

# COVID-19 Scientific and Public Health Policy Update – (21 April 2020)

*In addition to our weekly brief on the spread of COVID-19 and the actions that Africa CDC is taking to help member states, Africa CDC has begun to share a weekly brief detailing the latest changes in scientific knowledge and public health policy changes, as well as updates to the latest guidance from WHO and others. Contents of this document are not intended to serve as recommendations from the Africa CDC; rather, it is a summary of the fact base to help inform Member States. It is important to note that the outbreak is evolving rapidly and that the nature of this information will continue to change. So, we will continue to provide regular updates to ensure member states are informed of the most critical developments in these areas.*

## A. Executive summary

- In a cohort of 50 healthcare personnel with confirmed SARS-CoV-2 infections; results suggests that screening only for fever, cough, shortness of breath, or sore throat might have missed 17% of symptomatic healthcare personnel at the time of illness onset. A need to expand criteria for symptoms.
- A household cohort study of 105 index patients and 392 household contacts, reports secondary transmission of SARS-CoV-2 developed in 16.3% of household contacts and secondary attack rate higher in adults compared to children.
- Positive reports from Gilead's Remdesivir Phase 3 clinical trials. Preliminary results suggest that cases are responding well to treatment and most patients were discharged in less than a week and only two reported deaths.
- A literature review of 1,315 articles suggests that there are no therapies that have been shown effective to date. However, the most promising therapy for COVID-19 is remdesivir.
- Mask wearing reduces the transmissibility per contact by reducing transmission of infected droplets in both laboratory and clinical contexts. Public mask wearing is most effective at stopping spread of the virus when compliance is high. (Not-peer reviewed).
- Caseloads and incidence forecasts were estimated from a co-variate-based instrumental variable regression model for the pandemic in Africa. The results suggest that by end of June, around 16,3 M people in Africa will contract COVID-19 with Northern and Eastern Africa being the most and least areas affected, respectively. (Not-peer reviewed).
- New guidance have been released on considerations pertaining to vulnerable populations: refugees and migrants (WHO), alcohol and drugs users (PHE) and updates to Guidance on shielding and protecting people who are clinically extremely vulnerable from COVID-19 (PHE). With global shortages in laboratory testing consumables, PHE has issued guidance for alternatives for swabs transport media.

## B. New guidelines and resources

- WHO has published new and updated guidance on: [Preparedness, prevention and control of coronavirus disease \(COVID-19\) for refugees and migrants in non-camp settings](#); [List of COVID-19 reference labs](#) (updated) and [Booking form](#) (updated)
- US CDC has released new or updated guidance on: [Return to Work for Healthcare Personnel with Confirmed or Suspected COVID-19](#); [Strategies to Mitigate Healthcare Personnel Staffing Shortages](#); [Mitigation Strategies for Communities](#); [Considerations for School Closure](#); [Use Personal Protective Equipment when caring for Patients with Confirmed or Suspected COVID](#); [Interim Guidelines for Collecting, Handling, and Testing Clinical Specimens from Persons for Coronavirus Disease 2019 \(COVID-19\)](#) (update); [Interim Guidance for Homeless Service Providers to Plan and Respond to Coronavirus Disease 2019 \(COVID-19\)](#); [Cleaning and Disinfection for Non-emergency Transport Vehicles](#); [Interim Guidance for Risk Assessment and Public Health Management of Healthcare Personnel with Potential Exposure in a Healthcare Setting to Patients with Coronavirus Disease 2019 \(COVID-19\)](#); [Preparing for COVID-19: Long-term Care Facilities, Nursing Homes](#); [Pregnancy and Breastfeeding](#); [Standard Operating Procedure \(SOP\) for Triage of Suspected COVID-19 Patients in non-US Healthcare Settings: Early Identification and Prevention of Transmission during Triage](#); [Public Health Communicators: Get Your Community Ready](#); [Recommendations for Patients with Suspected or Confirmed COVID-19 in Outpatient Hemodialysis Facilities](#); [What you should know about COVID-19 to protect yourself and others](#); [Information for Pediatric Healthcare Providers](#) (update); [Case Report Form for Persons Under Investigation for COVID-19](#)
- ECDC has issued new/updated guidance and resources on: [Infographic: Using face masks in the community](#)
- PHE has issued new/updated guidance and resources on: [COVID-19: guidance on alternative swab types and transport media](#); [Considerations for acute personal protective equipment \(PPE\) shortages](#); [COVID-19: guidance for commissioners and providers of services for people who use drugs or alcohol](#); [Guidance on shielding and protecting people who are clinically extremely vulnerable from COVID-19](#)
- The full list of latest guidance and resources from WHO and other public health institutions kindly refer to previous reports.

