



**24<sup>th</sup> APRIL 2020**  
**(From April 23 and 24)**

**UPDATE ON GLOBAL, REGIONAL AND NATIONAL DEVELOPMENTS ON  
COVID-19**

THE KNOWLEDGE SYNTHESIS TEAM  
CDT-AFRICA, ADDIS ABABA UNIVERSITY  
[www.cdt-africa.org](http://www.cdt-africa.org)

## Summary

- As of April 24, 9:30 GMT, the novel coronavirus infected more than 2.5 million (2,725,995) people, with 751,772 recoveries and 191,063 deaths occurred.
- In Africa, 27,427 cases, 1,298 deaths, and 7,474 recoveries were reported as of April 24, 1:00 PM EAT
- Preliminary data from antibody test results indicate that many more people may have been infected than so far reported and the mortality may also be much lower. However, the reliability of antibody testing continues to be in doubt.
- There is more indication that there may not be SARS-CoV-2 transmission in early and mid-pregnancy. However, there is still a need for more evidence on vertical transmission of SARS-CoV-2 and birth outcomes
- The search for new treatments continues with more doubt emerging from a media report of a study of hydroxychloroquine involving 1600 patients that indicates no benefit. But the study is of a non-standard design for treatment evaluation.
- Germany is starting the first clinical trial of four COVID-19 vaccine candidates
- Alternative public health control measures are being proposed in places where the economic impact in vulnerable African countries may be substantial.

## Recommendations

- While promising alternative control measures that offer maximum health and economic protection are being suggested, implementation of these alternatives must not be at the expense of the health of Africans. The risk of the alternatives has to be evaluated carefully and monitoring mechanisms need to be put in place to address any changes in the spread of the disease.
- Further evidence is required on vertical transmission.
- While the vaccine development effort is continuing, engaging in clinical trials of vaccines is important so that Africa can contribute to the vaccine development. Additionally, participation in the development will offer African countries confidence in what is being developed.
- Face coverings are likely to have benefits. A public education and enforcement mechanism are important. Nevertheless, public enforcement is better and more effective than legal enforcement.

## Disease transmission

- Previous reports suggested that there was no mother to child transmission of COVID-19 through effective protection measures during delivery. These studies have mainly focused on women in late pregnancy. A recent case study among two pregnant women in China, who were infected with COVID-19 in their first trimester, reported that there was no SARS-CoV-2 detected in the amniotic fluid in the early and mid-pregnancy [Yu 2020].
- Concerning birth outcomes, published studies to date seem to be reassuring that pregnant women with COVID-19 might not be at increased risk for severe complications or adverse reproductive health outcomes. However, these studies have been limited to case series and case reports and lack sufficient evidence on vertical transmission of SARS-CoV-2 and birth outcomes. Therefore, multiple strategies are recommended to address the knowledge gaps surrounding the effect of COVID-19 in pregnancy. These include seroprevalence surveys, sociobehavioural and psychological research and sentinel surveillance in order to improve understanding of the disease course and complications of SARS-CoV-2 infection in pregnant women and their effect on adverse pregnancy, fetal, and infant outcomes [Buekens, 2020].

## Update on Epidemiology (Incidence, mortality, recovery & epidemiologic parameters)

### *Global*

- As of April 24, 9:30 GMT, the novel coronavirus infected more than 2.5 million (2,725,995) people with 191,063 deaths.
- Majority 1,734,263 (97%) of the active cases are having mild (or moderate) form of the disease, which previously accounted for 95% of the total active cases.
- The percentage of recoveries also slightly increased to 751,772 (80%), while it was constantly 79% in the last few weeks.
- A total of 85,343 new cases and 6,618 new deaths were reported in the last 24 hours, which is slightly higher than the previous day's report (80,781 new cases and 6,624 new deaths).
- The highest number of cases (886,709) were reported from the United States of America (USA) which accounted for a third of the total cases in the world New York remains the most affected state with a total number of 268,581 cases.
- More than 50,000 (50,243) people have died with coronavirus in USA and almost half 20,861 (41.5%) of these deaths occurred in New York state.
- Spain (213,024 cases & 22,157 deaths), Italy (189,973 cases & 25,549 deaths), France (158,183 cases & 21,856 deaths) and Germany (153,129 cases & 5,575 deaths) are the other most affected countries with high number of cases and deaths worldwide.

