----------Disclaimer bij deze voorlopige groslijst----------

Naar aanleiding van de COVID-pandemie werken de umc's continu om wetenschappelijke kennis over dit virus te genereren. Hoewel het leeuwendeel van het wetenschappelijk onderzoek aan de umc's voorlopig is stilgelegd i.v.m. extra zorgtaken, wordt een uitzondering gemaakt voor COVID-onderzoek. Ieder umc heeft een beoordelingscommissies ingesteld om het wetenschappelijk onderzoek te coördineren en te toetsen, en het meest veelbelovend onderzoek te prioriteren. Hierbij is belangrijk dat er nationaal wordt samengewerkt om geneesmiddelstudies en andere therapeutische interventies zo effectief mogelijk uit te werken. Bijgaande treft u een voorlopig overzicht van onderzoeksprojecten die momenteel worden overwogen, in voorbereiding zijn, of al gestart zijn. Het overzicht van de onderzoeksprojecten is nog volop in ontwikkeling en bestrijkt een breed palet aan onderzoeksdomeinen: van fundamenteel, therapeutisch tot epidemiologisch en ook de impact op publieke en mentale gezondheid, of de ontwikkeling of toepassing van nieuwe technische innovaties. De unieke combinatie van kliniek en onderzoek in de umc's zorgt ervoor dat we deze

Dit overzicht is vertrouwelijk en niet bestemd voor gebruik voor de ontwikkeling van programmering en calls. Het is een levend document, waardoor de lijst continu wordt geëvalueerd en aangescherpt. Het moge duidelijk zijn dat het overzicht zowel voorgenomen als lopend onderzoek bevat en de status nog niet per onderzoek helder in beeld is gebracht. Hier werken we nog aan. Tot slot, het is onmogelijk al het onderzoek dat wordt overwogen daadwerkelijk toe te staan. De triagecommissies geven alleen toestemming aan belangrijke en haalbare initiatieven.

De voorzitters van lokale beoordelingscommissies zijn verenigd in de NFU-commissie COVID onderzoek, die momenteel wekelijks vergadert. Alhoewel er reeds veel samengewerkt wordt tussen umc's en andere ziekenhuizen, is deze commissie inmiddels, na een eerste inventarisatieronde, begonnen met het identificeren van mogelijkheden voor meer samenhang, samenwerking en synergie. Ook heeft deze commissie de opdracht met urgentie de landelijke coördinatie op te pakken ten aanzien van met name de

----------Voor vragen kunt u zich richten tot (10)(2e) @nfu.nl----------

UMC	Nr.	Titel	Samenvatting
Interventiestudies			
Amsterdam UMC	1	COUNTER-COVID - Oral imatinib to prevent pulmonary vascular leak in Covid19 – a randomized, double-blind, placebo controlled, clinical trial in patients with severe Covid19 disease'	Determine the effect of ten days of Imatinib treatment on primary outcome of freedom from ventilation and oxygen supplementation at day 28
Amsterdam UMC	2	An neurohumoral blocking strategy in the treatment of COVID-19 patients admitted to the ICU, a pilot study	Since the SARS-CoV-2 virus enters the cell via ACE2, this will result in lower ACE2 levels to counterbalance the AngII storm that will be initiated by the infection. This will among others lead to an inflammatory response and will lead to an neurohumeral response, which if not adequately blocked will lead to cardiac decompression, heart failure and longoedema, often seen in COVID-19 infection of patients admitted to the ICU. By treating severe COVID-19 with a combination of antineurohumeral drugs, such as angiotensin receptor blockers and beta blockers, in a stepped up manner, the deletorious effects of a COVID-19 infection might be attenuated.
Amsterdam UMC	3	Remdesivir Netherlands study: RDVNL-studie Amsterdam UMC	Remdesivir (RDV) is a nucleotide analogue that is undergoing testing as treatment of COVID-19 based on the in vitro and in vivo activity of RDV against SARS-CoV-2 and other the human highly-pathogenic CoVs, MERS-CoV and SARS-CoV. The evaluation of the safety and potential efficacy of RDV in people with COVID-19 is urgently needed in the ongoing SARS-CoV pandemic
Amsterdam UMC	4	A pragmatic adaptive open label, randomized phase II/II multicenter study of IFX-1 in patients with severe COVID-19 pneumonia: PANAMO	This is a pragmatic, adaptive, open-label, randomized, multicenter phase II/III study consisting of two parts: Phase II and Phase III. In both study parts, patients will be randomized to two treatment arms (Arm A: best supportive care [BSC] + IFX-1; Arm B: BSC alone). After all patients are treated in Phase II, an interim analysis will be performed to assess the clinical benefit of the treatment using the assessed clinical parameters.
Observationele studies			
Amsterdam UMC	5	The COVID-19 Host Genetics Initiative	The COVID-19 host genetics initiative brings together the human genetics community to generate, share and analyze data to learn the genetic determinants of COVID-19 susceptibility, severity and outcomes. Such discoveries could help to generate hypotheses for drug repurposing, identify individuals at unusually high or low risk, and contribute to global knowledge of the biology of SARS-CoV-2 infection and disease
Amsterdam UMC	6	Immune monitoring of COVID-19 patients	Understand immune response in COVID-19 patients and identify immune determinants of progression to critically ill phase
Amsterdam UMC	7	Isolation of COVID-19 specific neutralizing antibodies from COVID-19 patients for therapeutic and prophylactic use	The COSCA-study aims to isolate potent and broadly neutralizing antibodies against SARS-CoV2-spike protein for a therapeutic and prophylactic use.
Amsterdam UMC	8	Neurovascular diseases in patients with COVID-19	Background COVID-19 infection has been associated with increased incidence of cerebrovascular disease (CVD), including ischemic stroke, intracerebral hemorrhage and cerebral venous thrombosis (1). Substantial changes in coagulation factors has also been found in patients with COVID-19, including increased D-dimer levels, prolonged PT and APTT, thrombocytopenia, increased VWF and decreased anti-thrombin levels (2-5). Hypercoagulability and disseminated intravascular coagulation also appear to be associated with an increased risk of mortality (2). However, a detailed analysis on the frequency of CVD and associated changes in the coagulant pathway is not available. Aim To examine the type of CVD in COVID-19 patients and to analyse underlying changes in coagulant factors
Amsterdam UMC	9	Amsterdam UMC COVID-19 Biobank	Amsterdam UMC COVID-19 Biobank is the main observational study on COVID-19 collecting clinical data, DNA, serial bloodsamples, swabs and faecal samples of all patients with COVID-19 in Amsterdam UMC
Amsterdam UMC	10	Identification of bacterial superinfection in patients with Covid-19 infection	It is known that there is antibiotic overuse at the emergency department in patients with respiratory track infections. During the influenza epidemic many patients especially the elderly are treated with antibiotics while in retrospect the indication for bacterial infection are low. We hope to use clinical data, biomarkers such as CRP, Procalcitonine and new techniques such as IS-PRO to differentiate bacterial from viral infection.
Amsterdam UMC	11	Predicting the clinical out comes in patients with suspected COVID-19 patients presenting at the emergency department	Many Covid-19 patients are either asymptomatic or have mild symptoms. However, some patients who present to the emergency departments need admisions because there is a chance of clinical deterioration with development of ARDS like symptoms needing critical care support and ICU admission. Identifying these patients early at the ED is difficult. We plan to use clinical data, lab data such as level of CRP, PCT, d-Dimer, troponine and new biomarkers such as adrenomeduline to whether we can determine some factors which may predict the development of unfavourable outcomes such as ICU admission and death.
Amsterdam UMC	12	CT for Covid-19	Automatic detection of CORADS score and CT severity score
Amsterdam UMC	13	COVID19-CT-AI	1. Development of machine learning algorithm for CORADS classification of COVID-19 based on CT-thorax. 2. Assessment of prognosis for COVID-19 patients based on CT and EPIC lab data

Amsterdam UMC	14	Preoperative screening for COVID-19 using chest CT and PCR (the SCOUT study)	To determine the yield of preoperative screening for COVID-19 infections using chest CT and PCR in asymptomatic patients scheduled for elective or emergency surgery (or intervention) requiring intubation. Furthermore, the individual yield of chest CT and of PCR screening will be evaluated.
Amsterdam UMC	15	Value of point of care echography compared to CT thorax during triage in suspected Covid-19 infections.	Gold standard to diagnose Covid - 19 infection is the RT-PCR-test. However, the sensitivity of this test is around 70% and in early stages lower. In addition, the results can take upto 24 hours. Therfore, the CT scan of the lungs have been used at the emergency departments to diagnose (severity of) lung involvement in suspected patients. However, CT is not always readily available and there is chance of noscomial spread of the virus due to transport of the patients. Small studie with point of care long ultrasound (POCUS) has shown promisisng results compared to CT Thorax in China and Italy during the intial triage. We aim to compare the value of POCUS compared to CT thorax in suspected Covid-19 patients during the triage at the ED.
Amsterdam UMC	16	Systematic Review of chest imaging in SARS-CoV-2	To evaluate the diagnostic accuracy of chest imaging (CT and CXR) in the work up of patients with suspected COVID-19 infection.
Amsterdam UMC	17	Comparisson of hemodynamic profiles of ICU Covid patients in and within NL and ITA	The incidence of hemodynaqmic instability seems to be radically different between Italian and Dutch ICUs; in this study we aim to study the hemodynamic trajectories and patient and intervention characteristics between ICUs
Amsterdam UMC	18	Prediction of ICU admission using for COVID ward data	Aim is to build statistical and machine-learning models to predict clinical decline that warrants admission to ICU and duration of admission using ward data
Amsterdam UMC	19	Covid infections in adults with congenital heart disease	international registry on covid infection inf CHD patients
Amsterdam UMC	20	Antihypertensiva in COVID-19 geïnfecteerde patiënten in ziekenhuizen	Since the SARS-CoV-2 virus uses ACE2 to enter the cell, hereby destroying ACE2, an unregulated Ang II response develops, leading to vasoconstriction, increase in vascular permeability and inflammation, resulting in ARDS. It has been speculated that both ACE inhibitors as well as angiotensin receptor blockers might increase ACE2 activity and therefore, increase the risk of a COVID infection. On the other hand it is speculated that higher ACE2 levels might be protective. Therefore, we would like to investigate whether antihypertensive use is related to a better or worse outcome of COVID infected patients admitted to the hospital
Amsterdam UMC	21	Outcomes of surgery in COVID-19 infection: international cohort study (CovidSurg)	Het bekijken van de postoperatieve uitkomsten bij patiënten die bij operatie of rond operatie een COVID-19 infectie hebben doorgemaakt.
Amsterdam UMC	22	COVID19 Voedingsklachten en voedingstoestand (COVOED)	Prospectief en retrospectief observationeel onderzoek naar de aan voeding gerelateerde klachten en het verloop van de voedingstoestand van patiënten met COVID19 op IC, op verpleegafdeling ziekenhuis, en tijdens herstelfase thuis of revalidatie.
Amsterdam UMC	23	Impact of Overweight, Obesity and Diabetes in Patients with COVID-19	To evaluate the impact of BMI status, specifically overweight and obesity (BMI >25 and BMI >30 respectively) and diabetes type II on COVID-19.
Amsterdam UMC	24	Practice of ventilation in COVID–19 patients (PRoVENT-COVID) – an observational study of invasively ventilated patients in the Netherlands	Due to the rapid spread of COVID–19, ICUs worldwide are being overloaded with patients requiring invasive ventilation and healthcare workers are struggling to provide the best care. Approaches in clinical care are already known to vary widely between countries and regions, including the way invasive ventilation is applied. It is probable that these variances are amplified by a lack of consensus in treatment due to the novelty of COVID–19. Because invasive ventilation of itself has a strong potential to cause lung damage, these variances could be associated with a difference in patient–centered outcomes, like duration of ventilation and mortality. Therefore, it is of the utmost importance to observe ventilation strategies that are currently being applied in the treatment of COVID–19 patients. We conduct a national, observational, retrospective study in > 1000 invasively ventilated patients that is focused on the inventory of ventilation parameters. This study will form an important first step in creating standard guidelines for invasive ventilation of COVID–19 patients. Implementation of standard guidelines could reduce mortality worldwide.
Amsterdam UMC	25	PROGNOSTIC VALUE OF BODY COMPOSITION MEASURES IN COVID19 PATIENTS	To evaluate the prognostic significance of muscle and subcutaneous fat mass
Amsterdam UMC	26	4 running studies: 1. evaluation of a rehabilitation intervention post discharge, 2. longitudinal follow-up of functional recovery, 3. physical recovery, 4. Set up of a professional chain network for rehabilitation, all studies on ICU survivors	4 currently running studies on functional recovery and rehabilitation of ICU survivors. We want to extend these studies. Aim of a new study is to evaluate functional recovery in ICU survivors admitted for Corona
Amsterdam UMC	27	COVID-PREDICT	In this multi-center we acquire clinical data of COVID patients that are admitted to Dutch hospitals according to the WHO COVID CRF. We use machine learning to predict outcome and optimal treatment.
Amsterdam UMC	28	What is the incidence and clinical course of Covid-19 infections in immunocompromised patients.	Little is know about the epidemiology of Covid-19 in immunocompromised patients. We will mainly concentrate on patients using immunosupresive drugs such as prednisolone, MTX, Azathioprine etc. Our end points will be disease severity during presentation, relevant clinical outcomes such as hospital length of stay, ICU admissions, 30 day mortality. We will use the patients not using immunosupresive drugs as the control population.
Amsterdam UMC	29	Serologic surveillance of SARS-CoV-2 during the 2020 pandemic in exposed and unexposed healthcare workers in an academic hospital in Amsterdam (S3-study).	we aim to assess timing of seroconversion in a cohort of exposed (doctors and nurses on the COVID units) and non-exposed (personnel without direct patient contact) hospital staff

Amsterdam UMC	30	COVID-19 in rheumatic patients; a prospective cohort study	SUMMARY Rationale: The influence of the presence of an inflammatory rheumatic disease and its treatment on the severity and immune response of (viral) infections is not clear. The emergence and pandemic of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) provides the opportunity to assess these influences on COVID-19 incidence, its clinical severity, and the antibody response, compared to a control population. Objective: The primary objective will be to compare the disease severity of COVID-19 between patients with a rheumatic disease and a control group. Disease severity is defined as the (unplanned) hospital admission rate of participants that are both IgM- or IgG-SARS-CoV-2 antibody positive and symptomatic. Symptomatic is defined as symptoms or signs of nasopharyngitis, cough, dyspnea, fever, or any other symptom or sign that may be associated with a viral infection, as assessed by the patient. Unplanned means that elective hospital admissions (e.g., for planned surgery) are excluded. Secondary objectives include studying the following differences between the groups, and subsequently, within the inflammatory disease group, between conventional disease-modifying antirheumatic drug (DMARD, including glucocorticoid) users and biologics users in: 1. cumulative (6-month) incidence of IgM or IgG antibodies against SARS-CoV-2 2. disease severity of hospitalized COVID-19 patients (defined as ICU admission or death) 3. antibody profile (IgM/G/A, IgG1/3) and repertoire (anti-SP, anti-NP) and IgG antibody avidity We will also investigate what patients do in regard to use and dosage of DMARDs during the SARS-CoV-2 pandemic. Finally, we will investigate if changes in use and dosage of DMARDs influenced disease activity. Study design: This is a prospective observational cohort study with a follow-up of 6 months with a telephone visit planned at baseline and thereafter between 1-2 months and 4-6 months; and two blood tests also between 1-2 months and 4-6 months. Study population: The study population will consist of participants with an inflammatory rheumatic disease (i.e. rheumatoid arthritis, psoriatic arthritis and ankylosing spondylitis) from Reade, an outpatient rheumatology clinic. Furthermore, each patient will be asked to provide a healthy control from their social group/household (without a rheumatic disease and without DMARD treatment); this to ensure that there is a similar chance of exposure to SARS-CoV-2 in our control group. These healthy controls will be included in our cohort. All participants will be at least 18 years old. We expect to include 4000 subjects. Main study parameters/endpoints: Our primary study parameter is the percentage of participants with a positive IgM or IgG response admitted to the hospital. Other parameters include the geometric mean antibody titre over time in participants
Amsterdam UMC	31	SARS-CoV-2 seroconversion, progression to COVID-19 disease and disease severity in people living with HIV and HIV-negative controls in the AGEhIV cohort study	1.To compare SARS-CoV-2 specific antibody seroconversion and antibody titres between HIV-positive and –negative AGEhIV participants. 2.To retrospectively compare the incidence of having developed COVID-19 and disease severity between HIV-positive and -negative participants. 3.To assess factors associated with SARS-CoV-2 seroconversion, developing COVID-19 and progressing to severe disease (i.e. requiring hospitalization and/or ICU-admission) in both HIV-positive and HIV-negative participants. Factors to be taken into account amongst others will include demographic characteristics, presence of pre-existing co-morbidities, use of particular antiretrovirals against HIV, and immunological parameters.
Amsterdam UMC	32	Surveillance Epidemiology of Corona Virus (COVID-19) Under Research Exclusion - Atopic Dermatitis (SECURE-AD)	To uncover the underlying determinants of the outcome of COVID-19 in patients with AD who are treated with systemic immunomodulating medication.
Amsterdam UMC	33	Ischemic stroke care in the Amsterdam region during the COVID-19 pandemic	Severe acute respiratory syndrome coronavirus 2, which causes coronavirus disease 2019 (COVID-19) has reached a pandemic level. A recent study described the occurrence of acute cerebrovascular disease in 221 patients with COVID-19 in China and proposed that the disease may be associated with hypercoagulability and thus an increased risk of stroke.1 At the same time, there are major concerns that the quality of acute health care which is not related to COVID-19 is negatively affected due to the strenuous efforts required to cope with the pandemic, and that patients may be more reluctant to seek medical attention for symptoms that are not associated with COVID-19. In the current study, we aim to assess whether there is the influence of the COVID-19 pandemic on the epidemiological aspects of acute stroke care in the Amsterdam region .
Amsterdam UMC	34	Covid H&N Oncology surgery study	This cohort study aims to capture the safety of operating on head and neck cancer patients during the pandemic. It also will measure delays to surgery and changes in practice as a result of the pandemic.
Amsterdam UMC	35	Autoimmunity and covid-19	We hypothesize that, considering the activated immune status of vitiligo patients and the genetic association to antiviral genes, vitiligo patients might clear a viral infection more efficiently. On the other hand, perhaps the antiviral immune response is too high and complications could be also more serious. We plan to investigate our hypothesis in an international collaborative prospective observational multicenter cohort study of vitiligo patients during the Covid-19 pandemic. The aims of the study are: 1.To analyze the relation between vitiligo and coronavirus infection risk. 2.To define how vitiligo affects the risk of Covid-19 disease development. 3.To define how vitiligo affects the severity and mortality of Covid-19 disease
Amsterdam UMC	36	HUMORAL RESPONSES to SARS-Coronavirus 2 in children, COVID KIDS study	To evaluate circulating and mucosal humoral responses against SARS-CoV2 in children during the COVID-19 outbreak in the Netherlands.
Amsterdam UMC	37	antihypertensive use in the general population and its relation to COVID-19 infection	the aim of the study is to see whether certain antihypertensive, especially the ones related to the renin angiotensin system are related to a COVID-19 infection. Can certain antihypertensive medication protect against, or make an individual more prone for COVID-19 infection?
Amsterdam UMC	38	Physical acitivity and nutrition intake of TAVI patients during Dutch lock down	Detemine the influence of a lock down on physical activity and nutrition intake in frail elderly cardiac patients
Amsterdam UMC	39	Mental health impact of COVID-19	In ongoing large cohort studies (NESDA, NESDO, NOCDA) we are re-assessing >3000 subjects using online consecutive assessments. Measurements are on mental health symptoms and coping in the COVID-19 pandemic and allow within-individual comparisons with periods before the Coronavirus.
Amsterdam UMC	40	Impact of Dutch COVID-19 pandemia measures on endometriosis and fertility care: patient experiences and opinions using webbased questionaires	COVID-19 stopped all regular consultations/ treatments among patients with endometriosis and couples with infertility. Alternatives for regular consultation are offered using telephone and video consultations. We aim to investigate using an on-line survey how the current situation is experienced by these two groups of patients and how the alternative consultations/ communication are valued by patients . In addition, a quality of care/ quality of life questionaire will be filled in and compared with reference measurements in the near past.

