-RED by Sanquin, Mailstreet, helpdesk)
- Background on study and data the consortium collects (e.g. interview/short message from Rick, Billy)
- Happy holiday messages
- Tips & tricks
- Study facts: Did you know (Wist u dat?)
- Study statistics (compliance, demographics)
- COVID-RED exposure in press
- Milestones of recruitment
- Milestones of study duration (‘recruitment started 1 month ago’, first patient out)
- Messages focused on recruitment/retention
- Re-post messages in which COVID-RED is tagged
- IMI funding

Follower policy

The consortium can follow:

- all consortium members
- all consortium organisations
- IMI
- relevant other projects
- ‘big’ names in relevant industry/academia like the COVID-RED Advisory Board members
- Partners involved in the project

The consortium does not follow:

- individuals other than those mentioned above; in particular, this means the consortium does not follow individuals participating in the study
- news channels (press)

Complaint policy

If people voice specific questions via social media, the consortium will redirect them to the helpdesk (<https://www.covid-red.eu/contact/>).

If people post negative messages about COVID-RED in general, the consortium will ignore these unless PMO decides that an response would be appropriate.

2.6 Project manual

A project manual was developed for internal use, containing an overview of target audiences/stakeholders, communication channels, and proposed communication activities. It also

refers to a template for COVID-RED slides, so that everyone would use the same branding for online representation of the project. In addition, it contained the publication policy and a description of the process for dissemination activities, including the internal review procedure.

The following was stated about external communication activities:

Most of the time the purpose of the communication activity is to increase the visibility of the project. Examples of activities are presentations to external organizations (e.g. organisation or party with no contractual relation to the project or a beneficiary), printing of flyers or booklets, the launch of social media accounts and so on. Review of these activities is carried out by the Project Management Office (PMO) and the Management Team (MT) which will inform the IMI Communications team if needed. If possible, send your communications materials one week before exploitation to covid-red@umcutrecht.nl. If this is not feasible, please provide your materials as soon as possible after exploitation.

2.7 Recruitment and retention strategy

Work Package 6 has developed a media and social media strategy in order to launch a press campaign to capture press attention for the COVID-RED clinical trial within the Dutch, Liechtensteinian, Swiss, and American media. Here the project benefitted from the support of a PR/ media specialist from UMCU, who helped shape the key messages and target the right audience and Dutch national media for the recruitment campaign.

The primary intended result of strong media exposure are:

- Recruiting participants for the COVID-RED study
- Keep participants 'on board'

In addition, the following secondary results are intended:

- General awareness of the COVID-RED study
- Awareness of COVID-RED study among potential participants
- Inform potential participants how to register and/or where to find more information about the study
- Getting potential participants excited about participating in the study

Key message to the media

By participating in this study, you contribute to research into Covid-19, without your daily life changing much. Advantage for the participants: Participants get access to the app and the bracelet and could possibly get a notification about a possible Covid-19 contamination so that they can get themselves tested before complaints arise.

Topic Core values

Corona, COVID-19, pandemic, scientific research, clinical research; remote monitoring/tracking, helping participants to monitor their health on a daily basis; informing participants of the best way to react when this is necessary; reduction of stress caused by not being able to directly contact a physician; generate scientific evidence; present an open-source format which can be used by other projects in the future; shaping the future of research

Angle

Popular-scientific. The study should be presented as important scientific research into Covid-19, but in understandable language for non-scientifically or medically educated persons (language level B1).

Target audience

Dutch adults who fulfill the inclusion criteria for the COVID-RED study and who are not excluded based on the exclusion criteria for COVID-RED.

Communication channels

- Invite cohorts: Leidse Rijn Julius Gezondheidscentum (LRJG), Parkinson; Next, Nightingale
- Linkt2Trials (social media campaign)
- Physically in the UMCU (posters, screens)
- Online UMCU internal (connect, newsletter)
- Online UMCU external (newsletter, social media, website)
- Online Julius Clinical (Yammer, LinkedIn)
- Online social media account COVID-RED study (Instagram, Twitter)
- Reddit
- Medians: online website and news
- General (national) press (newspaper, TV)
- Social media Influencer

Other

In addition to the elements listed above, a list of Dutch one-liners was developed for use in media outings, and a Q&A was developed to answer potential questions from the media or via the COVID-RED social media channels.

Table 4. Overview on all recruitment activities

Date	Activity
22-Feb-21	Internal Yammer post Julius Clinical
23Feb – 27May2021	Link2Trials campaign
26Feb2021 – 03Jun2021	Study on website Medians
26-Feb-21	Posters & flyers in LRJG
26-Feb-21	Posters in UMCU
2-Mar-21	Newsletter Medians (10,000 recipients)
2-Mar-21	Post on covid-red.eu website on start of the study
2-Mar-21	Post on COVID-RED Twitter account on start of the study
3-Mar-21	Invite LRJG (300 recipients) on 3 rd of March
3-Mar-21	Invite ParkinsonNext (2500 recipients) on 3 rd of March
10-13 Mar2021	Invite LRJG (10,764 recipients)
12-Mar-21	Poster on narrow casting UMCU
22-Mar-21	Start Instagram (covidredproject)
23-25 Mar2021	Invite LRJG (5,580 recipients)
25-Mar-21	Press release on Connect (UMCU) and Alert to UMCU employees
26-Mar-21	Press release (see table 2 for overview on different publications)
26-Mar-21	LinkedIn post Julius Clinical