### *Africa*

- According to Africa CDC report, a total of 27,427 COVID-19 cases, 1,298 deaths, and 7,474 recoveries were reported in Africa as of April 24, 1:00 PM EAT.
- The five countries in Africa with the highest cumulative number of cases (proportion of reported cases in Africa) are South Africa 3,953 (14.4%), Egypt 3,891 (14.1%), Morocco 3,568 (13%) Algeria 3,007 (11%), and Cameroon 1,430 (4.8%).
- As compared to previous day report, the number of new cases within the last 24 hours is increased in South Africa (170 to 308) and Egypt (169 to 232), while it's decreases in Algeria (99 to 97) and Morocco (237 to 122).
- The highest number of deaths occurred in Algeria (407) followed by Egypt (287), Morocco (155) and South Africa (75), which in total accounted for more than two third (71%) of total deaths reported in the continent.

### *Ethiopia*

- Among 1,898 laboratory tests that were carried out in the past two days, only one person was confirmed to be positive for COVID-19 raising the total number of cases to 117.
- The additional case is a 60 years old female who came from United Kingdom and was staying in mandatory quarantine before confirming the test.
- According to the Ministry of Health report, additional four people (two from Addis Ababa and two from Bahir Dar) recovered from the disease making the total number of recoveries to 25.
- Therefore, currently there are 117 confirmed cases, 3 deaths and 25 recoveries as of April 24, 1:00 PM EAT.
- The ministry also stated that all of the active cases (87) are having mild form of the disease and they are receiving medical care in the designated treatment centre.

### **Update on Diagnosis**

- According to FIND diagnostics, as of 24th April 2020 [11:00am, EAT], there are 239 molecular assay tests commercialized and 43 tests under development for COVID-19. Also, there are, 235 immunoassay tests commercialized and 46 tests under development (FIND, 2020).
- Antibody testing is considered crucial to restarting the economy and such a test is being rolled out in the United States. According to the governor, in a state wide program that tested 3,000 supermarket customers across New York State, 14% had tested positive. In New York city, this was 20%. It was noted that if the pattern holds, such wide infection might mean that the death rate was far lower than believed (Goodman and Rothfeld, 2020). The

relevance of these findings, particularly in the context of the uncertainty about the accuracy of the antibody testing, has been questioned (Baskhar et al., 2020).

### Update on Treatment

- According to media outlets, a records-based study of 1600 patients across 20 hospitals, where patients were receiving 4 treatment alternatives (hydroxychloroquine vs hydroxychloroquine+ azithromycin vs chloroquine vs standard of care) did not show benefit to receiving any of the active treatments. Although prudent to await the peer reviewed publication or at least the preprint, it is not possible to draw conclusions a non-randomised and non-prospective study.

### Update on Vaccine

- BioNTech and Pfizer Inc., have announced that the German regulatory authority, Paul-Ehrlich-Institut, has approved human trials of potential coronavirus vaccines for BioNTech's BNT162 vaccine program. It was indicated that the two companies were partnering to develop four vaccine candidates under a programme named BNT162. The trial is the first clinical trial of a COVID-19 vaccine candidate to start in Germany, and is part of a global development program. The dose escalation in the Phase 1/2 trial will include approximately 200 healthy subjects between the ages of 18 and 55 and will target a dose range of 1 µg to 100 µg aiming to determine the optimal dose for further studies as well as evaluate the safety and immunogenicity of the vaccine. Tests of the vaccine in the United States are planned, once regulatory approval for testing on humans- had been secured (BIONTECH and PFIZER, 2020, Reuters, 2020).
- The Oxford University team's experimental product, called "ChAdOx1 nCoV-19" had begun phase I/II trial. According to news report in BBC, two volunteers were injected with the vaccine for the study. The trial aims to recruit more than 800 people, half will receive the Covid-19 vaccine, and half a control vaccine which protects against meningitis but not coronavirus. The Oxford team is also considering a vaccine trial in Africa, possibly in Kenya, where the rates of transmission are growing from a lower base (BBC News, 2020).

### Update on public health control measures

#### *Public health interventions*

- A recent mathematical modelling exercise estimate has investigated the possibility of employing measures which are not as extreme as a total lock down, and indicates that acceptable levels of transmission may be achievable. The study targets some

African nations with economy too vulnerable to withstand the effect of community containment. Three African nations (Niger, Nigeria, and Mauritius) were selected based on their difference in demographics (age) (Zandvoort, 2020).