Amsterdam UMC	41	Viro-immunological, clinical and psychosocial correlates of disease severity and long-term outcomes of infection in SARSCoV-2 – a prospective cohort study: "the VIS cohort study"	The overall aim of the proposed project is to establish a one-year longitudinal cohort of adult patients who have recovered from COVID-19 at different levels of severity, ranging from mild illness to severe and life-threatening disease requiring hospitalization and intensive care. This cohort will be used (1) to understand and predict development of severe disease, (2) to understand the development of protective immune responses, and (3) to gather insight into the clinical and socio-psychological sequelae of COVID-19. In addition, a data- and biobank will be established for future in-depth pathophysiological, immunological, host-genetic and further clinical and epidemiologic studies.
Overige Studies (fundamenteel, public health, EU, ...)			
Amsterdam UMC	42	Inhibition of SARS-CoV-2 by RNA-targeting CRISPR systems	CRISPR is well-known for DNA genome editing, but recently RNA-targeting CRISPR variants have been developed. We have a lot of experience with CRISPR attack on HIV DNA, we now will move to the attack on the RNA genome of the SARS-CoV-2
Amsterdam UMC	43	Diaphragm pathology in covid-19 patients	It is well established that mechanically ventilated ICU patients develop weakness of the diaphragm (the main muscle of inspiration), which contributes to weaning failure, morbidity and mortality. Considering that Covid-19 patients receive mechanical ventilation for a very long duration, in combination with the severe inflammation, we hypothesize that diaphragm pathology is extremely severe in the patients. We anticipate that even if patients can recover from the pneumonia, weaned from the ventilator, and are discharged from the ICU, they will sustain long term diaphragm damage and impairments of daily life activities. We will investigate diaphragm patology in diaphragm specimens obtained during autopsy. This is a collaboration between the departments of Physiology, ICU and Pathology at VUmc and AMC
Amsterdam UMC	44	Pathophysiology of COVID-19 in an autopsy cohort	To increase understanding of COVID19 more information on organ involvement and the effect of SARS-CoV2 on a cellular level is urgently needed. Autopsy findings can provide more insight in disease mechanisms and unveil potential targets for treatment. The aim of the PLATO study is to provide a complete histopathological assessment of all organ systems, describe the composition of the immune infiltrate and assess ACE2 expression and SARS-CoV2 distribution per organ. We will provide in debt details on ARDS in the lungs, pathophysiology of potential peri/myocarditis and small vessel disease of the heart, involvement of the gastrointestinal tract, liver and spleen, muscle and peripheral nerve involvement and viral activity in the central nervous system. We will pair the data with clinical characteristics. Left-over tissue will be stored in the PLATO biobank of the Pathology department of the Amsterdam UMC, location VUmc and AMC. This tissue will be used for several side projects that will be submitted separately.
Amsterdam UMC	45	In vitro testing of clinically relevant inhibitory approaches to prevent IgG induced severe lung damage in COVID19	During acute SARS-CoV2 infection, IgG antibodies against the spike protein may cause severe acute lung injury by skewing the response of lung macrophages. We will test the activation profile of CoV2 IgGs on macrophages and investigate whether we can inhibit this potentially very detrimental response by a clinically approved drug.
Amsterdam UMC	46	Humoral Immune Response as Disease-Modifying Factor for COVID-19 associated ARDS	Serology (deep level including posttranslational modifications - IgG glycosylation) in COVID: Does it differ between critically ill and those who recover without illness?
Amsterdam UMC	47	Antivirals against SARS-CoV-2 / fast rapid point of care tests for SARS-CoV-2 / Waning immunity and the risk of re-infection / animal models for COVID-19 / and more	See info below at "Short explanation of further needs to startup/continue"
Amsterdam UMC	48	The role of innate immune cells in particular Innate Lymphoid Cells in immunity against CoV2	Onze groep werkt aan het innate immuun systeem met name aan NK cellen en Innate Lymphoid cellen (ILCs) die een belangrijke eerste verdedigingslinie tegen infecties vormen. Wij zijn internationaal een van de leidende labs in het onderzoeksveld van humane ILCs. Ons lab heeft tevens een technologie ontwikkeld om antistof-producerende B cellen te immortaliseren als bron van humane monoclonale antistoffen. We werken aan twee projecten: 1) Onze werk hypothese is dat een reden waarom met name jonge kinderen weinig last hebben van CoV2 komt doordat ze een robuuste innate immuunresponse hebben en het virus erg gevoelig is voor dat innate immuunsysteem. Wij willen onderzoeken of en hoe het ILC systeem CoV2 kan neutraliseren. 2) In samenwerking met het AMC spin-off bedrijf AIMM Therapeutics en AMC virologie (R. Sanders en Marit van Gils) willen we zeer sterk neutraliserend antistoffen maken vanuit geimmortaliseerde B cellen van herstelde patiënten.
Amsterdam UMC	49	Humoral Immune Response as Disease-Modifying Factor for COVID-19 associated ARDS	To compare quantity and quality (functional properties) of the antibody response between those severely ill and those resolving all symptoms without intervention. The results will give insights into the origin of observed pathologies and may prompt new treatment options. In addition, the results will guide selection of the most risk-free and most protective convalescent sera for use as therapeutic and prophylactic agent for those in need.
Amsterdam UMC	50	Reveal SARS-CoV-2 Carbohydrate-Mediated Molecular and Serological events: from the host-virus interface(s), to the lung microbiome and serology	Reveal SARS-CoV-2 Carbohydrate-Mediated Molecular events exploring ELISA based experiments. Differente glyco-conjugates (synthetic or natural) will be used to understand (and interfere with) the first steps of the interactions between the virus and the lung ephitelium.
Amsterdam UMC	51	COVID-19: unravelling the pathophysiology. Short: COMET (COvid MEdicaTion) study	To investigate the relationship between use of certain drugs on clinical outcome of patients with COVID-19
Amsterdam UMC	52	Strengthening moral competence and moral resilience. Corona related ethical challenges, moral stress and effective ethics support	The aim of this study is strengthen moral competence and moral resilience of health care professionals by mapping their moral challenges, measuring the experienced moral stress and by offering and sharing best practices of ethics support.
Amsterdam UMC	53	Personal protective equipment for preventing highly infectious diseases due to exposure to contaminated body fluids in healthcare staff	Update existing Cochrane review with new studies relevant for COVID-19
Amsterdam UMC	54	Maternal and neonatal outcomes in Covid-19 infected women	To provide a living database and create a living systematic review

Amsterdam UMC	55	Effects of COVID-19 pandemic on care for patients with esophageal or gastric cancer	Analyze effects of the pandemic on later diagnosis of esophageal or gastric cancer. Effects of postponing or cancelling of treatment for esophageal or gastric cancer.
Amsterdam UMC	56	Sanquin COVID-19 research	The Corona Virus Disease (COVID-19) caused by SARS-CoV-2 is characterized by marked heterogeneity in clinical presentations. Most patients recover spontaneously with mild or even no symptoms, but a minority develops substantial acute lung injury (ALI) that eventually can cause acute respiratory distress syndrome (ARDS) and significant mortality. A key question of our research is why patients exhibit a different symptom burden and severity of COVID-19 and how long term protection towards SARS-CoV-2 is obtained. We hypothesize that the different clinical pictures are, at least partly, mediated by differences in the characteristics of the immune response. These differences might be of relevance to understand the potential prophylactic and therapeutic effect and risk of adverse events of passive immune therapy, an experimental therapy that Sanquin facilitates by collecting and distributing fresh frozen plasma of recovered COVID-19 patients (anti-COVID-19 plasma donors) to Dutch hospitals and eventually by the production of an anti-COVID-19 IgG medicinal product from COVID-19 convalescent plasma. In addition, no knowledge is available yet for the long term protective immune response to SARS-CoV-2 infection. Within Sanquin we are installing a biobank containing longitudinal monitoring of blood and plasma donors for their immune response to SARS-CoV-2 (will be registered via HealthRI). These samples will be obtained from anti-COVID-19 plasma donors primarily identified by positive PCR tests, and by the seroprevalence monitoring study among 7.000 blood donors at 2 time points. This sample collection will be pivotal for research on the immune responses to SARS-CoV2, and essential for the development of safe and effective vaccines. Our lab-based research lines are focused on the antigen specific B- and T cell response and the quantitative (assay development) + qualitative (isotype, subclass, epitope specificity, Fc-glycosylation, effector functions, cross reactivity) antibody characteristics, all in relation to disease characteristics and the effect of convalescent plasma therapy. Our epidemiological research lines are focused on the prevalence of anti-COVID-19 antibodies in the Dutch donor population, in relation to donor characteristics. Our clinical research lines are related to the use of convalescent plasma / IgG preparation for therapy in pre-IC patients and for prophylaxis in vulnerable individuals such as hematological patients and fragile elderly, and health care workers
Amsterdam UMC	57	Covid population predictor	We aim to predict new covid cases, covid-related hospitalisations, and ICU admissions using public data resources on a regional level reliably
Amsterdam UMC	58	Exposure to STI during an intelligent lockdown situation in Amsterdam during the COVID19 crisis	What are motives and barriers for STI exposure during a period of lockdown measures in Amsterdam?
Amsterdam UMC	59	Influence of restrictions on public life during the coronavirus pandemic on physical activity and subjective well-being: a multinational survey	The outbreak of the coronavirus pandemic has led to massive restrictions on public life (e.g. business closings, curfews) in many countries. This means that mobility is considerably restricted for the population and access to sports facilities and fitness studios is no longer or hardly possible. Our digital questionnaire survey aims to investigate the effects of the measures taken on the personal life situation of the test subjects, with a special focus on physical activity and health.
Amsterdam UMC	60	Digital inequality	Co-creating solution with citizens living in vulnerable circumstances with a distance to the online world.
Amsterdam UMC	61	Experienced autonomy during COVID-19 crisis	Study experienced autonomy in the general population during the COVID-19 crisis
Amsterdam UMC	62	Experience of end-of-life care during the COVID-19 crisis	The COVID-19 crisis may thus seriously affect the experience of death and dying of patients (whether they die with or without corona), relatives and health care professionals. Because of the fact that the COVID-19 epidemic is probably not the last epidemic in the world, we need to try to learn from people's experiences now. research questions are (1) What are the experiences with end-of-life care of bereaved relatives of recently deceased persons and how are these affected by the current COVID-19 crisis? (2)What is the effect of the current COVID-19 crisis on the bereavement process of relatives of persons who die during the crisis? (3)What are the experiences of health care professionals who provided end-of-life care to a recently deceased person and how are these affected by the current COVID-19 crisis?
Amsterdam UMC	63	Impact of Medical treatment on the clinical course of COVID-19 Patients (IMCOP). A large Dutch nationwide retrospective cohort study	To compare outcomes of different antiviral strategies that are given as part of standard treatment in various hospitals in the Netherlands: Does treatment with (hydroxy-) chloroquine and/or azitromycin has an impact on mortality and/or ICU admission of COVID-19 patients? Amstedam UMC is important in this study because it is one of the few centres that does not treat patients with COVID-19 with chloroquine and aritromycin
Amsterdam UMC	64	A multi-center retrospective cohort study on the outcomes of pre-operative COVID-19 screening in children.	The aim is to evaluate the preoperative COVID 19 screening in children

UMC	Nr.	Titel	Samenvatting
Interventie Studies			
Erasmusmc	1	Reducing health care workers absenteeism by enhanced trained immune responses through BCG vaccination	RCT. De helft van de deelnemers zal het BCG-vaccin ontvangen en de andere helft een placebovaccin (een vloeistof zonder werking). Betreft Ziekenhuismedewerkers met zorg voor patiënten met SARS-CoV-2 infectie. Er is ruime ervaring in het gebruik van BCG-vaccin.
Erasmusmc	3	Convalescent Plasma Therapy from Recovered Patients to Treat. CONCOVID.	Van patiënten die zijn hersteld van COVID-19 plasma verkregen middels plasmaferese. Dit plasma wordt in een gerandomiseerde studie toegediend aan ernstig zieke patiënten met COVID-19 met de hypothese dat het SARS-CoV-2 specifieke antistoffen bevat die zullen leiden tot herstel.
Erasmusmc	4	Early intervention with Tocilizumab in hemato-oncology patients with COVID-19 and hypoxia - opnieuw ingediend als: PreToVid	bij hemato-oncologische patiënten met SARS-CoV-2 infectie en zuurstofbehoefte vroege interventie met tocilizumab (RA medicijn) gedaan om IC opname etcetera te voorkomen. Op basis van 1 publicatie over Chinese en Italiaanse patiënten
Erasmusmc	5	A Phase 3 Randomized Study to Evaluate the Safety and Antiviral Activity of Remdesivir (GS-5734™) in Participants with **Severe** COVID-19 (GS-US-540-5773)	To evaluate the efficacy of 2 RDV regimens with respect to clinical status assessed by a 7-point ordinal scale on Day 14. The secondary objective of this study is as follows: To evaluate the safety and tolerability of RDV. N=2400 participants. Remdesivir (GS-5734) for injection, 100 mg, for IV administration.
Erasmusmc	6	A Phase 3 Randomized Study to Evaluate the Safety and Antiviral Activity of Remdesivir (GS-5734™) in Participants with **Moderate** COVID-19 Compared to Standard of Care Treatment (GS-US-540-5774)	To evaluate the efficacy of 2 RDV regimens compared to standard of care (SOC), with respect to clinical status assessed by a 7-point ordinal scale on Day 11. he secondary objective of this study is as follows: To evaluate the safety and tolerability of RDV compared to SOC. N=600 part A and part B based on the anticipated need for RDV and current trends in the COVID-19 epidemic. Remdesivir (GS-5734) for injection, 100 mg, for IV administration.
Erasmusmc	24	Countering Lung Damage in COVID-19 infection (CounterCovid) study	A randomized, double-blind, placebo controlled, clinical trial.to test whether treatment with oral imatinib reduce disease burden and consumption of medical resources. Patients (>18years) with proven Covid19 infection, admitted to the hospital with hypoxemic respiratory failure (SaO2<92% or kPa<8 on room air), with a study population of 386 patients (193/arm). The intervention group will receive a starting dose of 800mg oral imatinib, followed by 400mg od during 10 days. The control group will receive a similar dosing schedule with a placebo. The main study parameter is the time to liberation from ventilation and supplemental oxygen and alive during a 28day period after randomization.
Erasmusmc	53	A RANDOMIZED, DOUBLE-BLIND, PLACEBOCONTROLLED, MULTICENTER STUDY TO EVALUATE THE SAFETY AND EFFICACY OF TOCILIZUMAB IN PATIENTS WITH SEVERE COVID-19 PNEUMONIA	This study will evaluate the efficacy, safety, pharmacodynamics, and pharmacokinetics of TCZ compared with a matching placebo in combination with SOC in hospitalized patients with severe COVID-19 pneumonia. Patients assigned to the active arm will receive one or two doses of tocilizumab (TCZ) via IV infusion at a dose of 8 mg/kg IV to a maximum of 800 mg per dose. Clinical status assessed (7-category ordinal scale at Day 28), Time to clinical improvement (TTCI) Time to improvement of at least 2 categories relative to baseline on a 7-category ordinal scale of clinical status, mechanical ventilatio,n Ventilator-free days, Organ failure-free Incidence of CU stay.
Erasmusmc	61	Sargramostim in patients with acute hypoxic respiratory failure due to COVID-19 (SARPAC)	Phase IV: A prospective, randomized, open-label, interventional study. 5 days treatment. The effectiveness of additional sargramostim (GM-CSF) inhalation versus standard of care on blood oxygenation in patients with COVID-19 coronavirus infection and acute hypoxic respiratory failure
Erasmusmc	71	PRAETORIAN-COVID: A double-blind, placebo-controlled randomized clinical trial with valsartan for PRevention of Acute rEspiraTORy dIstress syndrome in hospitAlized patieNts with SARS-COV-2 Infection Disease	A double-blind, placebo-controlled 1:1 randomized clinical trial To investigate the effect of the ARB valsartan in comparison to placebo on the occurrence of one of the following items, within 14 days of randomization:1) ICU admission; 2) Mechanical ventilation; 3) Death. The active-treatment arm will receive valsartan in a dosage titrated to blood pressure up to a maximum of 160mg b.i.d. and the placebo arm will receive a matching placebo also titrated to blood pressure. Treatment duration will be 14 days or up to hospital discharge < 14 days or occurrence of the primary endpoint if < 14 days.
Erasmusmc	82	Amendement. Dose individualization of antibiotics in ICU patients: to TDM or not to TDM and the effects on outcome (DOLPHIN-trial).	Amendement op het protocol aangevraagd om de COVID-19 patiënten als een aparte subpopulatie te analyseren.
Erasmusmc	97	The Randomized Embedded Multifactorial Adaptive Platform for Community-acquired Pneumonia (REMAP-CAP) Study	The trial randomizes patients to multiple interventions within 4 treatment domains: antibiotics, antiviral therapy for influenza, host immunomodulation with extended macrolide therapy, and alternative corticosteroid regimens, representing 240 treatment regimens. The trial generates estimates of superiority, inferiority and equivalence between regimens on the primary outcome of 90-day mortality, stratified by presence or absence of concomitant shock and proven or suspected influenza infection. The trial will also compare ventilatory and oxygenation strategies and has capacity to address additional questions rapidly during pandemic respiratory infections. As of January 2020, REMAP-CAP was approved and enrolling patients in 52 ICUs in 13 countries in 3 continents. In February, it transitioned into pandemic mode with several design adaptations for COVID-19 disease. Lessons learned from the design and conduct of this trial should aid in dissemination of similar platform initiatives in other disease areas. Clinical trial registered with ClinicalTrials.gov (NCT02735707)
Observationele studies onder paraplu EraCORE			
Erasmusmc	8	IMaging findings of pEDiatric Covid-19 infection (MEDIC-19) study	Imaging findings of patients with respiratory symptoms and proven COVID-19 infection, made as part of their diagnostic work up or for triage purposes. Age group 0 to 18 years. De proefpersonen worden niet aan een extra handeling onderworpen en er wordt hen geen gedragswijze opgelegd.
Erasmusmc	9	Quantification of chest computed tomography scans abnormalities of suspected COVID-19 patients. Q-COV.	Alleen dataverzameling: This is an observational study where we will score 100 consecutive coded COVID-19 chest CTs using the NL-COV, I-COV and LA-COV scoring system. Scoring results will be compared to the routinely applied NL-COV by radiologists.
Erasmusmc	10	The sero-epidemiology of SARS-CoV-2 in the Dutch population at large.	Left over lithium heparin plasma will be collected and stored at random divided over 9 age groups during a two-week period at the department of clinical chemistry. Sample inclusion is totally anonymous and therefore not traceable
Erasmusmc	11	ISARIC eCRF Covid19 data collection.COVID19-CRF	retrospectieve uniforme dataverzameling. Bevordering van de gezondheidszorg rondom COVID-19
Erasmusmc	12	Analysis of SARS CoV 2 cases included in CIUM biobank study and comparisons with matched controls. ASCOV20	Deze studie betreft een analyse van reeds verzamelde materialen in een biobank onderzoek (MEC-2017-417). Daarvoor is informed consent gevraagd.
Erasmusmc	13	International registry on thoracic cancer patients with COVID-19 (Thoracic cancERs international coVid 19 cOLlaboraTion)	Er worden gegevens verzameld (leeftijd, geslacht en klinische kenmerken zoals comorbiditeit, severe events en behandeling). Retrospectief: niet herleidbaar tot de patiënt. Ook prospectief: inclusie tot einde pandemie.
Erasmusmc	14	Treatment of oncology patients during COVID-19 pandemic. COVID-19-Oncology	Eenmalige vragenlijst aan behandelend artsen over de klinische kenmerken van hun patiënten die geïnfecteerd zijn (geweest) met Coronavirus. Niet herleidbaar tot de patiënt.

