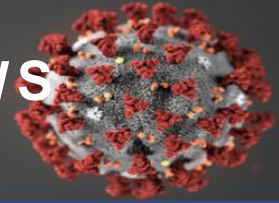


# WEEK IN REVIEW

## COVID-19 SCIENTIFIC NEWS

### JUNE 8 - 12, 2020



**MS Literature Review Task Force: Michael Galie, Mary Chandler Gwin, Feiyun Ma, Laiken Price, Cath Rueckeis, Chris Sefton, and Erin Xu**

Faculty Advisor: Louise King, MD

The MS Literature Review Task Force is a group of UNC medical and pharmacy students who conduct daily literature searches for scientific updates on COVID-19. Contact Mary Chandler Gwin, [mary\\_gwin@med.unc.edu](mailto:mary_gwin@med.unc.edu) for any comments, questions, etc.

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## LATEST ARTICLES:

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### CLINICAL INFORMATION

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[Epidemiology, Clinical Features, and Disease Severity in Patients With Coronavirus Disease 2019 \(COVID-19\) in a Children's Hospital in New York City, New York.](#) Zachariah, P. *et al. JAMA Pediatrics.* 03 Jun 2020.

- A case series that was conducted at a Children's Hospital in New York set out to describe the clinical and laboratory features of hospitalized patients with or without severe disease course. 50 children and adolescents were included in the study. Comorbidities were common among the patients hospitalized, and obesity was found to be the most prominent. Infants may be less likely to have severe disease contrary to previous reports. This study highlights the variability of symptoms that can be present at presentation and the need for widespread testing.

### PUBLIC HEALTH/EPIDEMIOLOGY

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[Contact Tracing Assessment of COVID-19 Transmission Dynamics in Taiwan and Risk at Different Exposure Periods Before and After Symptom Onset.](#) Hao-Yuan Cheng ; Shu-Wan Jian; Ding-Ping Liu. *et al. JAMA Internal Medicine.* 01 May 2020.

- This case-ascertain study in Taiwan identified 100 patients with laboratory confirmed COVID diagnosis and their close contacts around the time they developed symptoms. Among the 2761 close contacts of the 100 confirmed cases, 22 secondary cases (attack rate 0.7%) were identified and the contact history and timeline were documented. The study concluded that attack rate is higher among family contacts than in healthcare settings. Secondary cases were also more likely to develop when people come into close contact with confirmed COVID patients when they were pre-symptomatic or within the first 5 days of the onset of their symptoms. This study highlights the critical time window for the transmission of COVID and provides insights to why more measures are needed besides contact-tracing and case isolation to sever the transmission chain.

[Physical distancing, face masks, and eye protection to prevent person-to-person transmission of SARS-CoV-2 and COVID-19: a systematic review and meta-analysis.](#) Chu, D. K., *et al. The Lancet,* 1 June 2020.

- A meta-analysis was performed looking at the effects of physical distancing and PPE use in lowering the transmissions of SARS, MERS, and COVID19. They concluded that transmission of virus was lower with physical distancing of 1 m or more. Face masks and eye protection use also resulted in reduction of risk of infection.

### THERAPEUTIC DEVELOPMENTS

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[A Randomized Trial of Hydroxychloroquine as Postexposure Prophylaxis for Covid-19](#). D.R. Boulware, et al., *NEJM*. 3 June 2020.

- This randomized, double-blind, placebo-controlled trial evaluates postexposure prophylaxis with hydroxychloroquine after exposure to Covid-19. 414 participants were randomised in the hydroxychloroquine group and 407 were in the placebo group. Intervention was started within 4 days after exposure with placebo/hydroxychloroquine 800 mg once, followed by 600 mg in 6-8 hrs and then 600 mg daily for additional 4 days. The primary outcome was the incidence of either laboratory-confirmed Covid-19 or illness compatible with Covid-19 within 14 days. No significant difference in the incidence of new illness compatible with COVID-19 between HCQ group ( 11.8%) and placebo group ( 14.3%) was found , the absolute difference was -2.4 % (95% confidence interval -7.0 to 2.2;P=0.35>0.05) , however the side effects were more common with HCQ than with placebo.