- Self-isolation of symptomatic cases in the absence of other public health interventions will reduce the incidence of severe cases in the first 12 months of the epidemic.
  - But this is considering an ideal 100% adherence to the intervention (Zandvoort, 2020).
- Population wide physical distancing to be implemented over 12 months period will reduce the incidence of severe cases by 90%, assuming a hypothetical 100% adherence. The model showed a promising reduction in severe cases (only 18% of an unmitigated outbreak) even when the out-door contact is decreased by only 40% (Zandvoort, 2020).
- Shielding high risk individuals: entails reducing the frequency of contact between high risk people and the rest of the community.
  - This would be achieved by keeping high risk individuals in a separate room or swapping houses among members of a neighbourhood to keep the high-risk groups in one house.
    - This measure does not significantly affect the transmission in the general population but can significantly reduce severe cases.
    - It is estimated that this approach does not contribute much to the control in Niger and Nigeria. But Mauritius with a higher proportion of elderly population can decrease the number of severe cases by more than 10% if contact between the high-risk groups and the rest of the population is reduced to 60% or less (Zandvoort, 2020).

## Update on personal protective equipment

### *Face mask use*

- A non-peer reviewed publication in preprint supports the trend and recommends the adoption of public cloth mask wearing as an effective form of source control, in combination with existing hygiene, distancing, and contact tracing strategies and also that public officials and governments to strongly encourage the use of widespread face masks in public, including the use of appropriate regulation (Howard et al., 2020).
- In an effort to make medical masks reusable, experts are exploring for ways to decontaminate medical masks without affecting the efficacy of the masks. A study, accepted to the Journal of

Medical Virology, used steam to decontaminate the medical and N95 masks from avian coronavirus of infectious bronchitis virus, which mimics SARS-CoV-2. The result showed that the avian coronaviruses were completely inactivated through the 5-minute steaming on boiling water and the masks retained their blocking efficacy even after being steamed on boiling water for 2 hours. The authors noted that medical masks are adequate for use on most social occasions, and both medical masks and N95 masks can be reused for a few days with steam decontamination between use (Ma et al., 2020).

### Psychosocial wellbeing of health professionals during COVID 19 outbreak

- A study surveyed 1563 health professionals involved in the care and treatment of COVID 19 from all over China to assess the prevalence of insomnia. The study reported the prevalence to be 36.1% (Zhang et al., 2020). The benefit of the study is unclear because associated impairment was not evaluated. Generally, self-reported sleep problem is common in the general population and among health professionals.

### Reference list

- African Union; COVID -19 updates. <https://au.int/en/covid19>
- BASKHAR, G., BROMWICH, J. E., BELLUCK, P., CRAMER, M., FERRÉ-SADURNÍ, L., GOLDBAUM, C., GOODMAN, J. D., HONG, N., NEWMAN, A., NIR, S. M., RABIN, R. C., ROTHFELD, M. & STEWART, N. 2020. Cuomo Says 21% of Those Tested in N.Y.C. Had Virus Antibodies. 23 April 2020.
- BBC NEWS. 2020. Coronavirus: First patients injected in UK vaccine trial [Online]. Available: [https://www.bbc.com/news/health-52394485?at\\_medium=custom7&at\\_custom3=BBC+News&at\\_custom4=FD833572-8583-11EA-A23F-27BFFCA12A29&at\\_custom1=%5Bpost+type%5D&at\\_custom2=facebook\\_page&at\\_campaign=64&fbclid=IwAR2AJBhnrw16Vq38BsSqfKnUr\\_b7eUQFwLMrGZuVySj\\_NAKG-U8w9JQKYE8](https://www.bbc.com/news/health-52394485?at_medium=custom7&at_custom3=BBC+News&at_custom4=FD833572-8583-11EA-A23F-27BFFCA12A29&at_custom1=%5Bpost+type%5D&at_custom2=facebook_page&at_campaign=64&fbclid=IwAR2AJBhnrw16Vq38BsSqfKnUr_b7eUQFwLMrGZuVySj_NAKG-U8w9JQKYE8) [Accessed 23 April 2020].
- BIONTECH AND PFIZER. 2020. BioNTech and Pfizer announce regulatory approval from German authority Paul-Ehrlich-Institut to commence first clinical trial of COVID-19 vaccine candidates [Online]. Available: <https://www.pfizer.com/news/press-release/press-release>

[detail/biontech\\_and\\_pfizer\\_announce\\_regulatory\\_approval\\_from\\_german\\_authority\\_paul\\_ehrlich\\_institut\\_to\\_commence\\_first\\_clinical\\_trial\\_of\\_covid\\_19\\_vaccine\\_candidates](https://www.biontech.com/en/press-releases/2020-04-21-biontech-and-pfizer-announce-regulatory-approval-from-german-authority-paul-ehrlich-institut-to-commence-first-clinical-trial-of-covid-19-vaccine-candidates)

[Accessed 24 April 2020].