Erasmusmc	15	Clinical features and clinical follow-up of COVID-19 patients. CLICO	evaluation of the clinical course of their illness. verzamelen alleen gegevens en slaan die op in een data base (OpenClinica). verschillende analyses op een later tijdstip.
Erasmusmc	17	Infection with SARS-CoV-2: unravelling pathophysiology to optimize treatment. COVID-19: unraveling the pathophysiology	Verzamelen van gegevens en lichaamsmateriaal van patiënten die u wegens verdenking op het coronavirus ofwel COVID-19 op de spoedeisende hulp of in het ziekenhuis zijn opgenomen. Voor dit onderzoek maken ze gebruik van medische gegevens en restmateriaal van bloedafnames die nodig zijn voor de patiëntenzorg.
Erasmusmc	19	COVID-19 in adults with congenital heart disease. COVID-ACHD.	Het betreft hier een multicenter retrospectief onderzoek. De patiëntengroep bestaat uit 18+ volwassenen met congenitale hartziekten die positief getest zijn op COVID-19 in de aangesloten centra. De coördinatie is in handen van de University of California in Los Angeles (UCLA).
Erasmusmc	20	HEMCO Study (Radboud UMC, dr. A. van der Ven, internist-infectioloog)	Exploratieve multicenter studie.Kan een specifiek hemocytometrisch patroon worden waargenomen bij patiënten (>18 jaar oud) met een Covid-19 infectie, waarbij om routine redenen een/meerdere keren bloedbeeld wordt afgenomen Het bloedbeeld van een 100-tal patiënten wordt anoniem aangeleverd aan Sysmex Inc. Sysmex (Dr Jo Linssen) samen met onderzoekers onderzoeken of Covid-19 patienten een specifieke hemocytometrisch response laten zien. Afhankelijk uitslag zal misschien nog bij nog 100 patienten bloedbeeld worden bekeken. Eindpunt:o Specifieke hemocytometrische veranderingen in Covid-19 patienten vergeleken met gezonde controles of patienten met ander soortige infecties
Erasmusmc	21	Metabolic profiling of COVID19 outcome	Discover and develop novel metabolic and inflammatory biomarker patterns for prognosis of COVID-19 disease progression and outcome. Samples from SARS-CoV-2 infected patients (Erasmus MC) with pneumonia and without COVID19-induced pneumonia. Control population consenting positively tested employees without apparent COVID19 pulmonary inflammation. Three times a week five blood tubes (2 EDTA, serum, heparin and citrate) will be collected for the different parameters and analysis. Serum and plasma material will be shared with the department of Pathology for the protocol "Post-mortem expression of 770 immune-related genes, 770 fibrosis-related genes, 10 COVID-19 Spike-In genes, with viral in situ hybridization".
Erasmusmc	26	Protocol: YEARS algorithm or other diagnostic algorithms for patients with suspected pulmonary embolism and suspected COVID-19 infection	What is the safety and efficacy the YEARS protocol or any other diagnostic algorithm in patients with (suspected) COVID infection and suspected PE?" Also, we aim to evaluated the prevalence of incidental PE in patients with (suspected) COVID infection. Lastly, we are curious whether pregnant patients with suspected PE are being managed according to the Artemis protocol or other diagnostic algorithms.
Erasmusmc	28	Voorspellers van slechte uitkomsten bij de oudere patiënt met SARS-CoV-2	De associatie tussen verschillende (geriatrische) determinanten en diverse uitkomstmaten (o.a. mortaliteit) bij oudere patiënten (≥ 70) met een ziekenhuisopname voor SARS-CoV-2 besmetting. Prospectieve cohort. Demografische maten en maten die al verkregen zijn tijdens reguliere zorg.
Erasmusmc	29	COVID-19 infection: immune responses in the pregnant woman, fetus, and neonate and risk of vertical transmission	This study is a prospective, longitudinal, multicentre, cohort study. It involves measurements that are part of standard care, non-invasive measurements and usage of human tissue waste. Serum measurements will only be performed when blood is already drawn for standard care. Informed consent wordt uitgevraagd. Alle zwangere vrouwen met COVID19 infectie.
Erasmusmc	31	R2D2 for COVID-19	Realization of a R2D2 (regional registration in diagnostic database) for COVID-19 patients for efficient care. Relevant clinical and demographic data (i.e. age, sex, laboratory outcomes, diagnosis) that has been generated during routine hospitalization in the context of COVID-19 will be extracted from HiX's and LIS's (Labtrain/GLIMS) in Erasmus MC and Maasstad. Based on these extensive laboratory and clinical datasets, mathematical models will be developed that will predict important outcomes such as x-day survival or length of hospitalization
Erasmusmc	32	Inactivation of SARS-CoV-2 in bodyfluids and faeces	Development of a pre-analytical protocol for successful inactivation of SARS-CoV-2 in body fluids and faeces. identify all matrices and analytes therein that are currently not admitted for analysis due to a high chance of infectious SARS-CoV-2 load to employees and whether these analytes can be measured reliably after a viral inactivation procedure. Our focus will be on the inactivation methods already published for SARS-CoV. : in principle, all protocols will be tested in leftover materials. In cases where leftover materials are insufficiently available, healthy volunteers and patients will be asked to donate samples
Erasmusmc	33	Model for COVID-19 Outcome Laboratory Score (mCOLS)	All available laboratory data from all COVID-19 patients in the Erasmus MC will be used for the analysis and modelling. This includes all COVID-19 positive, suspect and contact patients. Relevant clinical and demographic data (i.e. age, sex, laboratory outcomes, diagnosis) that has been generated during routine hospitalization in the context of COVID-19 will be extracted from HiX and LIS (Labtrain). All data will be anonymized for analysis. Based on these extensive laboratory and clinical datasets, mathematical models will be developed that will predict important outcomes such as x-day survival or length of hospitalization
Erasmusmc	34	Prediction of development of acute renal failure in SARS-CoV-2 infected patients	Investigation of the predictive value of blood and urine markers for acute kidney injury in SARS-CoV-2 positive patients in an ICU setting. During the course of hospitalisation, leftover sample material from SARS-CoV-2 positive patients (ICU) will be collected and stored for future analysis. After collection of sufficient samples measurements will be performed and retrospectively tracked to other laboratory and clinical parameters.
Erasmusmc	35	Postmortem expression of 770 immune-related genes, 770 fibrosis- related genes, 10 COVID-19 Spike-In genes, with viral in situ hybridization.	Identify drivers for interstitial lungfibrosis to better predict course of respiratory insufficiency in COVID-19 ARDS. This study is linked to 'Metabolic profiling of COVID19 outcome. Prospective observation cohort study of patients that succumbed to COVID-19 ARDS. Preferably in continuation with protocol metabolic profiling of COVID19 (PI Prof de Y de Rijke). Patients died on the ICU with respiratory insufficiency, will be eligible for post-mortem investigation. For this profiling study, we aim to include 20 patients who died of a proven Sars-corona-2 infection. As control we aim to include either controls without Sars-corona-2 who died of ARDS or archival cases like patients with influenza on whom postmortem diagnostics has been performed.
Erasmusmc	36	A post-mortem pathogenesis study correlating viral load, histopathology and imaging.	Correlation study between pre mortem radiology, post-mortem histopathology and post-mortem viral load determination (primary objective). Correlation between cellular (sub) location (secondary objective) and histopathology (secondary objective); correlation viro-histopathology with imaging on tissue level (micro CT) and ante mortem imaging level (secondary objectives). Post-mortem investigation of 20 patients, who died with fatal ARDS-like clinical features and proven SARS-CoV-2, with clear visualization and correlation of radiology-pathology-virology to increase insight into the radiology patters of dying lungs in COVID-19 and its histopathology substrate. It may eventually help to triage ICU patients on the basis of radiologic features. In addition and as a control, viral presence should be determined in these lungs and elsewhere in the respiratory tract.
Erasmusmc	37	Postmortem biobanking from COVID-19 patients for WGS, metabolomics and immunohistochemistry.	Store samples in the biobank according to up to date guidelines and quality controls in order to made samples available to the researchers in the Erasmus MC. Prospective biobanking cohort with one inclusion moment to allow for observational (translational) research. Patients for whom a post-mortem procedure is requested by the ICU or the COVID19 department in Erasmus MC. Relatives must have given consent for both the autopsy and the sample acquisition. Preferably, among these patients are patients that already participate in the metabolomics cohort conducted by clinical chemistry

Erasmusmc	41	The course of COVID-19 in patients with inflammatory bowel disease'	Er worden data van dagboekjes gebruikt die patiënten al ontvangen voor betere monitoring van COVID-19 als onderdeel van standard of care op dit moment. Er worden 2 buisjes bloed afgenomen bij patiënten die al een bloedafname ondergaan voorafgaand aan hun medicatie infuus op de dagbehandeling of die om een andere reden bloed moeten prikken.
Erasmusmc	42	RECOVER: aanvullende financiering vor PREPARE voor COVID cohort studies, seroepidemioologie, doorlopende inclusie op MERMAIDS	
Erasmusmc	44	Genomic epidemiology of SARS CoV 2 incursion I relation to virulence and antigencity	
Erasmusmc	45	PREPARE : Europees preparedness research netwerk ziekenhuizen. Daarin doorlopende observationele studies acuut respiratorie patienten volgens MERMAIDS ARI protocol. Host and immuunresponse profiling in relation tot outcme	
Erasmusmc	46	National and international Reference activities, reference diagnostics,, outbreak response, strategic advise, national OMT and response team	
Erasmusmc	54	Clinical features of COVID-19 in Pediatric Patients	We aim to describe clinical features of COVID-19 in children. It is currently unknown why children are less affected and if certain categories of children, for example with underlying comorbidities, are at a higher risk of developing clinically apparent COVID-19. Multicenter national prospective cohort study in hospital setting in the Netherlands. Duration: one year
Erasmusmc	60	Pre-existing immune aging in COVID-19	4 patient groups will be compared in A: comparative, non-randomized, observational, multi-center study and B: Observational cohort.Na-Heparin blood and serum will be obtained at the emergency department and patient stratification will be applied. (flowchart included) From hospital admitted non-ICU and hospital admitted ICU patients longitudinal samples obtained once weekly will be collected. Heparin blood will be used for different types of cellular and molecular analysi. Serum will be used for extensive cytokine, autoantibody and hormonal profiling. This study will generate a broad panel of cellular, molecular and serological immune parameters.
Erasmusmc	62	Thromboembolic complications during SARS-COV2 infection; a single centre case-control study	Prospective cohort study. All COVID-19 suspected patients are included (citrated plasma is stored from the first presentation at the emergency room). COVID-19 suspected but tested negative patients will serve as control. Baseline: Thrombocytes, D-dimer, VWF activity, Thrombin generation Potential (or TGT or ETP), PAI-1 activity, fibrinogen, TAT/PAP ratio, PT and APTT.Day 1,3,5 and 7 and every second day till discharge will include: D-dimer, VWF activity, Thrombin generation Potential (or TGT or ETP), PAI-1 activity, TAT/PAP ratio. If a patient develops a PE or DVT that day will be the last sample analysed (afterwards anticoagulation will be started)
Erasmusmc	63	Europees onderzoek naar de associatie tussen de MPI score en diverse uitkomstmaten (o.a. mortaliteit, opnameduur, IC-opname, ontslagbestemming) bij oudere patiënten met een ziekenhuisopname voor COVID-19	Prospectief cohortonderzoek bij pten ≥65 jaar ziekenhuisopname vanwege COVID-19 en geriatrie in medebehandeling. De MPI score obv geriatrisch assessment. In-hospital uitkomsten (mortaliteit, IC-opname, ligduur, ontslagbestemming) worden geregistreerd. Europees onderzoeksprotocol, wordt nog in Engels vertaald. Europese database wordt opgezet. Data zijn onderdeel van standaard zorg in het geval er een medebehandeling geriatrie heeft plaatsgevonden.
Erasmusmc	64	Characterization of the recognition of hACE2 receptor by SARS-CoV-2 spike protein and correlation to severity of COVID-19 symptoms.'	To quantitatively characterize the complex formation between SARS-CoV-2 spike protein variants and hACE2 receptor variants as identified in COVID-19 patients. Multidisciplinary approach in 2 phases: 1. Production of SARS-Cov-2 spike protein and hACE2 protein variants 2. Biochemical and structural characterization of complex formation (Phase 1) and 3. Acquire and analyze clinical genetics data and document severity of symptoms from COVID-19 patients and Erasmus MC employees that have tested positively for SARS-CoV-2. 4. Productions and biochemical analysis of complex formation by identified variants 5. Correlation of quantitative analysis of complex formation with severity of COVID-19 (Phase 2)
Erasmusmc	66	COVID-19 Radiological Database'	The construction of a database with radiological images made in people with a (suspected) COVID-19 infection and a set of relevant clinical epidemiological parameters including age, sex and Covid-19 status. Retrospective cohort of adult patients of having contracted the COVID-19 virus that underwent thoracic imaging.
Erasmusmc	67	Severe acute respiratory syndrome coronavirus 2 (SARSCoV-2) infection: epidemiology of an international liver transplant cohort	observational, prospective, multi-centric study on livertransplanted patients, helping in everyday decision-making and in providing updated recommendations on management. Demographic data, Short clinical history (including indication to liver transplantation, liver transplant date and comorbidities);Data on COVID-19 diagnosis and management, Outcome.
Erasmusmc	68	A longitudinal registry of patients with interstitial lung diseases and (suspected) Covid-19'	This study aims to create a longitudinal registry of all ILD patients with suspected or established Covid-19. Longitudinal observational study, data will be collected both retrospectively and prospectively. Patients will be followed for 5 years. Data of all available hospital visits during one year after infection with Covid-19 will be collected and stored in the eCRF.