## C. Scientific updates

### Basic science (virology, immunology, pathogenesis)

- A study identified multiple monoclonal antibodies targeting SARS-CoV-2 [S309 identified from memory B cells of patient who recovered from SARS in 2003, potentially neutralizes SARS-CoV-2](#) and SARS-CoV pseudoviruses as well as authentic SARS-CoV-2 by engaging the S receptor-binding domain. Results suggest that S309 and S309-containing antibody cocktails could be used for prophylaxis in individuals at high risk of exposure or as a post-exposure therapy to limit or treat severe disease. (Not peer-reviewed)
- A study on 48 patients with COVID-19 in Wuhan, China showed that RNAemia was diagnosed only in the critically ill group and seemed to reflect the severity of the disease and the level of inflammatory cytokine IL-6 in critically ill patients was almost 10 times that in other patients. Findings suggest that [detectable serum SARS-Cov-2 RNA\(RNAemia\) in COVID-19 patients was associated with elevated IL-6 concentration and poor prognosis](#).
- This perspective presents autopsy results and literature suggesting [the ability to form neutrophil extracellular traps \(NETs may contribute to organ damage and mortality in](#)

[COVID-19](#). Findings imply that targeting NETs directly and/or indirectly with existing drugs may reduce the clinical severity of COVID-19.

- The study evaluated the stability of SARS-CoV-2 and SARS-CoV-1 in aerosols and on various surfaces and estimated their decay rates, in five environmental conditions (aerosols, plastic, stainless steel, copper, and cardboard). Results suggest the [stability of SARS-CoV-2 was similar to that of SARS-CoV-1 under the experimental circumstances tested](#), indicating that differences in the epidemiologic characteristics of these viruses probably arise from other factors.
- This experiment provides [visual evidence of speech-generated droplets](#), when the person said “stay healthy,” numerous droplets ranging from 20 to 500 µm were generated, which increased with the loudness of speech. However, the experiment did not assess the relative roles of droplets generated during speech, droplet nuclei, and aerosols in the transmission of viruses.

### Epidemiology

- In a cohort, of 50 healthcare personnel with confirmed SARS-CoV-2 infections in King County, Washington, [suggests that screening only for fever, cough, shortness of breath, or sore throat might have missed 17% of symptomatic healthcare personnel at the time of illness onset](#); expanding criteria for symptoms screening to include myalgias and chills may still have missed 10%. Results suggests face mask use by all healthcare personnel for source control to prevent transmission from mildly symptomatic and asymptomatic healthcare personnel.
- A population-based study in Iceland, of 9,199 persons, shows that [43% of the participants who tested positive for SARS-CoV-2 were reported to have no symptoms](#), children under 10 years of age and females had a lower incidence of SARS-CoV-2 infection than adolescents or adults and males.
- In a study that analysed 414 throat swabs from 94 mild to moderately ill COVID-19 patients in China; [results suggest that the highest SARS-CoV-2 viral load in throat swabs at the time of symptom onset, and this inferred that infectiousness peaked on or before symptom onset](#). The study estimates that peak infectivity occurs between days 0 and 2 of symptom onset.
- A household cohort study of 105 index patients and 392 household contacts, reports [secondary transmission of SARS-CoV-2 developed in 16.3% of household contacts](#) and secondary attack rate in children was 4% compared with 17.1% to adults. Ages of household contacts and spouse relationship with index case are risk factors for transmission of SARS-CoV-2 within household.