26-Mar-21	Post on Reddit
27-Mar-21	News item with Nick Schilder (influencer): online video and Instagram post at RTV Utrecht
30-Mar-21	Video with Nick Schilder on Alert to UMCU employees
31-Mar-21	Utrecht Science Park newsletter and website
31-Mar-21	Item in RTL Boulevard (TV program)
2-Apr-21	Post on Marketingtribune.nl
7-Apr-21	Post in Stadsblad Utrecht
14-Apr-21	Publication in DUB
8-13 Apr2021	Invite LRJG (4,000 recipients)
14, 23 and 29 April	UMCU social media post
24-Apr-21	Press release by IMI
29-Apr-21	Start DPG campaign with “in de buurt”
29Apr – 01May 2021	Invite LRJG (4,000 recipients)
4-May-21	Post in internal newsletter Zilveren Kruis and Univé
5-May-21	Start DPG campaign branded content, banners & native post
14-May-21	Publication UU
19-May-21	Post Facebook Rotterdam study association
21-May-21	Post Instagram Groningen study association
25-May-21	Prolongation native post campaign with DPG on successful platforms
26, 29 May and 2 Jun	Post on Instagram, Facebook and website Maastricht study association
31-May-21	Newsletter and social post Nijmegen study Association
1-Jun-21	Publication in Noordhollands Dagblad, Haarlems Dagblad/IJmuider Courant, De Gooi- en Eemlander and Leidsch Dagblad
2-Jun-21	Instagram advertisement with covidredproject account

2.8 Communication analysis

As described in Table 3, several metrics were proposed to analyse the impact of the communications and possible issues affecting communication. Statistics are available on the use, quality and impact of communications activities, for example website visits, Twitter ‘likes’ and feedback from participants themselves. These can be made available to the Managing Board at any time so that the success/impact of communication activities can be evaluated.

Several metrics are given below. Based on these metrics, the consortium concluded that a lot of online communication has taken place already. The website has had multiple visits and pageviews and this was boosted by the press releases, as the consortium can see in the number of websites functioning as entry channels to the COVID-RED website. Twitter and Instagram were used actively and have quite a few followers.

The consortium can also derive from these metrics that the website has so far had a primarily Dutch audience. This was to be expected, with the focus on recruitment and retention. The consortium is already making efforts to shift the communication to a more international and professional public, and this is expected to reflect on the website and Twitter metrics. The consortium also observes that the website was visited more often in the period of the press releases and communication campaign. Depending on the COVID-RED results and the related dissemination campaign and in light of the scientific papers that are coming up, the consortium also anticipates more website attention again.

Website metrics

After the start of the study, the consortium was informed via Twitter that the website was collecting information for Facebook, Google, YouTube, Instagram and Twitter. The consortium followed up immediately to make sure that the consortium was not collecting unnecessary information. For Facebook, it was linked to a Facebook tracking pixel on the website which was later removed. In response, the remaining code was removed as well. For Instagram and Twitter, the trackers were related to the COVID-RED social media account showcase on the home page. It was decided not to remove these trackers because it would affect the website functionalities and the consortium's ability to communicate with the larger public. For YouTube, it was related to a video posted on the website. The consortium has updated the website and embedded the video directly from its own server instead of via YouTube. For Google, it was related to Google Analytics. In response to the Twitter message, the consortium has removed Google Analytics and only maintained Matamo to collect website analytics data. Matamo does not provide information on Google searchers, but it is on the UMCU servers and considered more privacy proof as nothing will be stored at Google. Metrics about the period between the 31st of March 2021 and the 20th of February 2022 are given below in Table 5 and Figure 4, 5, 6.

Table 5. Metrics for covid-red.eu between 31-03-2021 and 20-02-2022

Website visits <i>Figure 4</i>	Total: 134,170 visits <ul style="list-style-type: none"> • 96,121 new visits • 38,049 returning visits
Pageviews	Total: 298,300 <ul style="list-style-type: none"> • 235,594 unique pageviews
Website activity (page views, downloads, outlinks and internal site searches)	<ul style="list-style-type: none"> • 2.5 actions per visit on average • 165 max actions in one visit • 46% bounced (leaving the site after one page) • 7,116 downloads, 6,517 unique downloads • 23,815 outlinks, 21,068 unique outlinks • Average visit duration: 2 minutes and 13 seconds
Location <i>Figure 5</i>	Total: 134,170 visits from 113 distinct countries <ul style="list-style-type: none"> • 115,983 Netherlands • 3,401 Iran • 3,390 North Macedonia • 2,155 United States • 1,170 Germany • 8,071 Other
Entry channels <i>Figure 6</i>	<ul style="list-style-type: none"> • 59,947 direct entries (45% of visits) • 45,721 from websites (34% of visits) <ul style="list-style-type: none"> ◦ 82 distinct websites • 24,428 from search engines (18% of visits)

	<ul style="list-style-type: none"> ○ 12 distinct search engines ○ 13 distinct keywords ● 3,934 from social networks (3% of visits) <ul style="list-style-type: none"> ○ 8 distinct social networks ● 140 from campaigns (0% of visits) <ul style="list-style-type: none"> ○ 2 distinct campaigns
Devices	<ul style="list-style-type: none"> ● 93,852 visits via smartphone ● 24,820 visits via desktop ● 8,927 visits via phone/tablet ● 5,972 visits via tablet ● 599 visits via other devices