Erasmusmc	69	Natural history of cognitive impairment in survivors of COVID-17 with ARDS	To study the incidence and investigate clinical and inflammatory determinants of cognitive impairment in patients with COVID-19 after treatment of Acute Respiratory Stress Syndrome (ARDS), corrected for confounding factors (cerebrovascular events, diffuse white matter changes) at the ICU. 50 COVID-19 survivors after ARDS treatment versus 50 age and gender matched COVID-19 survivors without ARDS. 3 and 12 months after discharge. Intensive Care Delirium Screening Checklist (ICDSC), Delirium Observatory Scale (DOS), type and amounts of sedatives, recording of subjective cognitive complaints, screening cognitive test (MMSE), extensive cognitive battery assessments, Questionnaires on pre-ICU cognitive (IADL) and general functioning (IADL,SF-36, EuroQoL), and post-ICU anxiety, depression (Hospital Anxiety and Depression Scale: HADS), posttraumatic stress disorder (PTSS-10). Daily levels of inflammation markers (CRP, procalcitonin, IL-6, ferritin, etc) during ICU admission.Single MRI scanning of the brain at three months. Serum levels NfL during ICU hospitalization, and 3 and 12 months after discharge will be obtained. CAM-ICU and Delirium Observatory Scale (DOS) during hospital admission. Structured interviews, recording of subjective cognitive complaints, and both screening cognitive test (MMSE) and extensive cognitive battery assessments 3 and 12 months after discharge from in the Intensive Care Unit (ICU), obtained from patients and caregivers. Anxiety and depression scale, posttraumatic stress disorder; PTSS-10 scale. We will request house physicians for information on care support at one year.
Erasmusmc	70	COMET: COvid MEdicaTion study	Database to study the relationship between use of certain drugs on clinical outcome of patients with COVID-19. Demographic data, Medication, logistic course, clinical course and if available survival are administered from the EHR. If necessary,additional data such as laboratory data are filled in at a later time.
Erasmusmc	73	Emergency Department Visits during COVID-19 outbreak	Observational (retrospective) study to study the numbers and characteristics of ED visits during the COVID-19 outbreak. The number and characteristics of patient ED visits during COVID-19 outbreak will be studied from February 1st 2020 through July 31st 2020 (?), and will be compared to the number and characteristics of ED visits in the same period in 2019 (Feb1st- July 31st 2019).
Erasmusmc	74	Monitoring the immune changes in the circulation during COVID-19 disease.	Prospective cohort study. To investigate the baseline systemic immune profile in COVID-19 patients using mRNA expression profiling, and to connect that to clinical outcome in order to identify prognostic and predictive markers that can help in decision making for individual patients. Secondary objectives: 1) To investigate the individual systemic immune profile changes in COVID-19 patients using mRNA expression profiling, and to connect that to clinical outcome. 2) To scrutinize the pathogenesis of COVID-19 by connecting the circulating immune profile to that infiltrated in the lung samples of deceased patients. 3 additional blood samples from each patients are required.
Erasmusmc	75	"The impact of COVID-19 on autonomy, activity and quality of live in the first 12 weeks after hospital discharge	Prospectief, observationeel, multicenter onderzoek voo het bepalen van symptomen (o.a. kortademigheid, vermoeidheid, angst, depressie, pijn, etc.), de mate van autonomie bij activiteiten van het dagelijks leven, post-traumatische stress, het fysiek functioneren en kwaliteit van leven bij COVID-19 patiënten op het moment van ontslag uit het ziekenhuis en 6 en 12 weken na ontslag.
Erasmusmc	76	Immune profiling in critical ill patients with pre-existing pulmonary disease and COVID-19, treated with tocilizumab	Prospective cohort study to determine whether immune profile changes due to treatment with tocilizumab incritically ill COVID-19 patients with pre-existent pulmonary diseases, not elegible for mechanical ventilation or other available treatments, are related to clinical outcome. Blood samples will be drawn prior to start of the infusion of the drug and after 2, 7 and 14 days. Outcome is change in peripheral blood immune cells and cytokine/fibrosis factor pattern.
Erasmusmc	78	Thoracic scan data exchange for the purpose of training AI software on COVID-19 disease	Retrospective Cohort study to provide third party software developers access to anonymized CT-scan data for the use in training their AI software to develop COVID-19 algorithms. Adult patients suspected of having contracted the COVID-19 virus that underwent thorasic imaging. Only routinely acquired scans will be used, no additional imaging will take place. There will be no feedback to the patient and no adjustments will be made in diagnosis or treatment.
Erasmusmc	79	Early pathology of COVID19 in human lung	To identify the cell tropism of SARS-CoV2 in the human respiratory tract and associated inflammatory response using histopathological analysis. Lung tissues and lymph nodes which have been removed surgically will retrospectively be tested for SARS-CoV2. The department of Pathology received these tissues for diagnostic purpose which has been finalised. Formalin-fixed paraffin embedded tissues will be included.
Erasmusmc	80	Observational Research using the ICU-COVID monitor database (ORaCle)	Observational database study on all COVID-19 patients admitted to the ICU. The ICU-COVID-19 database was initially developed to report status, test protocols and monitor complications of COVID-19 patients. Results are reported every week and if necessary protocols are adjusted every two weeks. By doing so, we built evidence by experience, adjusted our protocols or developed new protocols. Now, this database can be used for research purposes Objective: Open the ICU-COVID-19 database for to answer relevant intensive care related questions
Erasmusmc	81	'Feeding practises and tolerance in adult patients admitted with COVID-19 respiratory infection'	Retrospective and partly prospectiev cohor study. Primary outcome the nutrient balance, body composition and functional status. It is standard of care to collect data on nutritional intake, nutrient losses functional status, as well as determining energy expenditure via indirect calorimetry measurement. Body composition is assessed by performing bioelectrical impedance analysis. Secondary outcomes concern gastrointestinal symptoms recorded by the physician to classify patients in grades of feeding intolerance. Routine laboratory values of blood and urine, both part of standard of care, will be used to assess metabolic disturbances. Lastly, information on medication, mechanical ventilation and clinical outcomes will be used. Data will be taken from the patient registries on admission day 0, 4, 10, 21 and day before ICU discharge. Additionally, data on nutrient balance will be collected for the first 14 days of admission, day 21 and day before discharge.
Erasmusmc	83	Covid19 questionnaire in the Rotterdam Study	The Rotterdam Study is a prospective cohort study ongoing since 1990 in Ommoord, a suburb of Rotterdam, and aimed to investigate risk factors of chronic diseases in elderly. We propose additional COVID19 information is gathered by means of a questionnaire (and ideally by collecting additional biospecimens in the future).
Erasmusmc	85	COVID19 HOST GENETICS	With a newly developed protocol for genotyping very small amounts of host DNA, we will unlock an ever growing collection of many thousands of nose swabs of suspected covid19 infected subjects for genetic research, to discover host susceptibility and progression factors to predict covid19 disease outcome. This will help in risk stratification of infected subjects and related clinical decision making, and might be useful in population screening and monitoring. We will use DNA present in isolates of nose swabs (and/or blood samples) that have already been collected and prepared by the dept of Viroscience. Clinical data has already been collected from the patients/persons donating these nose swabs.

Erasmusmc	87	Preoperative radiological pulmonary assessment to detect subclinical Covid-19 infection in oncological patients scheduled for pelvic exenterative surgery	Subsidie aanvraag voor observationele cohort studie gedurende 3 mnd waarbij we de rol van CT-th voorafgaand aan bekken exenteratie voor een uitgebreid colorectaal carcinoom (met Kees Verhoef) of spierinvasief urotheelcarcinoom bekijken als diagnosticum voor detectie van Covid-19 infectie bij asymptomatische patienten. Deze patienten zijn vaak ouder en hebben comorbiditeit en de mortaliteit van patiënten die electieve chirurgie ondergingen in Wuhan en een asympt Covid infectie hadden, bleek 20%. ICU opname 44%. Het idee is om voor 60x CT-th of subsidie te vragen voor een onderzoeker die de klinische en radiologische data verzameld van dit cohort. Mede omdat de CT-th nu al via de reguliere zorg ingezet kan worden voor deze indicatie. Er wordt niet gevraagd neer toetsing door METC of een onderbouwing van de sample size. De aanvraag is dus zeer summier.
Erasmusmc	88	Inflammatory Biomarkers in Critically-ill COVID patients	Retrospective single center cohort study to determine the relationship between biomarker course and progression of SOFA score in COVID-19 patients in the ICU. Secondary Objective: ICU and hospital mortality, Length of stay ICU and hospital, Incidence of pulmonary embolism and deep vein thrombosis, measures of inflammation. The study population comprises of all patients admitted to the intensive care unit (ICU) at Erasmus MC starting from the 28th of February.
Erasmusmc	96	Preoperative screening for Covid-19 using chest computed tomography in patients scheduled for cardiothoracic surgery'	In this observational prospective cohort-study, we will collect data regarding Covid-19 disease status, medical history, indication for surgery, relevant clinical examinations (such as lab results, PCR data, imaging etc.), CT-scan data, surgical reports and outcomes, among which any change in surgical strategy, postoperative course and mortality. Primary endpoint in this study is the prevalence of signs of Covid-19 on preoperative chest CT. Secondary endpoints are alteration of surgical strategy (postponement or cancellation of surgery, change of surgical approach), Covid-19 related complications (respiratory insufficiency, unplanned or prolonged ICU-stay) and mortality.
Erasmusmc	99	Unraveling the genetics of SARS-CoV-2 infection	To identify genetic variations that are associated with SARS-CoV-2 susceptibility and outcome/complications. Participating in the world-wide COVID19HG effort.Study design: genome-wide association study case-control and case cohort study; observational study. Study population: 1. For the case-control design: laboratory confirmed SARS-CoV-2 infected patients in the adult intensive care department with respiratory support (cases), and SARS-CoV-2 infected patients without respiratory support at any point since diagnosis (not ICU admitted, admitted to the internal medicine ward or home). Cases from the ICU in the EMC will be included, as well as other Dutch ICU´s that we are currently contacting for data. 2. Case cohort: cases of SARS-CoV-2 infection are analysed for several outcomes including death, acute kidney injury/RRT, pulmonary embolism, hyperinflammation syndrome, etc. Furthermore, laboratory data is collected on several metabolic/inflammation measurements that can be analysed. Main study parameters/endpoints: whole genome genetic variation between cases and controls, and outcome/complications and continuous lab measurements in cases. Blood samples that are stored are used. Clinical data is collected.
Erasmusmc	101	Machine learning voor de behandeling van COVID-19 patiënten op de intensive care	Het doel van het onderzoek is om middels data van COVID-19 patiënten op Nederlandse intensive care afdelingen de behandelstrategieën te identificeren welke geassocieerd zijn met de beste uitkomsten. Daarnaast hopen we het beloop van COVID-19 bij patiënten te kunnen voorspellen. Gegevensverzameling: demografische data, gegevens over vitale parameters, lab data, en observationele data . Met behulp van machine learning technieken wordt deze data geanalyseerd. Accuraatheid en precisie van het te ontwikkelen model dat gebruikt kan worden om de behandelkeuzes te identificeren die geassocieerd zijn met een betere uitkomst van patiënten
Overige Studies (fundamenteel, public health, EU, ...)			
Erasmusmc	2	Hospital and healthcare worker impact of COVID-19	De correlatie tussen besmettelijkheid en het humorale immuunrespons in gezondheidsmedewerkers van het Erasmus MC. COVID follow up.
Erasmusmc	16	Experience of end-of-life care during the COVID-19 epidemic. COVID and end-of-life care.	Het betreft een online vragenlijstonderzoek voor nabestaanden van overleden personen. Nabestaanden melden zichzelf aan voor deelname via een website.
Erasmusmc	18	Public health impact of the COVID-19 pandemic (POPCORN): inequity of its effects and the role of health policies	Web based survey bij proefpersonen die op vrijwillige basis lid zijn van panels van marktonderzoeksbureau Dynata (in Nederland, Griekenland, Italië, VS, China en Engeland)
Erasmusmc	27	Hoe gaat het met adolescenten tijdens de coronacrisis: een smartphone studie.	We zijn voornemens een niet-wmo plichtig smart-phone onderzoek ism gemeente Rotterdam uit te zetten onder middelbaar scholieren in de regio.
Erasmusmc	30	A phased lift of control: a practical strategy to achieve herd immunity against Covid-19 at the country level	Mathematic model by which an alternative exit strategy to develop herd immunity in a predictable and controllable way is proposed: a phased lift of control. This means that successive parts of the country (e.g. provinces) stop stringent control, and Covid-19-related IC admissions are distributed over the country as the whole.
Erasmusmc	59	Transmission, risk factors and consequences of SARS-CoV2 among children and their families: the Generation R COVID-19 Studies	Wij stellen drie aanvullende projecten voor binnen Generation R, elk in een aparte groep deelnemers om overbelasting van deelnemers te voorkomen (Focus Cohort Gezin (n = 500; household visit, swab, blood), (10)(2e)@17 kind (n = 4,000; questionnaire), (10)(2e)@17 ouders (n = 6,000; questionnaire)). Dit voorstel is het resultaat van overleg met de hoofdonderzoekers in Generation R. Deze projecten worden voorgesteld als een amendement op het lopende en door de METC goedgekeurde Generation R Kaderprotocol. Alleen deelnemers die op hun meest recente toestemmingsformulier toestemming hebben gegeven om hen te benaderen voor extra onderzoek zullen uitgenodigd worden om deel te nemen. Alle data zullen geïntegreerd worden in de Generation R database en voor toekomstig onderzoek beschikbaar zijn.
Erasmusmc	65	'The iBerry Study 2.0: adolescent mental health during the COVID-19 crisis'	potential alterations in wellbeing, depression and anxiety in adolescents that are currently affected by the COVID-19 crisis. Premorbid mental health problems, socio-demographic factors, attitudes towards the COVID-19 crisis and consequences for their families will be taken into account. observational assessment we propose here takes advantage of the infrastructure of the ongoing iBerry Study (MEC-2015-007/ MEC 2018-1472).
Erasmusmc	77	Living with a Kidney Transplant during the Corona Virus'	Crossectional, observational study is to assess the impact that the Corona virus and associated societal restrictions have had on the lives, emotions and behaviours of transplant recipients. In total the telephone interview consists of 26 questions (questionnaires on impact, depression, anxiety, social impact and medication adherence)
Erasmusmc	86	Development of a prognostic model to predict mortality in suspected COVID-19 patients presenting to the Emergency Department	Retrospective cohort study of all suspected COVID-19 patients presenting to the Emergency Department of participating Dutch hospitals between presentation of the first COVID suspected patient and data of data extraction. Expected sample size: 2000 patients
Erasmusmc	89	A novel prognostic model to identify COVID-19 patients at risk for ICU admission and/or COVID-19 related death	Observational multicenter study. Aim is to identify potential predictors for adverse outcome defined as ICU admission and/or COVID-19 related death in all patients admitted to the hospital with a high suspicion of COVID-19 infection. Making use of these variables, we want to develop an accurate prediction model that could help the physician discriminate between patients who will need an ICU admission and patients who will recover without being admitted to the ICU.

Erasmusmc	92	HIPPO study - Happiness for Improvement of Premature and Parental Outcome. COVID-19 amendment	In this COVID-19 amendment of the HIPPO study (MEC-2019-0574) we broaden the inclusion criteria from a gestational age below 29 weeks to all gestational ages admitted to our ward. Moreover, we added a few additional questions to the parental questionnaires regarding the COVID pandemic. This to determine the COVID-19 related burden to parental stress. In this COVID-19 amendment we only collect questionnaires once and only collect parental residual body material (N=50). The NICU nurses will not be asked to prospectively collect data because of the current high burden for the nurses related to COVID-19.
Erasmusmc	94	10 steps to outrun injury: preventing injuries in runners	To investigate the effectiveness of a further optimized prevention program, i.e. the '10 steps 2 outrun injury', in a large group of recreational runners, with a specific focus on runners with previous injuries, participating in Golazo running events in The Netherlands. A secondary objective is to examine the association between running activities and onset of symptoms of community-acquired respiratory tract infections. Randomized-controlled trial. For this secondary objective we will use the prospectively collected data and send a new digital questionnaire. Within 6-8 weeks after the start of lockdown in the Netherlands due to COVID-19, all included participants (N=4430) will be sent an additional questionnaire to evaluate the association between running and community-acquired respiratory tract infections. Main study parameters obtained in this questionnaire are: general information, running behaviour, general health and occurrence of community-acquired respiratory tract infections (including a positive test for COVID-19).
Erasmusmc	95	Home monitoring and evaluation after admission for COVID-infection in the Netherlands	Dit is een prospectieve, observationele multicenter studie. Patiënten zullen gedurende 1 jaar worden vervolgd. Het beoogd aantal patiënten is 150, gelijk verdeeld over de drie deelnemende centra. Alle patiënten opgenomen in het Erasmus MC, LUMC en Amsterdam UMC, locatie VUmc met een bewezen Covid-19 infectie die tijdens opname afwijkingen op X-thorax en/of HRCT hebben gehad.
Erasmusmc	98	COVID-19 symptoms and disease in people with HIV in the Netherlands: a prospective national outpatient questionnaire	Objective is to monitor COVID-19-related symptoms and disease in people with HIV in the Netherlands. Prospective online survey (one baseline questionnaire and follow-up questionnaires every two weeks, total duration for each patient 4 months). Main study parameters/endpoints: The percentage of people with HIV with possible, probable and proven COVID-19 infection, corrected for COVID-19-specific risk factors. (Two seronegative cohorts within the human functional genomics program (HFPG) will be used as control groups, one with BCG vaccination, and one without BCG vaccination.)
Erasmusmc	100	Impact of COVID-19 on AO CMF surgeons: results of a global survey	The aim of this survey study is to explore the impact that COVID-19 has on surgeons working in the craniomaxillofacial (CMF) field, and the inherent variations that may exist geographically. Our main objective is to study the availability of adequate personal protective equipment (PPE) among healthcare workers and surgeons around the world. Secondary objective is to which guidelines surgeons adhere to, which maximal PPE is available and whether elective surgery is still performed.
Erasmusmc	102	2000 HIV Human Functional Genomics Partnership Program, amendment 'COVID-19 in HFGP cohorts'	Prospective observational cohort study among 2000HIV (chronic HIV): n=107 included patients in the Erasmus MC. (in Nijmegen also the following cohorts: 500FG, 300BCG (healthy), 300DM (type 1 diabetes), 300OB (obesity/cardiovascular disease), 200HIV (chronic HIV). Objective: Identification of host factors and immunological biomarker(s) which influence susceptibility to and/or severity of COVID-19 infection in human functional genomics cohorts of chronic HIV patients. Baseline questionnaire: Age, sex, length, weight, living situation (household), occupational situation, vaccination status, general health status and medication use, health status and COVID-19-related symptoms. Two-weekly follow-up questionnaire: Presence and severity of COVID-19-related symptoms, COVID-19 infection status, contact with COVID-19 patient(s), GP visits, hospital admission.