### Diagnostics

- This study evaluated the diagnostic value to analysing throat and sputum samples in order to improve accuracy and detection efficiency, using paired specimens of throat swabs and sputum from 54 cases. [Sputum specimens showed a significantly higher positive rate \(76.9%\) than throat swabs \(44.2%\) in detecting viral nucleic acid using the RT-PCR assay](#). The detection rates of 2019-nCoV from sputum specimens were significantly higher than those from throat swabs.
- A prospective study of 44 patients in France, reported the sensitivity of SARS-CoV-2 RNA detection by multiplex real-time PCR from nasal secretions was 89.2% and its specificity was 100.0%. [Results suggest that the molecular detection of SARS-CoV-2 using nasal swab specimen was nearly equivalent to the detection using nasopharyngeal swabs](#).
- A study that analysed salivary samples of 25 COVID-19 patients using rRT-PCR, reports that all samples tested positive for the presence of SARS-CoV-2, while there was an

inverse association between LDH and Ct values. Results suggest [that saliva could be a reliable tool to detect SARS-CoV-2.](#)

- The paper proposes [LAMP-Seq, a barcoded Reverse-Transcription Loop-mediated Isothermal Amplification \(RT-LAMP\) protocol](#), where individual samples are processed in a single heat step, producing barcoded amplicons that can be shipped to a sequencing center, pooled, and analysed en masse. The paper suggests that if clinical testing validates the method, then millions of samples could be analysed per day, proving a more efficient method compared to current testing techniques.
- The imprecision of the MAGLUMI™ 2000 Plus 2019-nCov IgM and IgG assays according to the CLSI EP15-A3 guideline was assessed, the analytical validation demonstrated that imprecision and repeatability were acceptable (repeatability was <4% and <6% for IgM and IgG, respectively, whilst intermediate imprecision was <6%). [The findings of this study demonstrate the validity of the MAGLUMI 2000 Plus CLIA assay for the measurement of specific IgM and IgG in sera of COVID-19 patients.](#)
- The U.S. Food and Drug Administration (FDA) has issued Emergency Use Authorization (EUA) for the fastest available [molecular point-of-care test for the detection of novel coronavirus \(COVID-19\), delivering positive results in as little as five minutes](#) and negative results in 13 minutes using the Abbot ID NOW COVID-19 tests.
- FDA announced expansion of COVID-19 testing options, [spun synthetic swabs with a design similar to Q-tips could be used to test](#) patients by collecting a sample from the front of the nose.
- To date, the FDA has issued 39 individual [emergency use authorizations](#) for test kit manufacturers and laboratories. In addition, 16 authorized tests have been added to the EUA letter of authorization for high complexity molecular-based laboratory developed tests (LDTs).

### Care and Treatment

- Positive reports from Gilead's Remdesivir Phase 3 clinical trials. The University of Chicago Medicine recruited 125 COVID-19 patients, 113 had severe disease, [the results suggest that cases are responding well to treatment and most patients were discharged in less than a week](#) and only two reported deaths. No other clinical data from the Gilead studies have been released to date, and therefore these results only provide a snapshot of the overall study.
- A study on two groups of six rhesus macaques were infected with SARS-CoV-2 and treated with intravenous remdesivir or an equal volume of vehicle solution once daily. Results [report therapeutic remdesivir treatment initiated early during infection had a clear clinical benefit in SARS-CoV-2-infected rhesus macaques.](#) These data support early remdesivir treatment initiation in COVID-19 patients to prevent progression to severe pneumonia. (Not peer-reviewed)
- Results from in silico docking models suggest effective inhibitor for the COVID-19, zanamivir, indinavir, saquinavir, and remdesivir are among the exciting hits on the 3CLPRO main proteinase. It is also [exciting to uncover that Flavin Adenine Dinucleotide \(FAD\) Adeflavin, B2 Deficiency medicine, and Coenzyme A, a coenzyme, may also be potentially used for the treatment of SARS-CoV-2 infections.](#)
- A literature review of 1,315 articles [suggests that there are no therapies that have been shown effective to date.](#) However, the most promising therapy for COVID-19 is remdesivir. Oseltamivir has not been shown to have efficacy, and corticosteroids are currently not recommended. Results from included studies do not support stopping angiotensin-converting enzyme inhibitors or angiotensin receptor blockers in patients with COVID-19.