- Buekens, P., Alger, J., Bréart, G., Cafferata, M. L., Harville, E., & Tomasso, G. (2020). A call for action for COVID-19 surveillance and research during pregnancy. *The Lancet Global Health*. doi: 10.1016/s2214-109x(20)30206-0.
- Center of Disease Control and Prevention Africa <https://africacdc.org/covid-19-update/>
- CNN. 2020. New York researcher says preliminary results of hydroxychloroquine study are ready, but state hasn't released them [Online]. Available: <https://edition.cnn.com/2020/04/22/health/hydroxychloroquine-new-york-study-results-unreleased/index.html> [Accessed 24 April 2020].
- Ethiopian Public Health Institute CoronaVirus Update; <https://www.ephi.gov.et/index.php/public-health-emergency/novel-corona-virus-update>
- FIND. 2020. SARS-COV-2 DIAGNOSTIC PIPELINE [Online]. Available: <https://www.finddx.org/covid-19/pipeline/> [Accessed 24 April 2020].
- GOODMAN, J. D. & ROTHFELD, M. 2020. 1 in 5 New Yorkers May Have Had Covid-19, Antibody Tests Suggest. *The New York Times*, 23 April 2020.
- HOWARD, J., HUANG, A., LI, Z., TUFEKCI, Z., ZDIMAL, V., VAN DER WESTHUIZEN, H.-M., VON DELFT, A., PRICE, A., FRIDMAN, L., TANG, L.-H., TANG, V., WATSON, G. L., BAX, C. E., SHAIKH, R., QUESTIER, F., HERNANDEZ, D., CHU, L. F., RAMIREZ, C. M. & RIMOIN, A. W. 2020. Face Masks Against COVID-19: An Evidence Review. Preprints.
- John Hopkins, Corona Virus Resources <https://coronavirus.jhu.edu/map.html>
- LEUNG, C. C., LAM, T. H. & CHENG, K. K. 2020. Let us not forget the mask in our attempts to stall the spread of COVID-19. *Int J Tuberc Lung Dis*, 24, 364-366.
- MA, Q. X., SHAN, H., ZHANG, C. M., ZHANG, H. L., LI, G. M., YANG, R. M. & CHEN, J. M. 2020. Decontamination of face masks with steam for mask reuse in fighting the pandemic COVID-19: experimental supports. *J Med Virol*.
- REUTERS. 2020. Germany approves trials of COVID-19 vaccine candidate [Online]. Available: [https://www.reuters.com/article/us-health-coronavirus-vaccine-biontech/germany-approves-trials-of-covid-19-vaccine-candidate-idUSKCN2241DN?utm\\_medium=Social&utm\\_source=Facebook&fbclid=IwAR2BzW2bXiEp5UQ2Zv5jSgCFHY6A7y\\_CBkXk3fh5mMLiinm5baxEDmqYjA](https://www.reuters.com/article/us-health-coronavirus-vaccine-biontech/germany-approves-trials-of-covid-19-vaccine-candidate-idUSKCN2241DN?utm_medium=Social&utm_source=Facebook&fbclid=IwAR2BzW2bXiEp5UQ2Zv5jSgCFHY6A7y_CBkXk3fh5mMLiinm5baxEDmqYjA) [Accessed 24 April 2020].



- Worldometer, Corona Virus <https://www.worldometers.info/coronavirus/>
- Yu, N., Li, W., Kang, Q., Zeng, W., Feng, L., & Wu, J. (2020). No SARS-CoV-2 detected in amniotic fluid in mid-pregnancy. *The Lancet Infectious Diseases*. doi: 10.1016/s1473-3099(20)30320-0
- Zandvoort Kv, Jarvis CI, Pearson CAB, Davies NG, Ratnayake R, Russell TW, et al. Response strategies for COVID-19 epidemics in African settings: a mathematical modelling study. In: *Medicine LSoHaT*, editor. 2020.
- ZHANG, C., YANG, L., LIU, S., MA, S., WANG, Y., CAI, Z., DU, H., LI, R., KANG, L. & SU, M. 2020. Survey of Insomnia and Related Social Psychological Factors Among Medical Staff Involved in the 2019 Novel Coronavirus Disease Outbreak. *Frontiers in Psychiatry*, 11, 306.