UMC	Nr.	Titel	Samenvatting
Interventiestudies			
LUMC	1	Argus-1 study – High dose versus low dose LMWH thromboprophylaxis in patient with acute COVID infections – a randomised trial	Patienten met een COVID infectie hebben een sterk verhoogd risico van longembolie/trombose maar ook myocardschade. In het LUMC en andere Nederlandse ziekenhuizen krijgen deze patienten nu standaard lage dosis LMWH nadroparine. Vanwege grote onzekerheid of deze lage dosis LMWH voldoende beschermt, en daarmee indirect ook consequenties heeft voor het beloop van de COVID infectie, willen wij met 50 ziekenhuizen in NL en daarbuiten onderzoeken of een hoge dosis LMWH een betere bescherming biedt tegen het optreden van het primaire eindpunt trombotische-cardiovasculaire morbiditeit/totale en trombotische-cardiovasculaire mortaliteit.
LUMC	2	COVID	Microbiota targeting therapy as alternative for prednisolone and anti TNF in IBD patients during the current COVID-19 pandemic: a prospective study addressing the safety of Budesonide in combination with rifaximin or the Nestlé diet
LUMC	3	COVID: BCG-CORONA:	Reducing health care workers absenteeism in SARS-VoV-2 pandemic by enhanced trained immune responses through Bacillus Calmette-Guérin vaccination, a randomized controlled trial
LUMC	4	Gilead trial: RCT Remdesivir	COVID: A Phase 3 Randomized Study to Evaluate the Safety and Antiviral Activity of Remdesivir (GS-5734™) in Participants with Severe COVID-19 (GS-US-540-5773)
LUMC	5	Gilead trial: RCT Remdesivir	COVID: A Phase 3 Randomized Study to Evaluate the Safety and Antiviral Activity of Remdesivir (GS-5734™) in Participants with Moderate COVID-19 Compared to Standard of Care Treatment (GS-US-540-5774)
LUMC	6	In-depth insight into the cellular immune response against SARS-CoV-2: Basis for new biomarkers and novel therapeutic strategies	Here we proposed to apply the EuroFlow immune status and immune monitoring program as follows: To assess the cellular immune status in 50 to 60 (SARS-CoV-2 positive) patients at primary admission to LUMC with the aim to identify immune biomarkers for clinical outcome at an early stage. Based on the RIVM data, the patients will be equally divided over <65 years and ≥65 years. To perform a pilot monitoring study in 12 to 15 COVID-19 patients, admitted to LUMC for clinical care. These patients will be monitored each two days (~10 samplings per patient) using the standardized EuroFlow tools and technologies for detection of ≥250 blood immune cell subsets; serum sampling for SARS-CoV-2 antibodies will be performed in parallel to understand the cellular and serological kinetics of the anti- SARS-CoV-2
LUMC	7	Point of care biomarker discovery for clinical risk stratification and targeted treatment to prevent severe acute lung injury in COVID-19	Analysis of systemic and mucosal markers for inflammation, seroconversion and viral monitoring to identify patients at risk for pulmonary deterioration through real-time self-learning data integration technology. Application of personalized program for targeted anti-inflammatory and/or antiviral therapy with tocilizumab or remdesivir
LUMC	8	Post-corona poli	Patients return after admission (1 and 3 months) for subsequent parameters
LUMC	9	PREVENT nCoV-19	potentieel SARS-CoV-2 vaccin in laboratorium en kliniek onderzocht op effectiviteit en veiligheid. Onder leiding van dr. Marjolein Kikkert worden in het LUMC kandidaat-vaccins, die door het consortium worden gemaakt, getest op het opwekken van een virus-neutraliserende immuun respons
Observationele studies			
LUMC	1	COVID Radar	Populatiegegevens verzamelen op het gebied van klachten, gedrag en context d.m.v. een "COVID tracker" app. Doel is te komen tot populatiegerichte, risicogestuurde Population Health Management advisering in de zorg en tevens meer gedetailleerd geinformeerd te raken over gedragsrisico's n.a.v. de richtlijnen van de overheid
LUMC	2	IENIMINI	Vraagstelling: wat is het effect van immuunsuppressie op verkrijgen en beloop van Corona en andere infecties. Patiënten van de poli reumatologie (n=5000; huidige en patiënten uit verleden, met en zonder immuunsuppresie (hierin cases en controles)), van de poli nierziekten (n=2000; geselecteerde patiënten van de poli, cases en controles), poli longziekten (n=2000; patiënten met interstitieel long ziekten) en poli MDL (n=1500; patiënten met inflammatoire darmziekten) Analyse: vergelijken van voorkomen van infecties (waaronder Corona tussen patiënten en controles, en patiënten met en zonder
LUMC	3	Uitkomsten van Ouderen met COVID-19	Verzameling van data op baseline mbt vitaliteit/kwetsbaarheid van ouderen die zich in het ziekenhuis presenteren met COVID-19. Uiteindelijke doel is voorspellen van in-hospital uitkomsten obv van vitaliteit/kwetsbaarheid.

LUMC	4	Coronaonderzoek in verpleeghuizen	Door middel van een wekelijkse rapportage aan de deelnemende verpleeghuizen, het ministerie van VWS, Actiz, V&VN en Verenso willen de onderzoekers actuele ontwikkelingen rond de COVID-19-epidemie in verpleeghuizen in kaart brengen. Om de verpleeghuizen niet te veel te bevragen is er een eenvoudige informatievoorziening bedacht: de notulen van de crisisteams zijn de bron van analyse.
LUMC	5	COVID	Public perspective on social distancing and other behavioural measures: a survey study during the COVID-19 outbreak
LUMC	6	COVID app	
LUMC	7	COVID-data	Hemocytometrie voor de screening van patiënten met een Covid-19
LUMC	8	COVID-data	Clinical features of COVID-19 in Pediatric Patients - COPP-study
LUMC	9	COVID-DATA - ISARIC	Novel coronavirus (NCOV) Acute respiratory infection clinical characterisation data tool; M. de Boer
LUMC	10	Covid-Noord	Case control onderzoek binnen grootschalige (>2500/dag) Covid PCR diagnoses. Onderzoek naar risicofactoren voor overte ziekte en voor prognose
LUMC	11	COVINOSE	Prospective diagnosis of Covid-19 infection using exhaled breath analysis by electronic nose
LUMC	12	Home monitoring of COVID+ patients	The COVID box is the innovative way of home monitoring of COVID patients. Research will be conducted into the clinical added value of home monitoring with regard to the number of admission, admission duration and patient-related, value-driven outcomes
LUMC	13	LUCID	Biobank Infectious Diseases
LUMC	14	Outcomes of the elderly with COVID-19	Collection of baseline data on vitality / frailty of the elderly who present themselves in the hospital with COVID-19. The ultimate goal is to predict in-hospital outcomes based on vitality / frailty.
LUMC	15	SCIL	Door serieel restmonsters te verzamelen ontwikkeling antistoffen vast te stellen in een oudere populatie
Overige studies			
LUMC	1	Determinanten van lange termijneffecten van COVID-19	Van geïntubeerde patiënten met COVID-19 op de IC worden epitheelcellen geïsoleerd voor organoid celkweek, en mucosaal weefsel/secreet voor virus en ontstekingsanalyse. De analyses van dit materiaal (epitheelfunctie en -genexpressie; ontstekingsparameters en SARS-CoV-2 vRNA) worden gebruikt in combinatie met de post-COVID-19 follow-up om determinanten van post-COVID-19 complicaties vast te stellen.
LUMC	2	Effecten van check-point inhibitor blokkade als immunotherapie voor longkanker op COVID-19 beloop en ontstaan vna complicaties	Anti-PD1/PDL1 therapie kan op theoretische gronden de ontstekingsrepons op een infectie met SARS-CoV-2 versterken, en daarmee ook de kans op post-COVID-19 complicaties zoals longfibrose. Doel van dit onderzoek is om dit in kaart te brengen mede binnen het framework van de LUMC post-COVID-19 poli, en dit te combineren met in vitro celkweek onderzoek met longepitheel en infecties met SARS-CoV-2.
LUMC	3	Gastheerfactoren als doelwit voor de ontwikkeling van SARS-COV-2 remmers	De identificatie van gastheerfactoren die betrokken zijn in de replicatie van SARS-CoV-2 biedt belangrijke inzichten in de virale pathogenese. Daarnaast is het een basis voor de ontwikkeling van antivirale strategieën met een sterk verlaagde kans op het ontstaan van resistentie aan de kant van het virus.
LUMC	4	Immuunrespons van primaire alveolaire epitheelcellen op infecties met SARS-CoV-2	In analogie met SARS-CoV, veroorzaakt ook SARS-CoV-2 een primaire virale pneumonie met diffuse alveolaire schade met een ernstige ontstekingsreactie. Onze recente expertise met zowel primaire alveolaire epitheelcelkweken in organoids en chips, als met hiPSC-derived alveolaire epitheelcellen, wordt ingezet om de interactie tussen SARS-CoV-2 en alveolair epitheel nauwkeurig in kaart te brengen, en de rol van o.a.
LUMC	5	Induced human pluripotent stem cell-based alveolar chip cultures for target identification and screening of ALveolar REPair strategies (ALREP	De aanvraagt beoogt de ontwikkeling van een alveolus-on-chip gebaseerd op geïnduceerde pluripotente stamcellen (hiPSC) voor het bestuderen van alveolaire schade, zoals die bij COVID-19 optreedt. Deze aanvraag wordt deze week ingediend voor de LUMC PPP Match Call, en wordt ondersteun door de industriële partners Ncardia en Emulate
LUMC	6	Infectie van primair longepitheel met SARS-CoV-2: effecten van antivirale middelen	Na eerder gemeenschappelijk onderzoek naar infectie van primaire luchtwegepitheel zoals dat bij de afdeling Longziekten wordt gekweekt met SARS-CoV en MERS-CoV, worden momenteel experimenten met SARS-CoV-2 uitgevoerd in dit realistisch model van de luchtwegmucosa. De infecties en analyses worden uitgevoerd binnen de BSLIII faciliteit door de groep van dr Bredenbeek, en de epitheelcelkweken worden aangeleverd door het laboratorium van de afdeling Longziekten (Prof. Hiemstra). Dit lopene,d niet separaat gefinancierde onderzoek kan de basis vormen voor verder onderzoek in relevante modellen (zie ook een van de onderstaande

LUMC	7	Ontwikkeling van een longfibrose chip voor het bestuderen van longfibrose als post-COVID-19 complicatie	Longfibrose is een waarschijnlijke complicatie bij post-COVID-19 patiënten, maar het ontstaan van longfibrose is grotendeels onbegrepen. Door een long-fibrose chip te ontwikkelen met alle relevante celtypen van patiënten (alveolaire epitheelcellen, endotheelcellen en fibroblasten), kunnen we de ontwikkeling van fibrose bestuderen in de context van mechanische stress, en zo de effecten van de nieuwe generatie fibrose remmers en nieuwe TGFb remmers (ten Dijke) bestuderen in een relevant ziektemodel.
LUMC	8	Ontwikkeling van remmers voor SARS-CoV-2 en andere CoVs	Als quarantaine faalt, hangt de onmiddellijke en doelgerichte bestrijding van coronavirus-uitbraken nagenoeg volledig af van de beschikbaarheid van breed-spectrum coronavirusremmers. Cruciale en geconserveerde virale enzymfuncties of gastheerfactoren zijn daarom het logische doelwit voor de ontwikkeling van specifieke geneesmiddelen die een volgende pandemie kunnen voorkomen.
LUMC	9	PanCoroNed: Novel antivirals against viral health threats for therapeutic and prophylactic use	Lead and/or repurposing compounds targeting relevant mechanisms of infection and replication of Sars Cov 2. Ideally bringing a dedicated pan Corona antiviral drug to fight the ongoing Covid 19 pandemic and be prepared for future Corona viral threats
LUMC	10	SCORE	SCORE gaat op zoek naar antivirale geneesmiddelen die op korte- of middellange termijn kunnen worden ingezet om patiënten te behandelen en de verspreiding van coronavirussen te beperken
LUMC	11	The role of SARS-CoV-2 glycosylation in viral invasion and immunity	The surface of SARS-CoV-2 is dominated by carbohydrates which are present in high density on all its surface proteins. This project will study the role of these carbohydrates in masking peptide epitopes, modulating cellular and humoral immune responses and mediating cellular recognition and invasion.
LUMC	12	Preklinisch testen van de vaccinwerkzaamheid van het SARS-CoV2-Spike DNA-vaccin	Eerder werd een succesvol DNA-vaccin gegenereerd tegen SARS-CoV-1 (Martin et al., 2008; Yang et al., 2004) en aangezien dit virus het meest nauw verwant is aan SARS-CoV-2, kan een DNA-vaccin tegen SARS-CoV-2 ook effectief zijn. Hier willen we in relevante muismodellen, zoals het hACE2 trangene model, testen of een DNA vaccin met het Spike eiwit bescherming biedt tegen SARS-CoV2 infectie.
LUMC	13	"First line of defence": Design and implementation of a novel RNA-based therapy to protect the kidney and lungs against coronavirus infections	SARS-CoV-2 infects the proximal tubule cells (PTC) of the kidney and kidney injury is an independent risk factor for survival of hospitalized patients. Since intravenously administrated antisense oligonucleotides (ASOs) rapidly accumulate into the PTC, we will explore the antiviral properties of ASOs that disrupt the secondary RNA structures of the SARS-CoV-2 viral genome that are essential for replication. Efficacy of these structure disrupting ASOs will be related to GAPmer ASOs and result may provide a therapeutic strategy to rescue critically ill patients and provide a route map to counteract future RNA-based virus epidemics.