- A systematic review and meta-analysis of 7 studies evaluated of safety and efficacy of HCQ alone or in combination with Azithromycin. [Results suggest that HCQ seems to be promising in terms of less number of cases with radiological progression with a comparable safety profile to control/conventional treatment.](#) There is need for more data to come to a definite conclusion.
- A systematic review of a total of 45 articles evaluated the prophylactic role of chloroquine or hydroxychloroquine on SARS-CoV-2. Although pre-clinical results are promising, till to date, [there is inadequate evidence to support the efficacy of chloroquine or hydroxychloroquine in preventing COVID-19](#) as there were no original clinical studies on the prophylactic role of chloroquine or hydroxychloroquine on COVID-19 available.
- A multicentre, open-label, randomized controlled trial in China, with 150 patients hospitalized with COVID-19 assessed the efficacy and safety of hydroxychloroquine plus standard-of-care (SOC) compared with SOC alone. Results [suggest that hydroxychloroquine treatment alone did not show any effect on its primary endpoint, the negative conversion rate, exhibited a moderate reduction in lymphopenia and C-reactive protein levels.](#) (Not peer-reviewed)
- A parallel, double-blinded, randomized, phase IIb clinical trial, to assess safety and efficacy of two different chloroquine dosages as adjunctive therapy of hospitalized COVID-19 patients with in Manaus, Brazil. 81 patients were treated with azithromycin in combination with high- or low-dose chloroquine, [results suggest no evidence of significant benefits of chloroquine–azithromycin. Due to safety concerns, in the high-dose arm, the study was terminated early.](#) (Not peer-reviewed)
- The study described outcomes of 3 COVID-19 patients hospitalized in an Italian Hospital, treated with tocilizumab, observations highlight the efficacy of tocilizumab in the treatment of COVID-19 [suggesting that tocilizumab may represent an effective and safe option in the treatment of SARS-CoV-2-infected patients with severe pneumonia.](#)
- Six laboratory confirmed COVID-19 patients received the transfusion of ABO-compatible convalescent plasma in Wuhan, results suggest [transfusion of convalescent plasma led to a resolution of ground glass opacities \(GGOs\) and consolidation.](#) The study indicates that convalescent plasma therapy is effective and specific for COVID-19 and is believed to be a promising state-of-art therapy during COVID-19 pandemic crisis.
- FDA issued a new emergency use authorization (EUA) for [Extracorporeal Blood Purification \(EBP\) to ExThera Medical Corporation for emergency use of the Seraph 100 Microbind Affinity Blood Filter device to treat patients 18 years of age or older](#) with confirmed COVID-19 admitted to the intensive care unit with confirmed or imminent respiratory failure to reduce pathogens and inflammatory mediators from the bloodstream.

### Infection Prevention and Control

- [Mask wearing reduces the transmissibility per contact by reducing transmission of infected droplets in both laboratory and clinical contexts.](#) Public mask wearing is most effective at stopping spread of the virus when compliance is high. The decreased transmissibility could substantially reduce the death toll and economic impact while the cost of the intervention is low (Not-peer reviewed).
- A review of the evidence for horizontal distance travelled by droplets and the guidelines issued by the WHO, US CDC and European CDC on respiratory protection for COVID-19, report that the evidence base for current guidelines is sparse, and [the available data do not support the 1 - 2 m \(≈3 - 6 ft\) rule of spatial separation.](#) The weight of combined evidence supports airborne precautions for the occupational health and safety of health workers treating patients with COVID-19.

## Vaccines

- Pfizer and Biontech to co-develop potential COVID-19 vaccine. They will [jointly develop BioNTech's mRNA-based vaccine candidate BNT162 to prevent COVID-19 infection](#) which is expected to enter clinical testing by the end of April 2020.
- A US company Inovio Pharmaceuticals launched [Phase 1 Clinical Trial of its COVID-19 Vaccine INO-4800](#), with up to 40 healthy adult volunteers in two trial locations, Philadelphia and Kansas City. The pre-clinical animal studies show promising immune responses.
- [Antibodies to the RBD domain of SARS-CoV \(SARS-CoV-1\), a closely related coronavirus which emerged in 2002-2003, have been shown to potently neutralize SARS-CoV-1 S-protein-mediated entry, and the presence of anti-RBD antibodies correlates with neutraliza.](#) These data suggest that an RBD-based vaccine for SARS-CoV-2 could be safe and effective.
- The study evaluated published evidence on whether the SARS-CoV RBD219-N1 could be repurposed as a heterologous vaccine against COVID-19. [Findings suggest that convalescent serum from SARS-CoV patients can neutralize SARS-CoV-2.](#) The published studies suggest that virus neutralization does not depend on interference with the RBM and supports the possibility of developing a heterologous SARS-CoV RBD vaccine against COVID-19.
- A research lab in [Australia Nucleus Network will jointly hold clinical trials with Novavax, a bio-tech company based in the U.S for a possible vaccine against COVID-19.](#)