## BASIC SCIENCE

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[The ABO blood group locus and a chromosome 3 gene cluster associate with SARS- CoV-2 respiratory failure in an Italian-Spanish genome- wide association analysis](#). Ellinghaus D, et al., *Preprint medRxiv*. 2 June 2020.

- Authors claim higher risk of infection for A-positive patients (OR = 1.45 CI, 1.20-1.75) and lower risk of infection for blood group O (OR = 0.65 CI, 0.53 - 0.79) based on comparison of blood types of COVID-19 patients vs random sample of blood types from blood donors. There were no differences in respiratory failure severity between blood groups within COVID-19 cases. Two SNPs, rs11385942 and rs657152, were associated with increased rates of mechanical ventilation in COVID-19 patients, with odds ratios of 2.11 (1.70-2.61) and 1.39 (1.22-1.59), respectively after adjusting for age and sex. Authors did not control for any other factors (comorbidities, baseline health, etc).

[SARS-CoV-2 Reverse Genetics Reveals a Variable Infection Gradient in the Respiratory Tract](#). Hou, Y. J., et al., *Cell*, 23 July 2020.

- Using RNA in situ mapping, authors found the highest ACE2 expression in the nose with decreasing expression throughout the lower respiratory tract. Same gradient of SARS-CoV-2 infection in proximal (high) versus distal (low) pulmonary epithelial cultures. Ciliated airway cells and AT-2 cells are primary targets for SARS-CoV-2 infection.

## LAST EIGHT WEEKS IN REVIEW

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This is our last edition of the Covid-19 Week in Review. We have learned so much about Covid-19 as a scientific community during that time. We wanted to present the articles we felt were most important in our search for knowledge about Covid-19

## CLINICAL INFORMATION

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[Clinical and Chest Radiography Features Determine Patient Outcomes In Young and Middle Age Adults With COVID-19](#). Toussie, D. et al., *Radiology*, 14 May 2020.

- In this retrospective study, patients between the ages of 21 and 50 years old who presented to the EDs of an urban multicenter health system with laboratory confirmed Covid-19 had their chest x-rays scored and analyzed to evaluate clinical parameters with CXR scores and patient outcomes. CXR scores were shown to be predictive of risk for hospital admission and intubation.

[ICU and ventilator mortality among critically ill adults with COVID-19](#). Auld, S. et al. *Preprint*. April 26, 2020.

- Mortality rates on ventilators and off-ventilators were examined among 217 critically ill patients in Atlanta, GA. Mortality on ventilators was 29.7%. Overall mortality is 25.8% and 40.1% survived to discharge. This contradicts early reports of rates exceeding 50%, in areas that were ill-prepared. Georgia had increased time delay to its pandemic arrival. A majority of critically ill patients can have good clinical outcomes. The minor difference in rates supports the ongoing use of mechanical ventilation for patients with acute respiratory failure.

[Incidence of thrombotic complications in critically ill ICU patients with COVID-19](#). Klok et al. *Thrombosis Research*. April 10, 2020. <https://doi.org/10.1016/j.thromres.2020.04.013>

- This study found a 31% incidence of thrombotic complications in ICU patients with COVID-19 infection from three Dutch hospitals. These findings support the idea of COVID-19 associated coagulopathy.

[An outbreak of severe Kawasaki-like disease at the Italian epicentre of the SARS-CoV-2 epidemic: an observational cohort study](#). Verdoni et al., *The Lancet*. May 13, 2020.