UMC	Nr.	Titel	Samenvatting	
Interventiestudies				
MUMC+	1	A pragmatic adaptive open label, randomized phase II/II multicenter study of IFX-1 in patients with severe COVID-19 pneumonia	RCT. De helft van de deelnemers krijgt standaardzorg + IFX-1 en de andere helft enkel standaardzorg.	
MUMC+	2	INFECTIVITY OF SARS-CoV-2 IN HEALTHCARE WORKERS IN CORRELATION WITH THE HUMORAL IMMUNE RESPONSE	Het doel van dit onderzoek is meer inzicht krijgen in het ziekteverloop en opbouw van de afweer tegen het SARS Coronavirus onder medewerkers	
Observationele studies				
MUMC+	1	Patiënten met klachten verdacht voor Covid-19, karakteristieken en rol van computed tomography	In het kader van klinische diagnostiek wordt in het MUMC+ bij iedere van COVID-19 verdachte patiënt een CT-scan gemaakt. In deze studie wordt de diagnostische waarde van deze scan onderzocht door radiologische uitkomsten te vergelijken met bevindingen uit het lab. Van gescande patiënten worden ook klinische gegevens verzameld, zoals symptomen, bloedwaarden en vitale kenmerken.	
MUMC+	2	AI Screening Algorithm COVID-19 Patients using CT	Doel van dit project is om dit algoritme te valideren en te implementeren in de kliniek ter verbetering van de zorg omtrent COVID-19. Hierbij hopen we de acuratesse van de boordeling van CT scans te verhogen en een betere risico-inschatting te maken voor zorgprofessionals alsook niet zieke populatie. Daarnaast hopen we op basis van de beeldvorming te kunnen voorspellen of patiënten opgenomen moeten gaan worden op de IC en of we overleving kunnen voorspellen in tijden van schaarste.	
MUMC+	3	ExtraCorporeal Membrane Oxygenation for 2019 novel Coronavirus Acute Respiratory Disease. The ECMOCARD Trial.	Het ECMOCARD onderzoek is een internationaal registry dat onderzoek doet naar COVID-19 patiënten die op de ICU mechanisch beademd worden of ECMO (extracorporeal membrane oxygenation) nodig hebben. Het doel is het beschrijven van de karakteristieken van deze patiënten (inclusief survival) en technische aspecten van beademing en ECMO om tot betere zorg te komen.	
MUMC+	4	European/Euro-ELSO Survey on Adult and Neonatal/Pediatric COVID Patients in ECMO (EuroECMO-COVID)	Samenvatting: De EuroECMO-COVID studie betreft een Europese studie die zich richt op COVID-19 patiënten (volwassenen en kinderen) die door refractaire hypoxemie, cardiogene of septische shock ECMO-ondersteuning nodig hebben. Het doel is om de patiëntpopulatie en ECMO-karakteristieken in kaart te brengen.	
MUMC+	5	Annexin A1 and extracellular histon 3 are novel biomarkers for the progression of COVID-19. A bridging opportunity towards new treatment strategies.	COVID-19 heeft in een deel van de patienten een ernstig beloop met hoge mortaliteit. Dit wordt met name gekenmerkt door snel progressieve longschade en ARDS. Een optimaal werkend immuunsysteem is nodig om het virus te klaren, maar een gestoorde balans tussen de innate immunity (te agressief), en het verworven immuunsysteem (na cytokine storm mogelijk uitgeput) leidt tot het uiteindelijke orgaanfalen. Tijdens de virale infectie komen grote hoeveelheden cytotoxische histonen vrij, zowel door de influx van neutrofielen, als door verval van endotheel en epitheelcellen. De longen zijn hiervoor zeer gevoelig. Annexine A1 daarentegen remt ontsteking , en zet aan tot herstel van weefsel. Wij hebben in-house testen ontwikkeld om vrije histonen en Annexine A1 te meten waarmee het beloop van de ziekte mogelijk voorspeld kan worden. Parallel wordt nu vanuit Maastricht in versneld tempo gewerkt aan goedkeuring voor een geneesmiddel dat de toxische effecten van de histonen kan neutraliseren, zonder de virusklaring negatief te beinvloeden.	
MUMC+	6	Electrical impedance tomography (EIT) biomarkers for COVID-19 induced acute respiratory distress syndrome (ARDS)	De effecten van COVID19 ARDS op de longfunctie van IC patiënten en de optimale beademingsinstellingen die hierbij passen zijn op dit moment onbekend. Elektrische impedantie tomografie (EIT) kan beademingsinstellingen aanpassen op persoonlijk patiënten niveau op een manier die beademing-geïnduceerde longschade voorkomt. Herhaalde EIT metingen leiden mogelijk tot betere, gepersonaliseerde beademingsinstellingen en verbeterde timing van buikligging.	
MUMC+	7	TERAVOLT: International registry on thoracic cancer patients with COVID-19	TERAVOLT is een internationale registratie die kijkt naar thoracale oncologiepatienten (NSCLC, SCLC, mesothelioom, thymusmaligniteiten) met COVID19 (bewezen of sterk verdacht),. Doel is om te kijken hoe COVID19 bij hen verloopt, en patient en behandelgerelateerde factoren te relateren aan uitkomst	
MUMC+	8	COVID-19 IC-opname predictiemodel	multicenter studie gecoordineerd door Amsterdam UMC, VUMC en Maastricht UMC+. Dataverzameling in Castor EDC in een op WHO format gebaseerd CRF. Doel is ontwikkelingen van predictiemodellen, in het bijzonder om IC-opname cq. beademingsbehoefte te voorspellen.	
MUMC+	9	Detectie van Corona Virus Disease 2019 (COVID-19) in uitademingslucht geanalyseerd door de eNose	Het doel van deze studie is onderzoeken of de eNose onderscheid kan maken tussen het patroon van volatile organic compounds (VOCs) in uitademingslucht van patiënten met een bewezen COVID-19 besmetting en van patiënten met luchtwegklachten verdacht voor COVID-19 met een negatieve COVID-19 testuitslag op CT-thorax en/of RT-PCR.	
MUMC+	10	CAPACITY-COVID: Cardiac cmplicAtions in Patients with SARS Corona vIrus 2 regisTrY	CAPACITY is een registratie van patiënten met COVID-19 binnen Europa. Het is registry met een cardiovasculaire invalshoek en is een toevoeging op het Case Record Form (CRF) dat is ontwikkeld door het ISARIC (International Severe Acute Respiratory and Emerging Infection Consortium) en de WHO (World Health Organisation) in reactie op de uitbraak van COVID-19. Voor meer informatie: https://capacity-covid.eu	
MUMC+	11	Ademtest voor dagnostiek Van Covid-19 aerosolen	Het doel van dit onderzoek is om aan te tonen of een eenvoudige ademtest gebruikt kan worden om te testen of iemand geïnfecteerd is met het Coronavirus. De test werkt door kleine uitgeademde druppels, zogeheten aerosolen, op te vangen op een filter. Dit zijn dezelfde druppels die tijdens niezen of hoesten worden verspreid. Door deze aerosolen via een non-invasieve ademtest op te vangen op een filter kan de PCR test vanaf dit filter mogelijk een betrouwbaarder beeld geven van de aanwezigheid van virus partikels in de diepere luchtwegen.	
MUMC+	12	COVID-19 zorg door de Nederlandse huisarts	Het doel is om inzicht te krijgen in 1. intensieve (en palliatieve) huisartsenzorg aan COVID-19 verdachte patiënten die bewust NIET worden ingestuurd naar het ziekenhuis 2. COVID-19 gerelateerde sterfgevallen buiten het ziekenhuis, ook van patiënten waarbij geen COVID-19 PCR diagnostiek is gedaan.	
MUMC+	13	Risicostratificatie COVID-19 op de SEH en op de verpleegafdeling buiten de ICU	Bij SEH-patiënten met een (verdenking op) COVID-19 willen we voorspellen of zij een adverse outcome (ICU opname of overlijden binnen 28 dagen) zullen krijgen. Hiertoe zullen we primair veel gebruikte non-COVID scores (SOFA, AMBU-65, MEWS, RISE UP score) maar ook de recent ontwikkelde COVID-19 scores valideren.	
MUMC+	14	Prevalence of asymptomatic deep vein thrombosis in admitted COVID-19 patients	Dit is een multicenter cross-sectionele diagnostische studie. Patiënten die op de COVID-afdeling zijn opgenomen, zullen een echografie ondergaan om te bepalen of patiënten een asymptomatische proximale DVT (popliteale of femorale ader) hebben. Deze echografie wordt uitgevoerd volgens de reguliere standaarden die worden gebruikt in de patiëntenzorg. Het doel is om de prevalentie van asymptomatische diepe veneuze trombose te bepalen.	
MUMC+	15	Measuring mental well-being during the peak of the COVID-19 pandemic	We will conduct a max. 10-minute online questionnaire-based study among Dutchspeaking participants to assess severity of social quarantine, preoccupation with coronavirus (fear, worries) and momentary well-being (mood, anxiety, stress levels, sleep quality).	
MUMC+	16	Antihypertensive drugs in COVID-19 infection	This project has examined outcome of COVID-19 infection in patients with antihypertensive treatment, including ACE-Is or ARBs	
MUMC+	17	Arrhythmias in COVID-19 patients	This project investigates the occurrence of significant ECG changes and atrial and ventricular arrhythmias in COVID-19 patients, whether or not treated with chloroquine.	
MUMC+	18	TeleCheck-AF	What is TeleCheck-AF: TeleCheck-AF is an international and multi-center mHealth project with the goal: "Let's keep our atrial fibrillation patients out of the hospital during COVID19". An on-demand app-based heart rate and rhythm monitoring infrastructure is used to manage atrial fibrillation through teleconsultation. For more information visit our website: www.telecheck-af.com and follow #TeleCheckAF on Twitter. ESC-website: https://bit.ly/34R2F65	
MUMC+	19	The first cross-border introduction of SARS-CoV2 from Germany to the netherlands: outbreak in the first Dutch nursing home	The first cross-border introduction of SARS-CoV2 from Germany to the netherlands: outbreak in the first Dutch nursing home	
MUMC+	20	Crossborder-border comparison of Covid19 immunity and infection prevention compliance in the Euregion Maas-Rhein	To assess, in a representative fraction of adults and older people living in the community, the prevalence of SARS-CoV-2 antibody response and measure recent infection. prevention behaviors (including social distancing) and characteristics of their social network in the EMR.15000 civilians will be invited for survey and COVID19 serologic test. Option for follow up measures.	
MUMC+	21	serological survey in the province of Limburg for COVID19, complance to measures and social networks	serological survey in the province of Limburg for COVID19, complance to measures and social networks in 10.000 Limburg civilians. Option for follow up measures	
Overige Studies (fundamenteel, public health, EU, ...)				
MUMC+	1	The influence of the COVID-19 pandemia on the health behaviour of primary school children (and their parents)	Het doel van dit onderzoek is om te onderzoeken of de huidige Corona epidemie en de invloed daavran op het dagelijks leven, nadelig effect hebben op de levenstijl van basisschoolkinderen en hun ouders	PH

MUMC+	2	Quality of life in COVID-19 survivors	Het bepalen van symptomen (o.m. kortademigheid, vermoeidheid, angst, depressie, pijn, etc.; bij ontslag uit het ziekenhuis en 6 en 12 weken nadien), de mate van zorgafhankelijkheid (bij ontslag en 6 en 12 weken nadien), de impact of het vermogen om te werken, (6 en 12 weken na ontslag), posttraumatische stress (enkel 12 weken na ontslag), het fysiek functioneren (enkel bij ontslag) en kwaliteit van leven (bij ontslag en 6 en 12 weken nadien) bij COVID-19 patiënten.	Epid.
MUMC+	3	Observational cohort study of COVID-19 infection in cancer patients in the Netherlands	In het algemeen: Kenmerken identificeren van patiënten met (actieve) maligniteiten die een verhoogd risico op een ernstig beloop en / of een slechtere uitkomst van COVID-19. Deel 1: Snelle identificatie van klinisch relevante bevindingen bij patiënten met (actieve) maligniteiten tijdens de COVID-19 epidemie en het informeren van de Nederlandse oncologie gemeenschap over deze bevindingen. Deel 2: De dataset van deel 1 uitbreiden met opvolging van eerder verzamelde data en inclusie van patiënten die nog niet geïdentificeerd waren in deel 1	Epid.
MUMC+	4	COH-FIT	online survey to measure the physical and mental health effects of the COVID-19 pandemic across 43 countries in children, adolescents and adults, in 3 waves (0,6 months, 12months)	PH/MH
MUMC+	5	Prediction models for diagnosis and prognosis of covid-19 infection: systematic review and critical appraisal	Een levend systematisch review van diagnostische en prognostische modellen, gepubliceerd door BMJ met updates elke twee weken	
MUMC+	6	Organoid SARS-CoV-2 infection	Human organoids of different kind were readily infected by SARS-CoV and SARS-CoV2 and studied by confocal- and electron-microscopy. Significant titers of infectious viral particles were measured. mRNA expression analysis revealed strong induction of a generic viral response program. Our first studies show that intestinal epithelium sustains SARS-CoV-2 replication.	Fund.
MUMC+	7	Vitrojet for Biosafety level 3	The curent VitroJet will be made compatible for BSL3 laboratory in order to make it available for laboratories that study the live SARS-CoV-2 by cryo-EM	Fund.
MUMC+	8	Fysiotherapie bij patiënten met COVID-19	Aanbevelingen voor fysiotherapie bij patiënten na ontslag uit het ziekenhuis of patiënten die COVID-19 hebben doorgemaakt in de thuissituatie - levende richtlijn	
MUMC+	9	Prediction of risk for chronic lung disease after COVID-19 in P4O2	The P4O2 program (https://p4o2.org/; evaluated for funding by Health Holland) aims to identify treatable traits and innovative personalized therapeutic strategies to both prevent progression of early stage lung damage and to reverse established lung damage by stimulating repair. The heart of this longitudinal study is the construction of a PRIL (Persons at high RIsk for Lung disease)-cohort, in which the development of pulmonary alterations and early lung disease is related to an extensive evaluation of the external and internal exposome. Mechanistic insight in causal relationships and putative interventions will be generated by a combination of omics-based and AI-integrated analyses, and application of novel in vitro models. Life style interventions aimed at modulation of the exposome will be applied in part of this cohort during a 4 year follow-up. In keeping with the overall hypothesis of P4O2, we propose that the progression of lung damage caused by COVID-19 into irreversible lung damage and chronic lung disease, is determined by the external and internal exposome of COVID-19 patients. Research organizations involved in P4O2: Amsterdam UMC- location AMC and VUmc, University Medical Center Groningen (UMCG), Maastricht University Medical Center (Maastricht UMC+), University Medical Center Utrecht (UMC Utrecht), Utrecht University, Leiden University Medical Center (LUMC) Other partners involved in P4O2: NRS, Longfonds, LAN, CAHAG, GSK, Boehringer Ingelheim, Roche, Ortec Logiqcare, Danone Nutricia Research, Sodaq, Smartfish, RespiQ, Clear, Aparito The expertise brought together and logistics set up for P4O2 are very well suited to study the long-term effects of COVID-19. Therefore, in the COVID-19 extension to the P4O2 project, we will identify the risk factors for the development of a chronic lung disease, and investigate interventions to prevent irreversible lung damage following COVID-19 infection. To be able to research the long-term impact of COVID-19 on lung health we propose to include an additional 100 patients that experienced COVID-19 to the 350 persons in our PRIL-cohort that undergo deep phenotyping. See description full description of the proposal https://p4o2.org/. The 100 ex-COVID-19 patients will be recruited from a recently started initiative from the Lung Foundation Netherlands, LAN, NRS and NVALT, which intends to construct a cohort (CALD) of all ex-COVID-19 patients in the Netherlands. Alternatively, patients will be recruited from the cohort in the COUNTER-COVID trial (a randomized, double-blind, placebo controlled, clinical trial in patients with Covid19 disease to examine the effect of oral imatinib to prevent pulmonary vascular leak in Covid19). Both cohorts are set up by partners in P4O2.	Epid.
MUMC+	10	CT-derived muscle, adipose and lung tissue interaction: short-term clinical outcome and long-term health status after a COVID-19 infection: InteraCT study	The overall objective of this study is to investigate the longitudinal interaction between chest CT-derived muscle quantity and quality and adipose tissue abundance on one hand and COVID-19 disease progression (lung damage, treatment strategy and 1-year mortality) and its long-term consequences (lung damage and multidimensional health status) on the other. The study will be a prospective longitudinal observational study for which the COVID-19 screening, including the chest CT-scans obtained during COVID-19 screening will function as a baseline measurement. One year after screening of COVID-19 we will invite COVID-survivors to the MUMC+ for a follow-up CT and a detailed multi-dimensional health assessment.	
MUMC+	11	COVID19 Epidemiology update: rapid and living systematic reviews	Epidemiology collaborative to perform rapid and living systematic reviews on risk factors for COVID19 infection, diagnosis, hospitalisation, prognosis and death. Partner of the WHO Evidence Collaborative. Early results will be published open access via university library (Gregor Franssen, Ron Aardening)	Epid.
MUMC+	12	EPPI Mapper PICO Annotator	Adding PICO annotations to all COVID19 scientific studies via EPPI mapper, a living database of COVID19 scientific studies	
MUMC+	13	CovidPredict	Doel: het voorspellen van het klinische beloop van patiënten met COVID-19. In deelnemende ziekenhuizen wordt data verzameld van alle COVID-19 patiënten die opgenomen zijn op de verpleegafdeling of op de intensive care. Hierbij worden prospectief en retrospectief informatie verzameld over het ziektebeloop, de voorgeschiedenis, presentatie in het ziekenhuis en het beloop van de opname. Aan het eind van de opname worden er gegevens over de klinische toestand, behandelingen en complicaties verzameld. Deze gegevens worden gecodeerd opgeslagen in een Castor database en zijn gebaseerd op het COVID CRF van de WHO.	Epid.
MUMC+	14	CAPACITY	Het doel van CAPACITY is om data te verzamelen van de cardiovasculaire voorgeschiedenis, diagnostische informatie en cardiovasculaire complicaties van COVID-19 patiënten. Door deze data op een gestandaardiseerde manier te verzamelen kan CAPACITY meer inzicht geven in (1) de manifestatie en incidentie van cardiovasculaire complicaties bij patiënten met COVID-19 en (2) de vatbaarheid en het klinische beloop van COVID-19 bij patiënten met een onderliggende cardiovasculaire aandoening.	Epid.
MUMC+	15	The impact of students working as volunteers in COVID-19 induced health care.	Due to the COVID-19 crisis there is shortage of personnel in healthcare. Health care students often substitute their internship/rotation with voluntarily work, but the impact of these activities on learning and wellbeing of students, and for workload of supervising staff is unknown. We investigate the impact from the perspectives of students from different disciplines through an online survey and semi structured interviews with a purposive sample, in order to draw lessons for future student participation during crisis situations.	PH
MUMC+	16	qPCR voor SARS-CoV-2	Opzetten van een eigen RNA bepaling voor het SARS-CoV2 virus middels qPCR	Fund.
MUMC+	17	dp-ucMGP als biomarker voor COVID-19 ernst	bepalen van dp-ucMGP, een eiwit dat interactie heeft met elastine (extracellulaire matrix)	Fund.
MUMC+	18	SARS-CoV-2 antilichaam test	Coronavirus antilichaamtest opzetten voor intern MUMC gebruik. Geglycosyleerd spike-eiwit uit virusmantel wordt tot expressie gebracht en zal fungeren als vang-eiwit im een ELISA om anti-virus antilichamen in individuen te testen als read out voor eerder virus contact.	Fund.

MUMC+	19	Ontwerpen en synthetiseren cyclische peptiden voor het verbreken SARS-CoV-2 -ACE2 interactie	Op basis van de kristalstructuur van SARS-CoV-2-ACE2 interactie worden peptides ontwikkeld via in silico ontwerp die chemisch worden gesythetiseerd als remmers voor SARS-CoV-2-ACE2 interactie en daarmee cellulaire opname virusdeeltjes.	Fund.
MUMC+	20	Ontwerpen en synthetiseren synthesische vaccins tegen SARS-CoV-2	Multivalente RBD domeinen met hyperimmunogene status zullen worden getest als synthetische vaccins tegen SARS-CoV-2.	Fund.
MUMC+	21	Monitoring personnal resilience during the COVID pandemic	Selfmonitoring of personel under extreme stress conditioons to detect to recognize resilience and vulnerabilities and access to care	PH/MH
MUMC+	22	Biomarkers in IC patients infected with Covid-19	In patientmateriaal van Covid-19 patienten worden biomarkers geanalyseerd die relevant zijn voor het ontstaan en ontwikkelen van weefselschade in Covid-19 patienten die in de IC zijn opgenomen	Fund.
Dubbel? Is 1 niet hezelfde als 7 uit 'observationeel' en is 2 niet hetzelfde als 3 uit 'overig'				
MUMC+	1	TERAVOLT: Thoracic cancERs international coVid 19 cOLlaboraTion	longitudinal multi-centre study on thoracic cancer patients which experienced COVID-19. Information on clinical features, clinical course, management and outcomes will be collected for both thoracic cancers and COVID-19 infection	
MUMC+	2	DOCC: Observational cohort study of COVID-19 infection in cancer patients in the Netherlands	multicenter observational. Part 1 (CURRENTLY ONLY PART THAT IS OPEN) Rapid identification of clinically relevant findings in patients with (active) malignancies during the COVID-19 epidemic and to inform the Dutch oncologic community about these findings. Part 2 To extend the dataset of part 1 with follow-up of previously collected data and inclusion of patients who were not yet identified in part 1.	
MUMC+	21	Philippe Lambin		
MUMC+	25	Sinan Gülöksüz		
MUMC+	27	David Linden en Rainer Goebel		
MUMC+	32	Frank Smeenk	X	