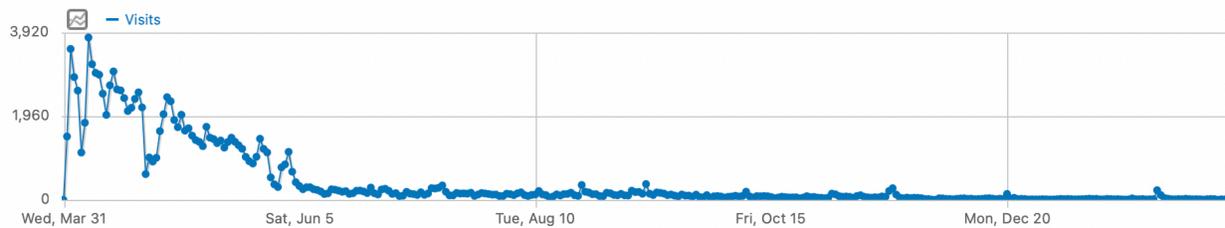


Figure 4. Website visits over time

134,170 visits

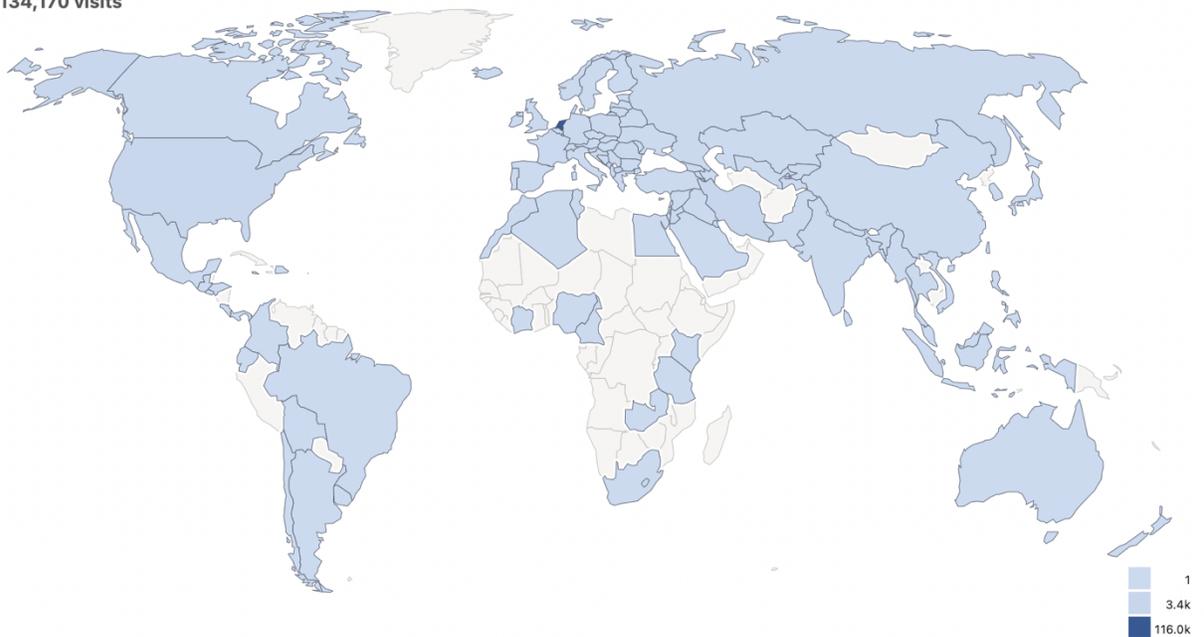


Figure 5. Website visitor map

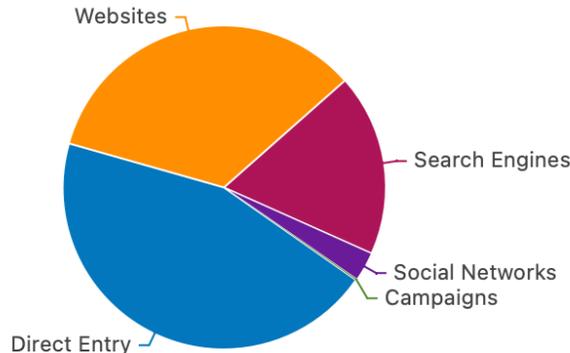


Figure 6. Website entry channels

Social media metrics

COVID-RED joined Twitter in November 2020 and has posted 132 Tweets, of which 24 contained photos and/or videos. They are following 38 accounts and have 386 followers. COVID-RED has liked 90 Tweets.

On Instagram, COVID-RED has shared 64 posts, of which 8 contained videos. The account was tagged in 8 posts. There are 1,118 followers to the account, and COVID-RED doesn't follow any accounts. From the stories, three highlights were created on the account regarding vaccination, media, and charging the device.

On Reddit, COVID-RED has posted 2 messages. One message was in r/Utrecht, which has 47,7K members. The post received 32 upvotes and 29 comments. The other post was in r/coronanetherlands, which has 155K members. This post received 36 upvotes and 26 comments.

Content marketing/press releases

At least 59 press releases were published regarding COVID-RED. A list of main press releases can be found in Table 6 the press coverage section below. The press releases were concentrated around a few key moments in the project.

- In May 2020, 5 Dutch press releases announced the project start and the plans and aims of COVID-RED, starting with a post by UMCU.
- In August and September 2020, another 8 Dutch press releases mentioned the potential impact of COVID-RED and its place in the field of smart health wearables. This started with a TV appearance at RTL Nieuws which was picked up by several other national news sites.
- On the 26th of October, IMI published about COVID-RED and announced the project plans and potential impact. This was the first international press release.
- Between the 22nd of March 2021 and the 1st of June 2021, 44 press releases showcased COVID-RED and the call for study subjects. Although most posts were released by Dutch news sites, radio stations, and TV stations, there were several international press releases as well. These were initiated by Ava and IMI. The Dutch posts were initiated by Julius Clinical and UMCU.

Scientific publications

A structured summary of the COVID-RED study protocol was published in *Trials* in June 2021. According to the *Trials* website, the article has so far been accessed 2910 times and cited twice. This article is in the 88th percentile (ranked 38,434th) of the 339,759 tracked articles of a similar age in all journals and the 1st percentile (ranked 1st) of the 1 tracked articles of a similar age in *Trials*.