- A retrospective cohort study examined the change in incidence and presentation of Kawasaki-like diseases in a Bergamo, Italy hospital PICU. In the 5 years leading up to February 17, 2020, the beginning of the epidemic, 19 cases of Kawasaki-like disease were reported—incidence 0.019%. From February 17, 2020 to April 20, 2020, 10 cases were reported—incidence 3.5%. This marks a statistically significant ( $p < 0.00001$ ) 30-fold increase in incidence within two months. Epidemic term Kawasaki-like disease patients also presented more severely and atypically than pre-epidemic patients in ways such as: incomplete type disease (50%), cardiac issues (40%), needing inotropic support (20%), and KDSS and/or MAS development (70%). RT-PCR testing for SARS-CoV-2 was positive among 30% but serology was IgG positive among 80% and IgM positive among 30%. This is strong evidence for Kawasaki-like disease as a secondary morbidity of COVID-19. IgG positivity suggests late presentation. More research is needed on the timing post COVID-19 exposure until presentation of disease.

[Pulmonary Vascular Endothelialitis, Thrombosis, and Angiogenesis in Covid-19](#). Ackermann, M. et al., *NEJM*. 21 May 2020.

- Comparing 7 lungs on autopsy from Covid-19 patients and 7 lungs from autopsy of H1N1 patients, researchers found distinctive vascular features in the Covid-19 lungs including severe endothelial injury in the presence of intracellular virus and disrupted cell membranes. Alveolar microthrombi were 9 times as prevalent in patients with Covid-19 as in patients with H1N1. Further studies are required to determine the clinical significance of the distinct vascular pathologies of these diseases.

[Renin-Angiotensin-Aldosterone System Inhibitors and Risk of Covid-19](#). Reynolds et al., *NEJM*. 01 May 2020.

- In the NYU Langone Health System, 12,594 patients were tested and observed to determine if ACE-inhibitors, ARBs, beta-blockers, calcium channel blockers, or thiazide diuretics increased the likelihood of positive COVID-19 result or severe illness (mechanical ventilation, intensive care, or death). A propensity score was calculated to address confounding variables (age, sex, race, ethnic groups, pre-existing conditions), but socioeconomic status and health care access were not included in the score. There was no significant association between any single medication and in increase likelihood of positive Covid-19 result or severe illness.

[Risk Factors for Mortality in 244 Older Adults With COVID-19 in Wuhan, China: A Retrospective Study](#). Sun, H, et al., *Journal of American Geriatrics*. 08 May 2020.

- Older age and lower lymphocyte count on admission were associated with death in hospitalized COVID-19 patients. Multivariable logistic regression analysis revealed that lymphocyte count (odds ratio [OR] = 0.009; 95% confidence interval [CI] = 0.001-0.138;  $P = .001$ ) and older age (OR = 1.122; 95% CI = 1.007-1.249;  $P = .037$ ) were independently associated with hospital mortality. Risk factors for in-hospital death were similar between older men and women

[Risk factors for SARS-CoV-2 among patients in the Oxford Royal College of General Practitioners Research and Surveillance Centre primary care network: a cross-sectional study.](#) Lusignan, S. et al., *The Lancet*. May 15, 2020.

- A cross sectional study of a primary care population of patients tested for SARS-CoV-2. Univariate and multivariate analysis for clinical and socioeconomic risk factors for positive RT-PCR test performed. Risk factors found were comparable with prior studies of hospitalized patients-male sex, obesity and chronic kidney disease. Black people were more likely to have a positive test, compared to white population. One outlier was active smoking had decreased odds of a positive test, OR 0.49, 95% CI 0.34–0.71).

[Treating hypoxemic patients with SARS-CoV-2 pneumonia: Back to applied physiology.](#) Bendjelid, K., et al. *Anaesthesia, Critical Care & Pain Medicine*. April 16, 2020.

- Early in SARS-CoV-2 pneumonia there is high permeability type pulmonary edema with apparently preserved lung compliance. For patients early in the disease course or with transient hypoxemia we may be able to avoid invasive MV by other methods to decrease transpulmonary shunting e.g. the reverse Trendelenburg position, almitrine, CPAP.