UMC	Nr.	Titel	Samenvatting
Interventiestudies			
Radboudumc		Mindful Prevention of Psychopathology in Healthcare workers during the COVID-19 crisis	Mindfulness gebaseerde stress-reductie (MBSR) voor zorgverleners tijdens de COVID-19 crisis
Radboudumc			Onderzoek onder patienten met niet-spierinvasief blaaskanker. Een gedeelte van deze patienten wordt behandeld met BCG blaasspoelingen. Een ander gedeelte krijgt spoelingen met chemotherapie. De hypothese van Mihai en Leo is dat de patienten met BCG spoelingen niet alleen lokaal maar ook systemisch reageren met een verhoogde immuunrespons. Dat zou dan weer kunnen betekenen dat deze patienten minder vatbaar zijn voor een COVID-19 infectie en/of de gevolgen daarvan.
Radboudumc		Randomized, Embedded, Multifactorial Adaptive Platform trial for Community-Acquired Pneumonia	CAP (community acquired pneumonia) is een infectie van de longen bij patiënten die niet recent zijn opgenomen in een ziekenhuis. Bij een ernstige CAP is er reden tot opname op de Intensive Care. Alle patiënten met een CAP die worden behandeld op de IC krijgen therapie, die bestaat uit verschillende soorten behandelingen. De richtlijnen die nu gelden zijn nooit goed onderzocht bij IC patiënten. In dit onderzoek zullen verschillende behandelvormen met elkaar vergeleken worden, bij IC patiënten die een CAP hebben door de SARS-CoV-2 infectie. Het doel is om te onderzoeken welke combinatie van behandelingen het beste werkt tegen een
Radboudumc		Countering Lung Damage in COVID-19 infection (CounterCOVID) study	Covid19 infection is characterized by hypoxemic respiratory failure, caused by extensive vascular leak and pulmonary edema early in the course of disease. Although there is no proven therapy to reduce viral replication in Covid19, recent studies from our department have discovered that the tyrosine kinase inhibitor imatinib reinforces the endothelial barrier and prevents vascular leak in inflammatory conditions, while leaving the immune response intact. We hypothesize that reversing vascular leak is an effective approach to reduce disease burden and consumption of medical resources. This study to test whether treatment with oral imatinib reduce disease burden and consumption of medical resources.Patients (>18years) with proven Covid19 infection, admitted to the hospital with hypoxemic respiratory failure (SaO2<92% or kPa<8 on room air), with
Radboudumc		[68Ga]Ga-DOTA-(RGD)2 PET/CT imaging of activated endothelium in lung parenchyma of COVID-19 patients.	
Radboudumc		A double-blind, placebo-controlled randomized clinical trial with valsartan for prevention of acute respiratory distress syndrome in hospitalized SARS-COV-2-Infected patients	RCT To investigate the effect of the ARB valsartan in comparison to placebo on the occurrence of one of the following items, within 14 days of randomization:1) ICU admission; 2) Mechanical ventilation; 3) Death.
Radboudumc		Reducing hospital admission of elderly in SARS-CoV-2 pandemic via the induction of trained immunity by bacillus Calmette-GuÃ©rin vaccination, a randomized controlled trial	A placebo-controlled adaptive multi-centre randomized controlled trial in elderly people (≥ 60 years of age).Primary objective: to reduce SARS-CoV-2-related hospital admission of community dwelling older persons (≥ 60 years of age). Secondary objective: to reduce the incidence of health symptoms, the duration of hospital admission, hospital or ICU admission for any reason, or death in community dwelling older persons during the SARS-CoV-2 outbreak.
Radboudumc		Mucosal immunity in patients diagnosed with SARS-CoV-2 infection and their household contact	An observational, prospective cohort study among Covid-19 patients and their household contacts, among Covid-19 patients with a laboratory confirmed infection with SARS-CoV-2, as well as household contacts remaining in home quarantine at the same address, in the provinces of Gelderland, Utrecht, Overijssel, and Noord-Brabant in The Netherlands.Primary Objective: to analyse the development of mucosal immunity against SARS-CoV-2 in nasal fluid of Covid-19 patients and their household contacts. Secondary Objective: to descriptively analyse the correlation of mucosal antibodies with viral diagnostics and
Radboudumc		Reducing health care workers absenteeism in SARS-CoV-2 pandemic by enhanced trained immune responses through Bacillus Calmette-GuÃ©rin vaccination, a randomized controlled trial	A placebo-controlled adaptive multi-centre randomized controlled trial in health care workers with direct patient contacts, defined as nurses and physicians working at emergency rooms and wards where COVID-infected patients are treated. Participants will be randomized between intracutaneous administration of BCG vaccine or placebo in a 1:1 ratio. Primary objective: To reduce absenteeism among HCW with direct patient contacts during the epidemic phase of COVID19. Secondary objective: To reduce hospital admission, ICU admission or death in HCW with direct patient contacts during the

Observationele studies			
Radboudumc		Antihypertensiva in COVID-19 geïnfecteerde patiënten in ziekenhuizen	Onderzoek naar het beschermend effect van ARB's (angiotensine-receptor-blokkers) bij 'n corona-infectie. Met CTcue willen ze query's laten lopen binnen EPIC. CTcue is operationeel in ons Radboudumc.
Radboudumc		Prevalence of asymptomatic deep vein thrombosis in admitted COVID-19 patients	
Radboudumc		COVID-19 infection in patients with inflammatory bowel disease	To determine the clinical presentation, disease course and clinical outcome of COVID-19 infection in patients with inflammatory bowel disease. The primary composite end point will be admission to an intensive care unit (ICU), the use of mechanical ventilation, or death. These outcomes were used in previous studies to assess the severity of COVID-19 infection and other serious infectious diseases.
Radboudumc		Uitgestelde zorgvraag van patiënten op de spoedeisende hulp tijdens de coronapandemie: een observationeel cohortonderzoek naar de omvang, kenmerken en achterliggende motivaties	Onderzoeksvragen: 1. Wat is het aandeel patiënten dat maandelijks op de SEH wordt gezien met een uitgestelde acute zorgvraag gedurende de coronapandemie? 2. Wat zijn de demografische (leeftijd, geslacht), klinische (type ingangsklacht, urgentieniveau) en zorgproces kenmerken (tijdstip SEH bezoek, type verwijzer, SEH verblijfsduur, follow-up) van deze patiëntengroep? 3. Wat zijn de achterliggende motivaties van deze patiënten om hun acute zorgvraag uit te stellen? Populatie: alle volwassen patiënten die de SEH bezoeken voor een acute klacht, tenzij ze voldoen aan een of meer van de volgende exclusiecriteria: 1) niet-wilsbekwaam, 2) positief getest op (of verdacht van) COVID-19 besmetting, 3) een baas
Radboudumc		Opvang en behandeling van patiënten met (een verdenking van) COVID-19 op de spoedeisende hulp: een kwalitatieve studie naar ervaringen en behoeften van patiënten.	Onderzoeksvragen: 1. Hoe hebben COVID-19 (verdachte) patiënten de opvang en behandeling op de SEH ervaren? 2. Welke behoeften hadden zij naast hun klinische zorgvraag? 3. In hoeverre sloot de zorg op de SEH aan op deze behoeften? Populatie: wilsbekwame volwassenen; vanaf 9 maart 2020 ivm besmetting of verdenking van COVID-19 zijn opgevangen of behandeld op de Radboudumc SEH en die na een behandeling op de SEH
Radboudumc		COvid MEdicaTion (COMET) study; a retrospective cohort study: rationale and design	Main research question: correlation between use of ACE inhibitors or ARBs and clinical outcome in COVID-19 positive patients. Patients are included from various hospitals in Europe by a pharmacist, clinical pharmacologist or treating physician. The participating investigators are asked to consecutively include patients registered at the emergency department (ED) at a certain day or several days. If ED registration was incomplete, all COVID patients that are hospitalized during a specific period (ICU and normal ward) are entered. The major criterium for a patient to be included was COVID positive by a positive SARS-CoV2 PCR or high clinical likelyhood based on bilateral pulmonary infiltrates not explained by another cause
Radboudumc		Risk of developing a chronic (functional) gastro-intestinal disorder following severe COVID-19 infection which required hospitalization in patients with or without gastro-intestinal complaints during active COVID-19 infection	Risk of developing a chronic (functional) gastro-intestinal disorder following severe COVID-19 infection which required hospitalization in patients with or without gastro-intestinal complaints during active COVID-19 infection.
Radboudumc			With an international collaboration (researchers from the Netherlands, Switzerland and Australia (Melbourne as well as Brisbane)), we aim to assess the impact of obesity as a risk factor for severe COVID-19. This analysis will use data from international critical care databases and national COVID-19 data reporting from as many countries as we can get data from.
Radboudumc			Op dit moment wordt een belangrijk deel van de electieve operaties uitgesteld. Dit zorgt voor een grotere wachtlijst en daarmee een langere wachttijd op deze operaties. Verschillende zorgverleners hebben al hun zorgen geuit hierover. Ook in het Radboudumc zijn ze al bezig met plannen voor het moment dat deze operaties weer kunnen worden uitgevoerd.
Radboudumc		COVID-19 and Perinatal Experiences	A survey study to examine the impact of COVID-19 on experiences of women and men attempting to become pregnant (pre-conceptional part; only in The Netherlands), pregnant women and their partners (pregnancy part; international; fathers only in The Netherlands) and parents of new babies up to 6 months of age (post-natal part; international; fathers only in The Netherlands).

Radboudumc		The Personalized Parkinson Project ('De Parkinson Op Maat-Studie')	Aanvullende COVID-studie binnen de Parkinson Op Maat-studie.The aim of this study relates to two topics, with their own, and partially interrelated objectives: Objective 1: Stress → a) Evaluate the impact and burden of the COVID-19 pandemic on perceived stress in Parkinson's disease patients. b) Evaluate how perceived stress relates to motor and non-motor symptom severity in patients with Parkinson's disease (to quantify "resilience"). c) Evaluate which factors (personality, social network, coping strategy, previously collected biological data such as brain imaging, etc.) influence (a) and (b).Objective 2: COVID-19 symptoms → a) Test the feasibility of detecting the early onset of a COVID-19 infection, based on physiological signals, captured with the Verily Study Watch, in people
Radboudumc		De impact van COVID-19 op de mate van autonomie bij activiteiten van het dagelijks leven en de kwaliteit van leven bij patiënten in de eerst 12 weken na ontslag uit het ziekenhuis	Observationele studie (vragenlijsten) voor bepalen van symptomen (kortademigheid, vermoeidheid, angst en depressie), de mate van autonomie bij activiteiten van het dagelijks leven, post-traumatische stress en kwaliteit van leven bij COVID-19 patiënten op het moment van ontslag uit het ziekenhuis en 6 en 12 weken nadien. Op het moment van ontslag uit het ziekenhuis worden alle COVID-19 patiënten (met of zonder IC-opname) gevraagd om, na een geschreven toestemming, diverse vragenlijsten digitaal in te vullen.
Radboudumc		Clinical features of COVID-19 in Pediatric Patients	The pandemic novel coronavirus (SARS-CoV-2) causes the disease COVID-19, ranging from mild flu-like symptom to a severe and potentially fatal acute respiratory illness. Data on clinical features and risk factors in children are limited. This study aims to describe clinical features of COVID-19 in children. Study population: Children age 0-17 years, in- or outpatient in Dutch hospitals with COVID-19.
Radboudumc		EsPnIc Covid paEdiatric NeonaTal REgistry	ESPNIC launches an international registry on paediatric and neonatal SARS-CoV-2 infections called EPICENTRE (EsPnIc Covid pEdiatric NeonaTal REgistry).EPICENTRE purpose is to collect clinical and physiopathological data on paediatric and neonatal cases and advance knowledge in the field.
Radboudumc		Observational cohort study of COVID-19 infection in cancer patients in the Netherlands (DOCC)	
Radboudumc		International registry on thoracic cancer patients with COVID-19	
Radboudumc		REgional evaluation of treatment outcome of COVID-19 patients admitted to non-ICU departments in hospitals in South-East NetheRlands (the RECOVER study)	Vergelijken effectiviteit van CQ versus HCQ in niet-IC patienten, multicenter studie, data in Castor
Radboudumc		Machine learning voor de behandeling van COVID-19 patiënten op de intensive care	Studie 1: IC patienten. Analyseren welke combinatie van behandelstrategieën op de intensive care bij individuele patiënt met COVID-19 geassocieerd is met de beste uitkomsten.Gegevensverzameling van COVID-19 patiënten die behandeld zijn of worden op afdelingen intensive care volwassenen in Nederlandse ziekenhuizen.Studie 2: COVID opgenomen patienten: Gegevensverzameling van COVID-19 patiënten die opgenomen zijn op afdelingen of intensive care's in Nederlandse ziekenhuizen. Hierbij worden prospectief en retrospectief in ieder geval demografische data, gegevens over vitale parameters, lab data, en observationele data verzameld in een Castor database. Hiervoor wordt gebruik gemaakt van standaard WHO formulieren.Met behulp van machine learning technieken wordt deze data geanalyseerd om zo een model te maken, waarmee de IC drukte voor de komende week beter voorspelt kan worden. Tevens zal hiermee uiteindelijk de prognose van patiënten bepaald kunnen worden. Patiënten opgenomen op in alle Nederlandse ziekenhuizen (n=75) met een bevestigde COVID-19
Radboudumc		Onderzoek naar immuun cellen bij COVID-19 patiënten	Onderzoek naar de effecten van COVID-19 op het immuunsysteem, en wat het effect is van chloroquine en hydroxychloroquine op het immuunsysteem bij COVID-19 patiënten. De patiëntenpopulatie bestaat uit patiënten die worden opgenomen in het ziekenhuis in verband met COVID-19.
Radboudumc		Register study Covid-19 and people with intellectual disability	Aim of this project is to collect data on (suspected) COVID-19 infections among people with intellectual disabilities in a uniform manner and on a national scale during the ongoing Corona pandemic. From this registration, aggregated data will enable the Ministry of VWS to generate appropriate health care policies for these patients.

Radboudumc		Re-using care data for investigating COVID-19.	This study reuses care data (= data already acquired for clinical purposes) related to Covid-19. Re-using and analysing clinical (imaging) data of (suspected) Covid-19 positive patients will give insight in the diagnostic strategy of treating physicians, the impact of imaging during clinical progression and possible changes in treatment strategies. This registry/database must lead to a better understanding of Covid-19 epidemiology in general and more specific, the added value of diagnostic imaging.
Radboudumc		Biomarkers	Doel: meer inzicht krijgen in de afweerreactie op infectie met het nieuwe coronavirus SARS-CoV-2. Daartoe nemen we 3 dagen per week (maandag, woensdag, vrijdag) bij alle volwassen (>18 jaar) positieve corona patiënten opgenomen op de IC van het Radboudumc bloed af uit de arterielijn. Deels wordt dit bloed gebruikt voor bepaling van parameters die worden gebruikt in de klinische praktijk (mHLA-DR). Verder wordt plasma en RNA-monsters (voor RNA)
Radboudumc		Pharmacokinetics of Chloroquine and Remdesivir in SARS-COV2 positive patients	With this observational non-interventional study we will establish the pharmacokinetics of routinely used drugs for treatment of COVID-19 in SARS-COV2 positive patients. A heterogeneous group of patients will be studies to describe the pharmacokinetics and screen for causes of pharmacokinetic variability. This first step is pivotal to allows us to optimize dosing regimens. All patients receiving drugs for treatment of COVID-19, in line with current treatment guidelines will be included.
Radboudumc		Prognostic biomarkers in COVID-19 patients (BioMarCo-19)	In dit onderzoek wordt nagegaan of bepaalde biomarkers (o.a. cytokines in plasma en flow cytometrische gegevens op volbloed) als voorspellers kunnen dienen voor het klinisch beloop van COVID-19. Hiertoe wordt er gelijktijdig met standaard diagnostiek elke 48 uur (Radboudumc) of 3x/week (externe centra) 6 ml EDTA bloed afgenomen voor flow cytometrie en scheiding van plasma voor cytokinebepalingen. Deze resultaten worden gekoppeld aan klinische gegevens van en het beloop bij opgenomen COVID-19 patiënten.
Radboudumc		Invasive pulmonary aspergillosis complicating COVID-19 infection in critically ill patients : a prospective, multinational, multicentre study	
Radboudumc		Dutch Oncology COVID consortium	

UMC	Nr.	Titel	Samenvatting
Interventiestudies			
UMCG	1	Pre-emptive tocilizumab in hypoxic COVID-19 patients, a prospective randomized trial (PreToVid)	This is a prospective randomized study to assess the impact of pre-emptive (early) intervention in the inflammatory response in hypoxic COVID-19 patients with tocilizumab (an interleukin 6 receptor blocker).
UMCG	2	COVID-SHIELD: Inhaled hydroxychloroquine to prevent infection and transmission of COVID-19	This project aims to investigate the use of inhalable hydroxychloroquine (a known anti-malaria drug) in COVID-19. Pre-clinical and clinical studies will be performed to investigate whether the iHCQ has a value in the therapy of infected patients and disease prevention.
UMCG	3	Physiological effect of the addition of PEEP on top of optimal oxygen supplementation on oxygenation and work of breathing in COVID-19 patients.	The most important therapy for COVID-19 is supportive care. Some patients do not stabilize with regular oxygen supplementation. Our aim is to investigate how effective the addition of PEEP, provided with mask CPAP, is in COVID-19 patients being treated on the general ward.
Observationele studies			
UMCG	4	Prospective data and sample collection and 1-year follow to assess long-term consequences of COVID disease	The NEGASCO study is a prospective open-label observational study, collecting samples from 50 mild, 50 severe and 50 very severe COVID-19 patients. The main objective is to assess how the nasal epithelial transcriptional response to SARS-CoV2 relates to clinical outcome.
UMCG	5	COVID-19 follow-up study: understanding SARS-Cov2 infection and clinical development in healthcare workers	We follow SARS-CoV-2 positive persons that are not admitted to a hospital (e.g. healthcare workers) and take body fluids, including blood samples in the 4 weeks following the infection. With this we want to understand quantitatively the virus shedding and shedding time in different body samples, as well as the immune response by implementing newly introduced serological tests. This study will help to understand the transmission ways of SARS-CoV-2, other than droplet transmission.
UMCG	6	Evaluation of COVID Prevalence, Complications and Outcome in Elective and Emergency Surgery during COVID-19-Pandemic	There is an urgent need to understand the outcomes of COVID-19 infected patients who undergo surgery. Real-time data will inform the management of this complex group of patients who undergo surgery throughout the COVID-19 pandemic, improving their clinical care.
UMCG	7	ISARIC	There is an urgent need for more data on the safety and effectiveness of the proposed treatments for COVID-19 patients. The ISARIC (International Severe Acute Respiratory and Emerging Infection Consortium) and WHO aim to establish a standardised dataset in Europe with the aim to provide healthcare authorities with relevant information for the treatment of COVID-19.
UMCG	8	COVID-19 and pregnancy: a biobank of maternal and fetal tissue	Knowledge about COVID-19 transmission in pregnancy is limited. Data indicate very low chances of vertical transmission. This project combines cellular data of pregnant women and fetuses (swabs, cord/maternal blood, and placental biopsies) with clinical data to understand which fetus is at risk.
UMCG	9	Dealing with uncertainty in challenging times – a diary study among healthcare professionals during the COVID pandemic	COVID-19 has a large impact on hospitals. Healthcare professionals work and provide care under challenging conditions. We aim to gain insight in how healthcare professionals experience this stressful and challenging work environment and how this affects their psychological health and wellbeing.
UMCG	10	International registry on thoracic cancer patients with COVID-19 (Thoracic cancERs international coVid 19 cOLlaboraTion)	Observational retro-prospective: This is a longitudinal multi-centre study on thoracic cancer patients (any age, sex, histology, stage, in active treatment as well as in clinical follow-up) which, experienced COVID-19. Information on clinical features, clinical course, management and outcomes will be collected for both, thoracic cancer and positive COVID-19 patients.
UMCG	11	COVID-19 and end of life care	Assessment of experiences with regard to end of life care of healthcare professionals and relatives of patients deceased as a result of a corona virus infection by questionnaires.
UMCG	12	Voorspellers van slechte uitkomsten bij patiënten met COVID-19	Er is nog geen onderzoek naar kwetsbaarheid en geriatrische syndromen als voorspellers van ongewenste uitkomsten bij COVID-19. Het onderzoeken van deze maten in de prognose bij opgenomen patiënten, kan helpen bij de inzet van optimaal beleid voor de individuele patiënt.