A letter to this article was published a few months later (October 2021), containing protocol updates. This updated article was accessed 664 times. There are no citations found via Web of Science or CrossRef. This article is in the 20th percentile (ranked 241,795th) of the 346,758 tracked articles of a similar age in all journals and the 1st percentile (ranked 1st) of the 1 tracked articles of a similar age in *Trials*.

In August 2021, a popular scientific article was published in VAP-Visie Analyse. This is a trade journal for medical analysts and biomedical lab technicians. This article was initially only available in print but will be made available open access online as well in the summer of 2022.

Events and meetings

Because of the COVID-19 pandemic, it was not possible to organize a face-to-face consortium meeting, but there are regular meetings in workgroups and the Managing Board to inform everyone and keep everyone engaged. The general impression is that this structure works well. Although a face-to-face consortium meeting would have provided more opportunities for deeper networking, exchanges of ideas and general get-to-know your partners' organizations better, the lack of such a meeting is not regarded as a risk for project progress. The number of conferences attended is lower than expected following the pandemic and because the COVID-RED outputs are coming at the end of the project. This also explains why no webinars were organized yet by COVID-RED. The consortium expects that exciting results will be communicated upon at the end of the project and in the form of a public webinar.

2.9 Press coverage

The consortium has had an important media presence at several points in the project, both in the Netherlands and internationally. The large media coverage around March – May 2021 really boosted the initial recruitment of participants for the COVID-RED study.

Please find below in Table 6 a selection of where the project was showcased in press releases.

Table 6. Overview of main COVID-RED press releases

When	What	Link
01-Aug-2021	Popular-scientific article	https://www.covid-red.eu/wp-content/uploads/2021/08/COVID-RED-VAPvisieAnalyse-4-2021_edit.pdf
01-Jun-2021	Online press article	https://m.noordhollandsdagblad.nl/cnt/DMF20210601_61349009
14-May-2021	Online press article	https://www.icthealth.nl/nieuws/onderzoek-inzet-slimme-armband-voor-diagnose-covid-19/
14-May-2021	Online press article	https://utrecht.nieuws.nl/zorg/74910/umc-utrecht-test-armband-die-symptomen-covid-19-signaleert/
13-May-2021	Online press article	https://www.skipr.nl/nieuws/miljoenen subsidie voor armband die covid-19 detecteert/

24-Apr-2021	IMI press release	https://www.imi.europa.eu/news- events/newsroom/covid-red-seeks- volunteers-help-answer-key-question-can-digital-tech-detect
14-Apr-2021	Online press article	https://www.dub.uu.nl/nl/nieuws/nog-proefpersonen-nodig-voor-armband-die-coronabesmetting-dagen-eerder-kan-opsporen
7-Apr-2021	Online press article	https://www.stadsbladutrecht.nl/nieuws/nieuwsflits/1056925/-slimme-armband-in-strijd-covid-19
31-Mar-2021	TV appearance	https://www.rtlboulevard.nl/entertainment/showbizz/video/5222934/nick-schilder-proefkonijn-voor-corona-armband-was-getriggerd
29-Mar-2021	Online press article	https://femtech.live/ava-to-test-fertility-tracking-bracelet-for-covid-19-detection
28-Mar-2021	Press release with online video	https://www.rtvutrecht.nl/nieuws/2158201/umc-utrecht-wil-coronabesmettingen-vinden-met-slimme-armband
26-Mar-2021	Radio	https://www.nporadio1.nl/fragmenten/nieuws-en-co/30f72a53-954a-4b9d-97a6-560a0840cc40/2021-03-26-armband-als-ervanger-voor-coronatest-hij-kan-tot-wel-twee-dagen-eerder-het-virus-opsporen
26-Mar-2021	Radio	https://content.rtvmonitor.nl/api/1/playoutFeed/Bjc-lrV-xC2DTbYOnQApcfzD7c1ABKXnfsXLGVbldXGBA0ADOAB6EV0WxeZMaBg50QKla67QSSCnvseQQ0BKFw.html?position=00%3A02%3A18&provider=rtvm
26-Mar-2021	Radio	https://www.rtvutrecht.nl/gemist/uitzending/radiomutrecht/utrecht-komt-thuis/20210326-1700/
26-Mar-2021	LIVE blog	https://www.omroepbrabant.nl/nieuws/3364710/coronanieuws-ziekenhuizen-gaan-kwetsbare-patienten-vaccineren
26-Mar-2021	LIVE blog	https://www.ad.nl/binnenland/teruglezen-7644-nieuwe-coronagevallen-weer-meer-coronapatienten-in-ziekenhuizen~ab8bc20d/
26-Mar-2021	LIVE blog	https://nos.nl/liveblog/2374166-gemeente-in-brief-aan-krimpense-kerk-houd-dienst-digitaal-pfizer-prik-kan-minder-koud-bewaard.html
26-Mar-2021	LIVE blog	https://www.omroepwest.nl/nieuws/4372649/Coronavirus-Meer-patienten-in-ziekenhuis-nieuwe-gevallen-ongeveer-gelijk
26-Mar-2021	LIVE blog	https://www.1limburg.nl/teruglezen-kwetsbare-patient-krijgt-prik-ziekenhuis?context=section-34029
26-Mar-2021	LIVE blog	https://www.regiotvtiel.nl/nieuws/6833080-liveblog-corona--ggd-stopt-met-diepe-neustest-bij-kinderen
26-Mar-2021	LIVE blog	https://www.hartvannederland.nl/coronavirus/duifje-komt-quarantaineperiode-door-dankzij-lockdowncoach-lotte-wehadden
26-Mar-2021	LIVE blog	https://www.demorgen.be/nieuws/live-coronavirus-lange-wachttijden-bij-inschrijving-voor-reservelijst-vaccinatie~b638c04f/
26-Mar-2021	Online press article	https://www.financieel.com/journal/utrechtse-onderzoekers-testen-een-armband-om-covid-symptomen-te-identificeren/
26-Mar-2021	Online press article	https://www.msn.com/nl-nl/nieuws/technology/umc-test-slimme-armband-die-corona-eerder-detecteert/ar-BB1eYEKP?li=BB0PEwG