## PUBLIC HEALTH/EPIDEMIOLOGY

[Epidemiology and Transmission of COVID-19 in 391 Cases and 1286 of Their Close Contacts in Shenzhen, China: A Retrospective Cohort Study](#) Qifang B, Yongsheng W, Shujiang M, et al., *Lancet Infectious Disease*. 27 Apr 2020.

- The key metrics of disease course, transmission and impact of control measures was evaluated during an outbreak in Shenzhen, China. Three hundred and ninety one confirmed cases and 1286 of their close contacts were assessed after isolation/contact tracing measures were put into place. Between 14 Jan 2020 and 12 Feb 2020, 91% of cases had mild or moderate clinical severity at initial assessment. Cases were isolated on average 4.6 days (95% CI 4.1–5.0) after developing symptoms. Contact tracing was found to reduce isolation by 1.9 days (95% CI 1.1–2.7). Household secondary attack rate was 11.2% (95% CI 9.1–13.8). This study found that children were as likely as adults to be infected (infection rate 7.4% in children <10 years vs population average of 6.6%). The observed reproductive number (R) was 0.4 (95% CI 0.3–0.5), and the mean serial interval of 6.3 days (95% CI 5.2–7.6).

[Race, Socioeconomic Deprivation, and Hospitalization for COVID-19 in English participants of a National Biobank.](#) Patel, A. P. et al., *MedRxiv*. 02 May 2020.

- Both black participants (odds ratio 3.4; 95%CI 2.4–4.9) and Asian participants (odds ratio 2.1; 95%CI 1.5–3.2) were at substantially increased risk as compared to white participants. We further observed a striking gradient in COVID-19 hospitalization rates according to the Townsend Deprivation Index – a composite measure of socioeconomic deprivation – and household income. Adjusting for such factors led to only modest attenuation of the increased risk in black participants, adjusted odds ratio 3.1 (95%CI 2.0–4.8)

[Presymptomatic SARS-CoV-2 Infections and Transmission in a Skilled Nursing Facility.](#) Arons, M. et al. *New England Journal of Medicine*. 24 April 2020.

- 89 residents at a skilled nursing facility in King County, WA were followed after the first resident case was diagnosed in March 2020, with serial testing for COVID-19. Despite early implementation of infection control measures, this skilled nursing facility had a 64% prevalence of Covid-19 among residents and a case fatality rate of 26%. Asymptomatic patients comprised 54% of the COVID-19 positive cases; 89% of these asymptomatic cases did develop symptoms. Of note, health care workers at the facility were not tested in this study.

[School Closure and Management Practices During Coronavirus Outbreaks Including COVID-19: A Rapid Systematic Review](#) . Viner, R. M. et al., *Lancet Child & Adolescent Health*. May 2020.

- Review of 16 school closures during the SARS outbreak in China, Hong Kong, and Singapore suggest that complete school closures did not contribute to the control of the epidemic. “Recent modelling studies of COVID-19 predict that school closures alone would prevent only 2–4% of deaths, much less than other social distancing interventions.” School officials and policy makers should consider other less disruptive strategies such as keeping students to one classroom, practicing good sanitation and hygiene, allowing for greater spacing of students, etc. It is also beneficial for schools to allow children of healthcare workers to attend school, as 29% of health-care workers have childcare obligations.

[Seroprevalence of SARS-CoV-2-specific Antibodies Among Adults in Los Angeles County, California, on April 10-11, 2020.](#) Sood, N. et al., *JAMA*. 18 May 2020.

- 865 random individuals were tested. The enrollment had quotas for subgroups based on age, sex, race, and ethnicity. Data was also weighted to reflect 2018 census data for LA. Both weighted and unweighted data were analyzed. The unweighted and weighted prevalence of SARS-CoV-2 antibodies was 4.34% (CI, 2.76%-6.07%) and 4.65% (CI, 2.52%-7.07%), respectively.