## D. Modelling Studies for Africa

*Africa CDC has enlisted the support of a group of modelling experts, with various backgrounds, to support the efforts to estimate the impact of the pandemic in the African continent. This section presents new models and dynamic tools with capacity for country-level forecasting as they become available. As the epidemic evolves in Africa, the potential to improve and refine forecasts for the countries of the continent increases. Member states are encouraged to share updated case, intervention, and risk factor data with Africa CDC, and with the groups mentioned in this section who are members of the Africa CDC modelling working group. For further support kindly [email](#) for more information.*

### Country epi-curves adjusted for seasonality, air travel and transmission reduction.

- [Online interactive model](#), forecasts the true number of infections (symptomatic and asymptomatic) at country-level over the period of the epidemic, and simulates the impact of different levels of transmission reduction, seasonal effects, and air travel patterns. Users can adjust the model for country and extent of transmission reduction expected. Estimates of the burden of infection are derived from statistical modelling and human behavioural forecasting informed by global COVID-19 disease parameters. Uncertainty is captured through a set of epidemic trajectories. The modellers hope to refine the model as more data on the effectiveness of mitigation measures and African infection risks informed by real case data become available. Member States can request customised models.
  - University of Oxford/ Australian National University/Harvard University/Google/GitLab & others: [EpidemicForecasting.org](#)

### Time to 1,000 and 10,000 cases by country.

- [This model uses global data at 25 March 2020 to forecast when individual African countries](#) will reach their first 1000 and 10,000 reported cases. By early June, 45 of the 55 countries on the continent are expected to have surpassed 10,000 reported cases.

Individual country timing is available, and at the time of writing, most countries are still within the 95% confidence bounds to reach their 1000 cases.

- South African Centre for Epidemiological Modelling and Analysis (SACEMA) / London School of Hygiene & Tropical Medicine (LSHTM) Centre for the Mathematical Modelling of Infectious Diseases

### Weekly Forecasts of Mortality and Reproduction Rate by country.

- [The model forecasts the number of reported deaths in the week ahead and calculates the effective reproduction number](#) - the number of people one person infects in a population where there is some immunity or intervention measures in place – at the time of infection for countries with active transmission. Projections based on death reporting is considered by some to be more reliable and stable over time than case reporting. Countries are eligible for the model when at least 100 reported deaths plus 10 deaths in each of the last two consecutive weeks have been reported. Currently 3 African countries (Algeria, Morocco, and Egypt) are included. Results may be used to monitor the impact of transmission control measures at the time of infection (~10 days prior) as well as assess levels of case ascertainment.
  - Imperial College London COVID-19 Response Team/MRC Centre for Global Infectious Disease Analysis

### Estimating the number of people at increased risk of severe COVID-19 disease by country.

- Evidence from other epidemic regions indicates that older people, males, and those with underlying conditions such as CVD, diabetes and CRD, are at greater risk of severe COVID-19 illness and death. In Africa, conditions such as HIV, TB are likely to have impact. [Estimating how many people could be at high risk of severe COVID-19 illness can help Member States design population-specific strategies](#), such as shielding and targeted surveillance.
- [The tool is user-adjustable calculator combining country-specific demographic and prevalent morbidity data](#) with global risk estimations. It allows a rapid assessment of the number and percentage of a country's population that would need to be targeted under different shielding policies. Further Africa-specific risk factors for contracting COVID-19 will be integrated as country and continent-wide data on severity and co-morbidity become available.
  - London School of Hygiene & Tropical Medicine Centre for the Mathematical Modelling of Infectious Diseases