26-Mar-2021	Online press article	https://dutchreview.com/news/dutch-bracelet-detects-coronavirus/
26-Mar-2021	Online press article	https://utrecht.nieuws.nl/zorg/77979/slimme-armband-signaleert-coronabesmetting-voordat-je-het-zelf-doorhebt/
26-Mar-2021	Online press article	https://www.linda.nl/nieuws/gezond/umc-utrecht-onderzoek-slimme-armband-coronabesmetting/
26-Mar-2021	Online press article	https://www.viva.nl/lijf-lijn/slimme-armband-signaleert-prille-coronabesmetting/
26-Mar-2021	Online press article	https://www.margriet.nl/lifestyle-nieuws/umc-onderzoekt-slimme-armband-die-sneller-corona-kan-opsporen~bd6fb93a/
26-Mar-2021	Online press article	https://nltimes.nl/2021/03/26/utrecht-researchers-testing-bracelet-identifying-covid-symptoms
26-Mar-2021	Online press article	https://www.agconnect.nl/artikel/it-kort-oa-slimme-armband-signaleert-prille-coronabesmetting#anchor1
26-Mar-2021	Online press article	https://www.duic.nl/algemeen/umc-utrecht-test-slimme-armband-die-coronabesmetting-vroeg-kan-opsporen/
26-Mar-2021	Online press article	https://www.medicalfacts.nl/2021/03/26/met-een-armband-covid-19-signaleren/
26-Mar-2021	Online press article	https://www.skipr.nl/nieuws/slimme-armband-signaleert-prille-coronabesmetting/
26-Mar-2021	Online press article	https://www.rtlnieuws.nl/tech/artikel/5221915/slimme-armband-corona-covid-umc-utrecht-onderzoek-aanmelden
26-Mar-2021	Online press article	https://www.rd.nl/artikel/920416-slimme-armband-signaleert-prille-coronabesmetting
26-Mar-2021	Online press article	https://www.medicaldevice-network.com/news/ava-fertility-tracker-devic/
26-Mar-2021	Online press article by UMCU	https://www.umcutrecht.nl/nieuws/20000-deelnemers-voor-covidred-onderzoek-gezocht
24-Mar-2021	Online press article	https://www.medicalplasticsnews.com/news/medical-plastics-device-news/first-provider-based-design-and-3d-printing-facility-for-cus/
24-Mar-2021	Online press article	https://www.mobihealthnews.com/news/pelotons-ma-flurry-fertility-wearables-covid-19-detection-and-more-digital-health-news-briefs
24-Mar-2021	Online press article	https://www.nsmedicaldevices.com/news/ava-fertility-tracking-bracelet-covid-19
24-Mar-2021	Online press article	https://www.prnewswire.com/news-releases/ava-announces-launch-of-first-clinical-trial-evaluating-effectiveness-of-its-fertility-tracking-sensor-bracelet-in-real-time-pre-symptomatic-detection-of-covid-19-301253681.html?tc=eml_cleartime
23-Mar-2021	Online press article	https://gizmodo.com/avas-covid-19-early-detection-feature-is-now-out-of-the-1846528302
23-Mar-2021	Online press article	https://www.bioworld.com/articles/505095-in-the-clinic-for-march-23-2021?v=preview
22-Mar-2021	Online press article by Ava	https://www.avawomen.com/wo_en/press/ava-first-clinical-trial-real-time-pre-symptomatic-detection-covid-19
26-Oct-2020	IMI press release	https://www.imi.europa.eu/news-events/newsroom/fertility-tracker-could-be-repurposed-spot-early-covid-19-cases

12-Sep-2020	Online press article	https://www.hartvannederland.nl/nieuws/slimme-armbandje-coronacrisis
28-Aug-2020	Online press article	https://www.ad.nl/utrecht/een-armband-die-corona-opspoot-wordt-deze-utrechtse-uitvinding-het-wapen-in-de-strijd-tegen-het-virus~a7859c8d
28-Aug-2020	Online press article	https://www.destentor.nl/algemeen/armband-die-corona-bij-jou-constateert-voordat-jij-symptomen-hebt-is-dit-het-ei-van-columbus~a7859c8d/?referrer=https%3A%2F%2Fumcutrecht.sharepoint.com%2F
28-Aug-2020	Online press article	https://www.rtlnieuws.nl/nieuws/nederland/artikel/5179605/waer-ables-apple-watch-fitbit-corona-umc-utrecht
28-Aug-2020	Online press article	https://innovationorigins.com/nl/armband-umc-utrecht-meet-al-besmetting-met-covid-19-voordat-je-het-zelf-merkt/
26-Aug-2020	Online video	https://www.youtube.com/watch?v=wMih1dkDNf8
26-Aug-2020	Online press article	https://www.rtlnieuws.nl/nieuws/nederland/artikel/5179605/waer-ables-apple-watch-fitbit-corona-umc-utrecht
26-Aug-2020	TV appearance	https://www.rtlnieuws.nl/video/uitzendingen/video/5179681/rtl-nieuws-1930-uur
28-May-2020	Online press article	https://www.pnoconsultants.com/nl/nieuws/covid-19-symptomen-armband/
14-May-2020	Online press article	https://www.icthealth.nl/nieuws/onderzoek-inzet-slimme-armband-voor-diagnose-covid-19/
14-May-2020	Online press article	https://utrecht.nieuws.nl/zorg/74910/umc-utrecht-test-armband-die-symptomen-covid-19-signaleert/
13-May-2020	Online press article	https://www.skipr.nl/nieuws/miljoenen subsidie voor armband die covid-19 detecteert/
13-May-2020	Online press article by UMCU	https://www.umcutrecht.nl/nieuws/met-een-armband-covid-19-signaleren