UMCG	13	Prevalence of asymptomatic deep vein thrombosis in admitted COVID-19 patients	A multicenter cross-sectional diagnostic study to determine the prevalence of asymptomatic DVT in COVID patients admitted to the general ward. This is achieved by performing an ultrasound of both legs in patients without clinical suspicion of a DVT.
UMCG	14	Clinical features of COVID-19 in Pediatric Patients (COPP-study)	Data on clinical features and risk factors for COVID-19 disease in children are limited and the aim of this multicenter prospective cohort study is to describe clinical features of COVID-19 in Dutch paediatric patients.
UMCG	15	A clinical, histopathological, and mechanistic investigation of multiple organ failure associated with COVID-19 infection	Patients with COVID-19 have distinct clinical features. The pathophysiology of organ failure has not yet been investigated in detail. This project will focus on the clinical, histopathological, and mechanistic investigation of acute pulmonary and renal failure associated with COVID-19 infection.
UMCG	16	Invasive pulmonary aspergillosis complicating COVID-19 infection in critically ill patients: a prospective multinational, multicentre study	Invasive pulmonary aspergillosis can complicate severe influenza infections in ICU patients and is associated with a high mortality. With the current coronavirus disease pandemic, which can lead to severe viral pneumonitis, secondary infection with Aspergillus is hypothesized to occur.
UMCG	17	ERACODA	To establish a European database for collection of individual data of patients on chronic dialysis or living with a kidney transplantation that developed COVID-19.
UMCG	18	Impact of the COVID-19 pandemic on functioning and wellbeing of psychiatry patients	The COVID-19 pandemic has a large impact on daily life. People with pre-existing psychiatric conditions are at increased risk for negative consequences. Here, we aim to investigate the impact of the COVID-19 pandemic and the Dutch containment measures on the wellbeing and general functioning of psychiatric patients. The Lifelines Cohort Study Netherlands Study of Depression and Anxiety (NESDA).
UMCG	19	Outcomes and prognostic factors in coronavirus disease (COVID-19) in very old intensive care patients: COVIP	The international, multicenter study group (VIP-network) conduct a prospective, observational study to examine the relationship between age, co-morbidities, pretreatment frailty and outcomes in a group of elderly patients receiving critical care for COVID-19.
UMCG	20	Dagboekmetingen bij psychiatrische patiënten ten tijde van de corona pandemie	Psychiatrische klachten kunnen toenemen door het wegvallen van dagelijkse activiteiten en sociale steun. Dagboekmetingen kunnen meer zicht geven op hoe het met patiënten gaat ten tijde van de corona pandemie. Behandelaren kunnen hun welzijn zo op afstand monitoren.
UMCG	21	COVID-19 measures in nursing homes	The aim of this study is to get a good and timely picture of the course of the epidemic in nursing homes, the foreseeable and unforeseen problems during the epidemic and the choice and course of the measures taken.
Overige Studies (fundamenteel, public health, EU, ...)			
UMCG	22	Lifelines Covid-19 Research Project	Lifelines is the largest biobank within the Netherlands, studying 167,000 participants. who are living in the Groningen, Friesland and Drenthe. We are currently sending out weekly questionnaires on Covid-19 related symptoms, permitting us to study the risk factors that determine Covid-19 susceptibility and severity. We also are able to track the spread of Covid-19 throughout these provinces.
UMCG	23	High-throughput screening platform for the identification of pan-anti-betacoronaviral compounds	The project aims at setting up a fluorescent-based high-throughput screening platform where compounds can be checked for their ability to block the interaction between the two coronaviral proteins, which we have recently shown to be essential for betacoronavirus infection.
UMCG	24	FDA-approved drugs for the fight against beta-coronaviruses	Through molecular modelling, 12 FDA-approved drugs have been identified as potential inhibitors of one of the highly conserved beta-coronavirus proteases. To determine if they have a potential to block beta-coronaviral infection, we will treat cells with those drugs before infecting them with mouse hepatitis virus (MHV), a model betacoronavirus, but also hCoV-OC43, a circulating betacoronavirus infecting humans. FDA-drugs inhibiting the replication of these two beta-coronaviruses, will be then tested for their efficacy in blocking SARS-CoV2 infection.

UMCG	25	Setting up the BSL-3 lab for antiviral testing	We re-opened the BSL-3 facility to initiate SARS-CoV-2 research and to facilitate the initiatives of other researchers. Currently we are setting up virus production and the protocols for testing antivirals. We will test Ivermectin, tomatidine and derivatives for antiviral activity. Also, we will test antiviral activity of compounds obtained via collaboration with Erik Frijlink, Matthew Groves, Alex Domling, Fulvio Reggiori. We will also test (pilot study) antiviral activity of a known anti-bacterial coating in collaboration with Koninklijke van Wijhe Verf KVWV & WYDO. More initiatives are being discussed and these projects will be presented once the details are known.
UMCG	26	Investigating the neutralizing and enhancing properties of corona species cross-reactive and SARS-CoV-2 specific antibodies in patients with mild and severe symptoms	Investigating the neutralizing and enhancing properties of corona species cross-reactive and SARS-CoV-2 specific antibodies in patients with mild and severe symptoms. Clinical material via the 'biobank' study by Maarten ten Berge.
UMCG	27	In Vitro and In Situ investigation of the activity of hydroxychloroquine against SARS-CoV-2	This project is part of the COVID-SHIELD project. It aims to elucidate the mechanism of action of inhaled hydroxychloroquine against the infection of lung cells by the SARS-CoV-2 virus. Further, it aims to establish the drug concentration at which the effect occurs and tolerance of the cells.
UMCG	28	Serological CoV/COVID-19 biobank	Serological testing is important to identify immunity in COVID-19 patients. Quality of diagnostic tests will be important to make proper predictions on the effective immunity of patients and healthcare workers. This sero-biobank will allow us to identify optimal diagnostic biomarkers and test systems.
UMCG	29	Ultrastructural investigation of the membrane rearrangement induced by SARS-CoV-2	The goal of this project is to examine the impact of SARS-CoV-2 in infected cells. In particular, to examine how this virus replicates inside cells with nano-resolution.
UMCG	30	Role of body composition in Covid-19 outcome prediction	Sarcopenia (as measured on CT slices) is a strong predictor for outcome in many vulnerable patients (oncology, severe peripheral vascular disease etc.). In the light of the relation between Covid-19 and adipositas, we suspect that sarcopenia and body fat measurements on CT can predict outcome in ICU patients. For this study, CT scans already acquired will be correlated to outcome in this already ongoing multi-center trial, initiated by AUMC. Measurements will be performed with our UMCG (artificial intelligence enhanced) analysis software.
UMCG	31	Experiences of COVID-19/corona patients: a qualitative study	Interviews with COVID-19 patients (Groningen, Friesland) will identify experiences with first symptoms, disease progression, healthcare provision, patient education and social distancing/isolation. This qualitative study will contribute to public health education (www.pratenovergezondheid.nl).
UMCG	32	Clinical Prediction Corona	Clinical prediction of COVID-19 course of disease regarding chance of admittance on ICU and length of stay using Artificial Intelligence algorithms with automated input of relevant variables (age, gender, bmi, comorbidity, medication, PMH, CORAD score etc).
UMCG	33	Do the corona-regulations affect cancer patients' distress and informal social support?	Due to corona-regulations, cancer patients face a delay in treatments or trials that could improve survival and symptoms, and the social isolation rules. This research reinvites participants of an ongoing study on distress, symptoms and social contacts, to study the impact of corona on well-being.
UMCG	34	The psychological impact of the coronavirus (COVID-19) crisis: for better or worse?	Due to the coronavirus, people are faced with a range of restrictions and uncertainties. How do people deal with such a crisis? How do they adapt to the changing circumstances as time unfolds? Will it change people in the way they live their lives? What factors facilitate or impede adaptation?
UMCG	35	The perceived stress and fatigue and subsequent recovery of healthcare workers during the Covid 19 crisis	Stress and fatigue have a negative impact not only on the well-being of personnel themselves, but also on the quality and safety of care. The COVID-19 crisis demands a lot from healthcare workers. This study map stress, fatigue and recovery of medical personnel during and after the COVID-19 crisis
UMCG	36	Evaluating stress and fatigue in medical personnel during the COVID-19 crisis	To monitor vitality and resilience of nurses and doctors during the COVID-19 crisis and provide information for governance and planning by using a short validated questionnaire.

UMCG	37	ACE2 in COVID-19: Closing the door for an uninvited guest	Angiotensin Converting Enzyme 2 (ACE2) is the receptor for SARS-CoV-2 (CoV-2) to enter target cells. In this experimental project, we will test a small-molecule drug that prevents binding of CoV-2 to ACE2. This could potentially prevent viral spreading and tissue damage in patients with COVID-19.

UMC	Nr.	Titel	Samenvatting
Interventiestudies			
UMCU	1	REMAP-CAP: Randomized Embedded Multifactorial Adaptive Platform-Community Acquired Pneumonia, including ANACOR-IC	Platform trial IC: Randomized Embedded Multifactorial Adaptive Platform for IC patients with community acquired pneumonia. Existing domains that have relevance to the treatment of patients with severe CAP resulting from coronavirus: empiric antibiotic therapy, alternative corticosteroid strategies, oseltamivir, antiviral therapy, Immunemodulation therapy
UMCU	2	REMAP-COVID: Randomized Embedded Multifactorial Adaptive Platform-COVID-19	Platform trial non-IC: Randomized Embedded Multifactorial Adaptive Platform for non-IC COVID-19 patients, O2-sat > 94%
UMCU	3	ARCHAIC: An Open label cluster Randomized controlled trial of Chloroquine, hydroxychloroquine or no treatment in patients Admitted with moderate to severe COVID-19	cluster RCT non-IC COVID-19 patients, O2-sat > 94%. Trial of the safety and efficacy of Standard Care (SC), SC + chloroquine, SC + hydroxychloroquine. To evaluate if treatment with one of two antiviral agents versus no antiviral treatment results in less disease progression in patients with moderate to severe COVID-19 who require hospital admission.
UMCU	4	COVACTA (Tocilizumab)	double blind-RCT (fase 3) on efficacy of treatment of sever COVID-19 patients with tociluzimab (anti-IL-6)
UMCU	5	Reducing health care workers absenteeism by enhanced trained immune responses through BCG vaccination Corona-BCG elderly	RCT. De helft van de deelnemers zal het BCG-vaccin ontvangen en de andere helft een placebovaccin (een vloeistof zonder werking). Betreft Ziekenhuismedewerkers met zorg voor patiënten met SARS-CoV-2 infectie. Er is ruime ervaring in het gebruik van BCG-vaccin.
UMCU	6	Corona-BCG elderly	RCT on efficacy BCG vaccine on prevention COVID-19 in elderly (+60 years).
UMCU	7	Mesenchymal stromal cell transplantation for COVID-19.	Patients suffering from hematological malignancies with a proven SARS-2CoV2 infection will receive mesenchymal stromal cell transplantation, in line with our current GvHD treatment protocol. Clinical features and biological processes of GvHD and COVID19 are overlapping. Er is ruime ervaring in het gebruik van MSC in GVHD patienten.
Observationele studies			
UMCU	1	ISARIC eCRF (CAPACITY-COVID) voor uniforme data verzameling	Uniforme data verzameling. International initiative of ISARIC-WHO to standardize data collection of all highly suspected/positive COVID-19 patients Domain: Patients with highly suspected and ultimately proven COVID-19 (PCR)admitted to the hospital Methods: Standardized data collection through REDCap. REDCap environment hosted by the Netherlands Heart Insitute – Durrer Center ISARIC-WHO CRF (with an extention of various Data Collection instruments on cardiac history, cardiovascular risk factors, ECG, echocardiography, cardiac MRI, cardiac complications and follow-up at 7- and 30-days (for admitted patients).
UMCU	2	Uniforme data verzameling - Nethos	Uniforme data verzameling. Nethoss systeem, data patienten (zwangeren)
UMCU	3	Luchtweg epitheel kweekmodellen en behandeleffecten COVID-19	Pre-klinisch onderzoek naar het gebruik van levende luchtweg epitheel kweekmodellen om individuele variatie in ziekte en behandeleffecten van medicijnen te onderzoeken bij infectie met SARS-CoV2.
UMCU	4	Mathematical modeling COVID-19	Mathematical modelign studies on amongst other: impact of interventions on healthcare demand (i.e. ICU bed capacity) in the Netherlands; possible within hospital transmission of COVID-19 and implications for cohorting and testing of health care personnel; fatigue in social distancing and impact on transmission

UMCU	5	HG-COVID-19: Human Genetic Predisposition to Severe COVID-19 Infections	Pre-klinischonderzoek. Severe COVID-19 infections, at least in some individuals, can result from inborn errors of immunity. MARS infrastucture will used. Critically-ill COVID-19 patients without co-morbidity: Whole exome sequencing Genome wide analysis for disease-causing mutations Functional characterization candidate gene(s)
UMCU	6	Predicieonderzoek	Predictieonderzoek. Coördinatie waarbij "predictor van interesse" in de gehele context van de patiënt beschouwd wordt; data UMCU, RECOVER household, primary care and hospital study
UMCU	7	Innate immune phenotyping	Predictieonderzoek. Longitudinal follow-up study to monitor the innate immune system in all patients that are hospitalized in the UMCU. The innate immune characterization is performed by fully automated flowcytometry. Data are available within 20 min in GLIMPS
UMCU	8	COVIP	Predictieonderzoek, observationeel. what variables are associated with a poor outcome of of "elderly" COVID patients (>70 years) on the ICU Variables collected: demographics, comorbidities, frailty, SOFA-score, Katz-ADL, treatments given at the ICU, Outcome: alive at day 30 (optional: QoL after 3 months)
UMCU	9	RECOVER Social sciences - Healthcare worker survey	Korte cross-sectional survey. Voorbereidheid en percepties van zorgverleners is zeer belangrijk gebleken in het voorspellen van latere uitval van zorgverleners. Aandacht aan deze organisatorische en sociale aspecten is daarom van groot belang. doein: Europese zorgverleners (bijv. artsen, verpleegkundigen) met direct patiëntcontact die deel uitmaken van bestaande onderzoeksnetwerken (i.e. COMBACTE, PREPARE)
UMCU	10	RECOVER klinisch beloop	Observational study clinical symptoms and transmission
UMCU	11	CovidCord	Transmissieonderzoek in zwangere vrouwen met een
UMCU	12	RECOVER tansmissie onderzoek	Transmissieonderzoek. Gebruik makend van COMBACTE infrastructuur.
UMCU	13	RESCEU: REspiratory Syncytial virus Consortium in Europe - burden COVID in children	Transmissieonderzoek gebruikmakend van RESCEU infrastructuur (healthy birth cohort). Burden and household transmission is unknown. Healthy birth cohort study with weekly monitoring and intensified sampling in case of respiratory tract infections.
UMCU	14	Heracles: diagnosing presymptomatic COVID in health care workers	Observational cohort study of exposed asymptomatic health care workers. Repeated blood draws are used to analyzed IP-10 and TRAIL serum concentrations in relation to the risk of onset of symptomatic COVID.
UMCU	15	Continuous Monitoring COVID-19	Kwaliteitsverberbetering zorg. Continue monitoring kan bijdragen aan de zorg voor COVID-19 patiënten: mogelijkheid tot het eerder herkennen van verslechterende patiënten; Het aantal deurbewegingen en omkleedmomenten van de isolatiekamer wordt beperkt. Methode: Hiervoor wordt eerst een gecontroleerde implementatie uitgevoerd van een continu monitoringssysteem op afdeling. Hierna wordt een observationele studie verricht.
UMCU	16	Intubate COVID airway provider registry	Een internationaal prospectief kwaliteitsverbetering project met als doel reductie van het aantal gevallen van transmissie van COVID-19 van patiënten aan zorgverleners die zich bezighouden met luchtweg management (anesthesiologen en intensivisten). De hulpverleners zijn bij dit project de proefpersonen. Hulpverleners die intubaties uitvoeren op patiënten met een bewezen of verdenking op COVID-19 infectie, wordt gevraagd om elke intubatie te registreren in de app (registratie via intubatecovid.org). Nadien vindt er op dag 14 en dag 28 een follow-up plaats, waarbij er wordt nagegaan of hulpverleners symptomen hebben ontwikkeld die mogelijk passen bij een COVID-19 besmetting.

UMCU	17	LEAP: Leveraging Entrustment to Alternative Professionals	Werkbeleving onderzoek. Levereging entrustment to alternative professionals. Cohort artsen & verpleegkundigen.
UMCU	18	COCON	ziekenhuisepidemiologie ter ondersteuning van infectiepreventiemaatregelen
UMCU	19	CoKids	klinisch beloop/transmissie studie naar dragerschap, ziektelast en transmissie van en naar kinderen
UMCU	20	RNA-methylatie & SARS-CoV-2	Fundamenteel onderzoek naar rol RNA-methylatie op replicatie en infectie SARS-CoV-2 om beter te begrijpen hoe replicatie SARS-CoV-2 op moleculair niveau wordt gemoduleerd, wat hopelijk kan leiden tot nieuwe therapeutische targets. Betreft in vitro infectie van cellijnen met SARS-CoV-2
UMCU	21	RNA-methylatie & SARS-CoV-2	Fundamenteel onderzoek naar rol RNA-methylatie op replicatie en infectie SARS-CoV-2 om beter te begrijpen hoe replicatie SARS-CoV-2 op moleculair niveau wordt gemoduleerd, wat hopelijk kan leiden tot nieuwe therapeutische targets. Betreft in vitro infectie van cellijnen met SARS-CoV-2