### Other Modelling studies

- [Caseloads and incidence forecasts were estimated from a co-variate-based instrumental variable regression model](#). The results suggest that by end of June, around 16,3 M people in Africa will contract COVID-19 with Northern and Eastern Africa being the most and least areas affected, respectively. Incidence for the month of April 2020 is expected to be highest in Djibouti, 32.8 per 1,000 populations, while Morocco will experience among the highest fatalities; 1,045 deaths. (Not-peer reviewed)
- A mathematical modelling study to simulate SARS-CoV-2 [transmission in Kenya, estimates a reproductive number estimates of 1.78 to 3.46](#), if asymptomatic infected individuals are transmitting significantly, a rapidly growing epidemic which cannot be contained only by case isolation is expected, with a potential for a very high percentage of the population becoming infected (>80% over six months), and a significant epidemic of symptomatic COVID-19 cases. (Not peer-reviewed).
- A modelling study estimates that recurrent wintertime outbreaks of SARS-CoV-2 will probably occur after the initial, most severe pandemic wave. Results suggest that [prolonged or intermittent social distancing may be necessary into 2022](#) and even in the

event of apparent elimination, SARS-CoV-2 surveillance should be maintained since a resurgence in contagion could be possible as late as 2024. (Report)

## E. Related Public Health Policy

Contents of this section include only publicly announced public health policies. Sources of this section include official government communique, embassy alerts and press search.

### Africa

- Over the past week, as cases in the continent continue to rise, Member States have **continued to impose public health measures**:
  - **National lockdown**: [Libya](#), [Malawi](#).
  - **Mandatory wearing of masks in public**: [Guinea](#) and [Zambia](#).
  - **Community testing and door-to-door screening program**: [Botswana](#), [Ethiopia](#), [South Africa](#) and [Zimbabwe](#).
- This week additional Member States **extended their lockdowns and closure of all schools** including [eSwatini](#), [Cote d'Ivoire](#) and [Uganda](#) and started to enforce **additional measures to limit transmission**:
  - In [Botswana](#) a presidential pardon was granted to 149 prisoners to decongest the prisons.
  - [Ghana](#) launched an internet software application to help people with symptoms of the new coronavirus to report directly to the health institutions.
- **Refer to Section F and G** for the full summary of travel restrictions and social distancing measures implemented by African countries.
- [The Government of Ethiopia and United Nations World Food Programme \(WFP\)](#) has opened a new hub inside Addis Ababa's Bole International Airport from which COVID-19 supplies, equipment and humanitarian workers will be transported by air across Ethiopia and Africa.
- South Africa [ranks second in the world for reliable Covid-19 news](#), its lockdown regulations have made it more difficult by criminalising the dissemination of misinformation and fake or misleading news reports.
- Cameroon [engineers develop ventilator prototype](#); the initiative has been in collaboration with a local who supervised previous productions while the clinic served as a platform to test prototypes.
- [The International Committee of the Red Cross \(ICRC\)](#) has begun a mammoth exercise to distribute sanitary hygiene kits to Ivorian prisons.

### Rest of World

- [China](#) has reduced the number of people crossing its borders by 90%. It also has released a revised COVID-19 death toll for Wuhan, [boosting the official number of deaths there by 50%](#).
- [USA](#) has instructed temporarily halt funding to the World Health Organization (WHO) over its handling of the coronavirus pandemic.
- [The European Commission](#) plans to narrow controls on the export of coronavirus protective equipment.
- [Vietnam](#) has introduced hefty new fines equivalent to as much as six months of basic income for those found guilty of disseminating "fake news" or rumours on social media
- [Ukraine](#) has promised a \$1m reward to the country's scientists if they manage to develop a coronavirus vaccine.
- [Apple Inc.](#) has launched a site to show how lockdowns affect movement. Data could help inform public health authorities on whether people are driving less during lockdown orders.



## F. Summary of travel restrictions implemented by Member States

Contents of this section include only publicly announced public health policies. Sources of this section include official government communique, embassy alerts and press search.



- 1 Some countries still allow cargo, freight and emergency transport into and out of the country; Some MSs will still allow citizens and residents to enter but all borders are essentially closed
- 2 Banning entry or exit of citizens or suspending visa issuance to specific countries

For further detailed information for each country, refer to the full table [here](#).

## G. Summary of physical distancing measures implemented by Member States

Contents of this section include only publicly announced public health policies. Sources of this section include official government communique and press search. (as of 19 Apr 2020)



### Movement restriction



# of Member States that ■ Have implemented ■ Have not implemented

\*Source of information based on official reports, embassy alerts and press scanning

For further detailed information for each country, refer to the full table [here](#).