3) Dissemination strategy

The dissemination strategy is predominantly dependent upon the project outcomes. The results obtained will largely settle what segments of public the project will impact the most, which will in return decide the pillars of the project's dissemination strategy, and the kind of message(s) the consortium wants to deliver to its audience(s). However, the consortium can already identify several general approaches, which can be tailored to the project needs at specific timepoints to ensure that COVID-RED progress and outcomes have an impact beyond the scope of defined project activities.

3.1 Scientific publications

An important route to share results with the scientific community is through scientific publications. These can then be showcased at conferences and congresses, via the COVID-RED website and through COVID-RED social media channels. So far, the project team has published a structured summary of the COVID-RED study protocol in June 2021 in *Trials*, and a letter to this article in October 2021. There are also multiple publications in the pipeline, including a publication on the menstrual cycle influence on COVID-19 detection using machine learning and a wearable medical device; a publication on the use of the sensor bracelet for the pre-symptomatic detection of COVID-19 in the national cohort study COVI-GAPP; a systematic review on the performance of wearable sensors in the detection of SARS-CoV-2 infections; and a scientific paper on the learnings from the COVID-RED trial on increasing retention in a large-scale remote digital health study.

3.2 Conferences and congresses

The COVID-RED project and its results will also be communicated and disseminated through conferences, intended for the scientific audience as well as other stakeholders. For example, the UMCU team organized a workshop at the Masterclass of the Regional Development Agency Utrecht, which focused on policy makers and regional development agencies interested in research conducted in the Utrecht region. The Ava team will present at the ACOG annual meeting in May 2022, addressing *Menstrual cycle influence on COVID-19 detection using machine learning and a wearable medical device* for a scientific and medical audience. As such, the consortium always tries to keep an eye out for additional opportunities to present on COVID-RED developments. As more results come in, the consortium also expects to be able to submit more abstracts.

The consortium also anticipates that the project's main activities and findings will have sufficient public attention for the consortium to organize a large public webinar, where the consortium highlights its major activities and findings. This will most likely take place at the end of the project period, likely in the spring or summer of 2022.

3.3 Website and social media

The COVID-RED project website and Twitter channel will be used to communicate about COVID-RED results. This also includes showcasing the COVID-RED publications and spreading the word about the conferences and congresses where the project intends to participate and/or present. The project's website is the center of all communications, where all the project's activities and updates come together, including events and publications and news posts and all public deliverables. Importantly, these channels also serve as the main communication line between the COVID-RED project and the public, including study participants. For dissemination of results to study participants, the website will be the main channel. Instagram and Twitter will continue to

play a role as well, by informing participants and the public about the project's updates and directing them to the website.

3.4 Press releases

Once the results are in, the consortium will organize a new media campaign via the partner's communications teams. Where the study's results will be disseminated in the press depends largely on their relevance to the public, but the consortium does expect extensive press coverage. The public notice used during the recruitment campaign was published in many press channels and it is likely that the same channels will be interested in publishing a follow-up. In addition, over 17,000 people from the Dutch population have participated in the study and can already anticipate a few thousands more may have heard of the study via the word of mouth. If the study's results are promising and of direct relevance to society, the consortium expects additional press coverage including radio fragments and interviews, besides the articles online and in print.

4) Publication policy

The Publication Policy describes the approval routing within the COVID-RED management structure before publication of any communication/dissemination activity. It is based on the following articles of the Grant Agreement and Consortium Agreement:

Consortium Agreement

7.4.3. Mandatory Messaging in connection with Results

7.5 Disseminations of results

7.6 Communications

Appendix 12 Communication Guidelines

Grant Agreement

Article 27.3 – Information of JU funding and support from JU members

Article 28 – Exploitation of results

Article 29 – Dissemination of results

Dissemination is the public disclosure of project results. The review is carried out by the General Assembly (GA). For reporting purpose, all dissemination is tracked by the PMO. Please provide the PMO (covid-red@umcutrecht.nl) with the final version of your dissemination.

4.1 Review process for articles, white/discussion papers and press releases

Please circulate your publication at least forty-five (45) Days prior to planned submission to the other Beneficiaries through the Programme Management Office (PMO) by written notice: covid-red@umcutrecht.nl.

Each Beneficiary has thirty (30) Days after the initial circulation to object to the publication if its legitimate interest in relation to the publication would be significantly harmed (for details on grounds for objection, please refer to CA 7.5.5.2).

If no objection is received within 20 days following the first notification an e-mail reminder by the Beneficiary requesting the publication should be sent to those who have not yet responded. If no objection is received within the 30 days the Beneficiary will be free to proceed with the publication, to the extent such Dissemination does not include or refer to Results or any Confidential Information of any other Beneficiary.

Fast track: for articles, white/discussion papers and press releases which require a shorter review period, the following shortened review process is possible.

Please circulate your publication at least twenty (20) days prior to planned submission to the other Beneficiaries through the Programme Management Office (PMO) by written notice: covid-red@umcutrecht.nl. Inform the other Beneficiaries that you would like to have a quick turnaround referring to this fast track.

Each Beneficiary has ten (10) Days after the initial circulation to object to the fast track. If no objection to the fast track is received within these 10 days, it may be assumed that the fast track is agreed.

Each Beneficiary has fifteen (15) Days after the initial circulation to object to the publication if its legitimate interest in relation to the publication would be significantly harmed (for details on grounds for objection, please refer to CA 7.5.5.2).

If no objection is received within the 15 days OR as soon as all Beneficiaries confirmed their endorsement of the material under review, the Beneficiary will be free to proceed with the

publication, to the extent such Dissemination does not include or refer to Results or any Confidential Information of any other Beneficiary.

If an objection is received within the review period mentioned above, the Beneficiary disseminating the publication will:

- a) where protection of another Beneficiaries' own Results or Background would be adversely affected by the proposed Dissemination → Extend the review period and delay the proposed publication for a period of at least twelve (12) months to allow the objecting Beneficiary to evaluate the patentability and/or to file a patent application for the objecting Beneficiary's Results or Background; and/or otherwise modify the publication as requested for patent reasons;
- b) where the proposed Dissemination contains Confidential Information from the objecting Beneficiary → Delay the Dissemination until the objecting Beneficiary's Confidential Information is removed from the proposed Dissemination;
- c) where other legitimate interests of the objecting Beneficiary are harmed → Enter into good faith discussions with the objecting Beneficiary on how to address the legitimate interests of the objecting Beneficiary, as the case may be, by amending the proposed Dissemination.

By exception, when a student would like to submit a university thesis based on the Results of the Project, the Management Team will have to be informed, and the final draft shall be submitted to the Management Team for review prior to submission to the university.

Beneficiaries may comment on the contents of the thesis **within sixty (60) Days** of receipt of the thesis in accordance with Clause 7.5.2 of the Consortium Agreement.

All appropriate measures ensuring confidentiality must be taken by the Beneficiary with which the student is associated to ensure protection of Confidential Information and/or patent protection of the Beneficiaries (For example via a non-disclosure agreement prior to receipt of the thesis).

Details of any publication and an electronic copy of the published version must be provided to the IMI2 JU within two months following publication. A copy of each publication needs to be sent to PMO (covid-red@umcutrecht.nl) for recording purposes. In addition, please mention to PMO if a publication on the COVID-RED website is desired.

4.2 Review process for abstracts, posters, presentations

Please circulate this type of dissemination at least 14 days prior to planned submission and/or the event to the Management Team (MT) by written notice to PMO.

The MT has 7 days to object. If no objection is received within 7 days following the notification of the requesting partner, the Beneficiary is free to proceed. Note that also other types of presentations, for example webinars et cetera, need to comply to the same process.

A list of GA and MB/PMO contacts can be found in Annex II and Annex III of this Project's Handbook.

4.3 Open access

Where dissemination concerns a peer-reviewed scientific publication, every author must ensure open access (free of charge online access for any user) within six months of publication.

The open access mandate comprises 2 steps:

1. Depositing publications in data repositories and provide access to third parties
 2. Providing information about tools and instruments for validating the results in case relevant
- More information about open access publications can be found here beneath 'Open Access to Scientific Publications, article 29.2 of the Grant Agreement.

4.4 Mandatory acknowledgement when communicating externally

All dissemination and communication activities should include a full project acknowledgement. In case of restricted space, partners are allowed to use an abbreviated version of the acknowledgement. The acknowledgement logos can be downloaded from the COVID-RED member area.

Full acknowledgement The COVID-RED project has received funding from the Innovative Medicines Initiative 2 Joint Undertaking under grant agreement No 101005177. This Joint Undertaking receives support from the European Union's Horizon 2020 research and innovation programme and EFPIA.



Abbreviated acknowledgement This work has received support from the EU/EFPIA Innovative Medicines Initiative [2] Joint Undertaking COVID-RED grant n° 101005177.



In addition, it should be made clear in the text and layout that the communication reflects the author's view and that neither IMI nor the European Union or EFPIA are responsible for any use that may be made of the information contained therein. Therefore, please including the following statement in the acknowledgement section:

“The research leading to these results was conducted as part of the COVID-RED consortium. This paper only reflects the personal views of the stated authors.”

4.5 Logos

All dissemination and communication activities and products must include all the project's logos:



Logos should be displayed in their entire and original forms, and, as stated in the Project's handbook, the COVID-RED logo should be depicted independent from the acknowledgement logos.

4.6 Authorship

For defining who is an author on a publication, the consortium follows the ICMJE recommendations on who qualifies as an author: <http://www.icmje.org/recommendations/browse/roles-and-responsibilities/defining-the-role-of-authors-and-contributors.html>

It is strongly encouraged that the author team on each paper should reflect public and industry partners.

4.7 Procedure on theses or dissertations

The Managing Board (MB) will be informed on an on-going basis regarding the proposed contents of the thesis or dissertation and the final draft shall be submitted to the Managing Board (MB) for review prior to submission to a university. The Managing Board (MB) may comment within 45 days of receipt of the thesis or dissertation. The Managing Board (MB) will also decide whether additional approval is required by the General Assembly (GA) based on the thesis at hand. External examiners to the university may be requested to sign an agreement of non-disclosure prior to receipt of the thesis.

4.8 Internal review procedure

For administrative reasons, the consortium kindly asks you to contact the General Assembly's main contacts and MT/PMO for the internal review procedure regarding peer-reviewed articles and other dissemination activities yourself.

Two email templates can be found below. The most recent contact list can be found in Project's Handbook Annex II and Annex III.

If you receive an objection against publication, please forward it to PMO (covid-red@umcutrecht.nl).

The Managing Board (MB) will discuss together with the objecting Beneficiary and the Beneficiary requesting dissemination how to best proceed, depending on the reason for objection as stated in the consortium agreement article 7.5.2.