## H. Clinical Trials in Africa

List of registered interventional clinical trials in Africa

Location	Name	Interventions	Sponsor/Collaborators	Phase	Enrolment Target	Start date
Egypt	<a href="#">Efficacy of Faviprevir in COVID-19 Treatment</a>	<i>Drug:</i> Favipiravir <i>Drug:</i> Placebos	Tanta University	II/ III	40	17 April 2020
	<a href="#">Angiotensin Converting Enzyme Inhibitors in Treatment of COVID-19</a>	<i>Drug:</i> ACEIs <i>Drug:</i> Conventional treatment	Tanta University	III	60	15 April 2020
	<a href="#">A Real-life Experience on Treatment of Patients With COVID-19</a>	<i>Drug:</i> Chloroquine <i>Drug:</i> Favipiravir <i>Drug:</i> Nitazoxanide <i>Drug:</i> Ivermectin <i>Drug:</i> Niclosamide	Tanta University	II/ III	100	15 April 2020
	<a href="#">The Efficacy of Ivermectin and Nitazoxanide in COVID-19 Treatment</a>	<i>Drug:</i> Chloroquine <i>Drug:</i> Nitazoxanide <i>Drug:</i> Ivermectin	Tanta University	II/ III	60	17 April 2020
	<a href="#">Efficacy of Natural Honey Treatment in Patients With Novel Coronavirus</a>	<i>Dietary Supplement:</i> Natural Honey <i>Other:</i> Standard Care	Misr University for Science and Technology	III	1,000	25 March 2020

<p><b>Nigeria</b> and Pakistan</p>	<p><b>CRASH-19:</b> <a href="#">Coronavirus Response - Active Support for Hospitalised Covid-19 Patients</a></p>	<p><i>Drug:</i> Aspirin <i>Drug:</i> Losartan <i>Drug:</i> Simvastatin</p>	<p>London School of Hygiene and Tropical Medicine</p>	<p>III</p>	<p>10,000</p>	<p>April 2020</p>
<p><b>South Africa, Zambia</b> and 11 other countries outside Africa</p>	<p>CROWN CORONA :<a href="#">CROWN CORONATION: Chloroquine Repurposing to healthWorkers for Novel CORONAvirus mitigation</a></p>	<p><i>Drug:</i> Low-dose chloroquine/hydroxychloroquine  <i>Drug:</i> Mid dose chloroquine or hydroxychloroquine  <i>Drug:</i> High does chloroquine or hydroxychloroquine  <i>Drug:</i> Placebo</p>	<p>Washington University School of Medicine  Bill and Melinda Gates Foundation</p>	<p>III</p>	<p>55,000</p>	<p>April 2020</p>
<p><b>South Africa</b></p>	<p>SOLIDARITY: <a href="#">Public health emergency SOLIDARITY trial of treatments for COVID-19 infection in hospitalized patients</a></p>	<p>Local standard of care alone OR Local standard of care plus one of: 1. Remdesivir 2. Chloroquine or hydroxychloroquine 3. Lopinavir + ritonavir 4. Lopinavir + ritonavir plus interferon-beta</p>	<p>WHO</p>	<p>III</p>	<p>10,000</p>	<p>01 March 2020</p>
<p><b>Tunisia</b></p>	<p><a href="#">Assessment of the Efficacy and Safety of (HCQ) as a Prophylaxis for COVID19 for Health Professionals</a></p>	<p><i>Drug:</i> Hydroxychloroquine <i>Drug:</i> Placebo oral tablet</p>	<p>Abderrahmane Mami Hospital</p>	<p>III</p>	<p>530</p>	<p>15 April 2020</p>

	<p><b>COVID+PA:</b>  <a href="#">Assessment of Efficacy and Safety of HCQ and Antibiotics Administrated to Patients COVID19(+)</a></p>	<p><i>Drug:</i> Hydroxychloroquine  <i>Drug:</i> Azithromycin</p>	<p>Abderrahmane Mami                  Hospital                  Eshmoun Clinical                  Research Centre</p>	<p>IV</p>	<p>400</p>	<p>15 April 2020</p>
--	--	---	---	-----------	------------	----------------------