4.9 Email templates

For publications:

Subject: COVID-RED: Manuscript for internal review

Dear COVID-RED consortium partners,

I am pleased to share with you this manuscript for dissemination review, titled: "<enter draft title>", which was written under supervision of <enter lead author>. The targeted journal is <enter journal>.

For your reference, the goal of the dissemination review is:

- *Factual correctness of the information;*
- *No authors have been omitted;*
- *No patent issues are adversely affected;*
- *No confidential information of another Participant is disclosed;*
- *No proprietary information of a Participant (e.g. background or foreground) is published without consent.*

Please note that you do have 30 days from now on <(enter final date)> to raise objections. If no response is gathered by the deadline, then approval for submission is assumed to be granted.

Please find attached the manuscript.

*Best regards,
<enter name>*

For publications (fast track):

Subject: COVID-RED: Manuscript for internal review

*Dear COVID-RED consortium partners,
I am pleased to share with you this manuscript for dissemination review, titled: “<enter draft title>”, which was written under supervision of <enter lead author>. The targeted journal is <enter journal>.*

For your reference, the goal of the dissemination review is:

- *Factual correctness of the information;*
- *No authors have been omitted;*
- *No patent issues are adversely affected;*
- *No confidential information of another Participant is disclosed;*
- *No proprietary information of a Participant (e.g. background or foreground) is published without consent.*

Please note that the consortium would like to have a quick turnaround for the review of this manuscript. This means that you do have 15 days from now on <(enter final date)> to raise objections. If no response is gathered by the deadline, then approval for submission is assumed to be granted.

If you wish to object to this short deadline, please inform us within 10 days from now on <(enter final date)>. If no response is gathered by this deadline, then approval for the shorter timeline is assumed to be granted.

Please find attached the manuscript.

*Best regards,
<enter name>*

For posters, presentations, abstracts:

Subject: COVID-RED: <enter type of dissemination> for internal review

*Dear COVID-RED Coordination Team,
I am pleased to share with you this poster/presentation/abstract for the conference <enter conference> for dissemination review.*

For your reference, the goal of the dissemination review is:

- *Factual correctness of the information;*
- *No authors have been omitted;*
- *No patent issues are adversely affected;*
- *No confidential information of another Participant is disclosed;*

- *No proprietary information of a Participant (e.g. background or foreground) is published without consent.*

Please note that you do have 7 days from now on <(enter final date)> to raise objections. If no response is gathered by the deadline, then approval for submission is assumed to be granted.

Please find attached the <enter type of dissemination>.

*Best regards,
<enter name>*

5) Exploitation strategy

At an early stage in the project, the consortium attempted to understand the potential interest of commercial partners for collaboration, investment, and/or purchase of the project device (i.e., algorithm, app, and study results). To this end, the consortium reached out to an extended list of potential stakeholders, including business development teams of the consortium's industry partners. Initial discussions led to the conclusion that it was too early in the project to garner distribution interest. Consequently, the consortium will pursue these efforts once the algorithm is finalized and the study results are available and will continue building up its exploitation plan. The consortium will continue this work as part of the sustainability plan (D7.13) and the business plan (D7.14).

To date, one patent has been applied for by the manufacturer of the wearable device, Ava AG. This application work was begun very early in the project—some of it in parallel to the COVID-RED application process—to ensure a timely submission prior to potential competing parties. Additionally, it drew on data collected by the manufacturer's original application, Ava Fertility, as a proof-of-concept. Once the COVID-RED study results are available, the entire consortium will assess additional intellectual property (IP) opportunities. All IP will be considered in the sustainability plan, which will also detail how the results can benefit the wider digital health industry in a balanced manner. In addition, the sustainability plan will include, as per the Description of Action, an identification of additional business models beyond those making the use of datasets for commercial developments subjected to fees, whilst facilitating open access for research purposes described in WP4.

While awaiting the study results, the consortium will engage with stakeholders to evaluate the most promising areas of potential clinical application for the COVID-RED algorithm (elderly care, hospital staff, general practice etc.) and the key development steps that the consortium has to undertake to achieve this uptake. In addition, the consortium will look into the regulatory hurdles it has to take into consideration when developing a medical algorithm. For a large part, this stakeholder engagement will take place via the COVID-RED external Advisory Board and HI-NL. HI-NL is a technology facilitator based in the Netherlands, which provides tailored guidance for upstream technologies to national and international organizations in the field of medical science. HI-NL has received the support of the Dutch Ministry of Health and offers its services to broaden the scope of a new technology nationally and internationally. By coordinating its efforts with HI-NL, the consortium aims to streamline its stakeholder engagement in a more efficient and effective manner by working with an already existing and experienced party.

For the exploitation, the consortium has agreed to a phased approach to implement a successful sustainability strategy:

1. Mapping: identifying valuable use cases for a repository of COVID-19 datasets, as well as further applications of the remote monitoring system beyond COVID-19, by assessing key clinical/societal needs, market/commercial opportunities and operational/technical feasibility, inventorying possible strategic partners, and investigating best practices amongst comparable initiatives;
2. Brainstorming business case development;
3. Validating: together with a selection of key stakeholders and possible funders/payers, the business cases will be validated (including cost-effectiveness modelling);
4. Planning: positive business cases will be further detailed in a sustainability plan;

5. Business development: activities (promotions for industry and not-for-profit organisations) and contacts(key funders/decision makers/payers/business angels) will be initiated to realize seed funding/initial revenue/commercial deals.

The sustainability plan will present a roadmap for long-term sustainability of the project and network to ensure that this valuable collaborative effort will endure beyond the end of COVID-RED.