## THERAPEUTIC DEVELOPMENTS

[ChAdOx1 nCoV-19 vaccination prevents SARS-CoV-2 pneumonia in rhesus macaques.](#) Neeltje van Doremalen, Teresa Lambe et al. bioRxiv May 13, 2020

- A preclinical trial with rhesus macaques found that after a single vaccination with ChAdOx1 nCoV-19, the average clinical score of control animals was higher compared to vaccinated animals. They observed a significantly reduced viral load (genomic RNA and subgenomic RNA) in bronchoalveolar lavage fluid and respiratory tract tissue of vaccinated animals challenged with SARS-CoV-2 compared with control animals, and no pneumonia was observed in vaccinated rhesus macaques. Importantly, no evidence of immune-enhanced disease following viral challenge in vaccinated animals was observed. The data from this study informed the start of the phase I clinical trial with ChAdOx1 nCoV-19 on April 23, 2020.

[Interleukin-1 blockade with high-dose anakinra in patients with COVID-19, acute respiratory distress syndrome, and hyperinflammation: a retrospective cohort study.](#) Cavalli, G. et al., *The Lancet*. May 7, 2020.

- A retrospective cohort study from a single center in Italy that studied adult COVID-19 patients with moderate-severe-ARDS and hyperinflammation (C-reactive protein at least 100mg/L, ferritin at least 900ng/ml or both). No patients were admitted to the ICU. Sixteen patients received “standard treatment” – hydroxychloroquine and lopinavir/ritonavir. Seven patients received low dose anakinra via SQ plus standard treatment (cohort ended early due to lack of effect on CRP levels). Finally, 29 patients received high-dose anakinra via IV plus standard treatment. All patients were in the hospital concurrently and outcomes were assessed at 21 days. The high-dose group was found to have 90% survival compared to 56% in standard treatment only, as well as greater likelihood of avoiding mechanical ventilation.

[Remdesivir for 5 or 10 Days in Patients with Severe Covid-19.](#) Goldman, J. D., et al. *NEJM*. 27 May 2020.

- A multicenter, randomized, open-label, phase 3 trial explored the efficacy between a 5-day and 10-day course of remdesivir. In total, 200 patients were included in the 5-day group and 197 patients in the 10-day group. The median duration of treatment was 5 days (interquartile range, 5 to 5) in the 5-day group and 9 days (interquartile range, 5 to 10) in the 10-day group. After adjustment for baseline clinical status, patients in the 10-day group had a distribution in clinical status at day 14 that was similar to that among patients in the 5-day group (P=0.14). They concluded that for people with severe COVID-19 who don’t require mechanical ventilation, there is no significant difference in efficacy between a 5-day course and a 10-day course of IC remdesivir treatment.

[Safety, tolerability, and immunogenicity of a recombinant adenovirus type-5 vectored COVID-19 vaccine: a dose-escalation, open-label, non-randomized, first-in-human trial.](#) Zhu, F. et al. *The Lancet*. 22 May 2020.

- The adenovirus type-5 (Ad5) vectored Covid-19 vaccine expressed the spike glycoprotein of SARS-CoV-2 and was given at 3 different dosing levels to a total of 108 healthy participants. Most adverse reactions were mild to moderate; therefore, the researchers determined the vaccine to be tolerable. The vaccine was also found to be immunogenic and at 28 days post-vaccination humoral responses peaked and specific T-cell immune responses were identified by 14 days post-vaccination. Further investigations into long-term immunogenicity and safety of the vaccination are required.

[Tocilizumab treatment in COVID-19: A single center experience. Luo, P., et al., \*Journal of Medical Virology\*. April, 6, 2020.](#)

- 15 Covid-19 patients under Tocilizumab (toc) therapy were assessed in this retrospective study by monitoring inflammation markers such as CRP and IL-6. Toc therapy in all patients resulted in a decrease in serum CRP (126 -> 11.2), and serum IL-6 in all patients appeared to spike first and then decreased. Within the four critically ill patients who received only 1 dose, 3 died and one failed to show response to the medication.

[Triple combination of interferon beta-1b, lopinavir–ritonavir, and ribavirin in the treatment of patients admitted to hospital with COVID-19: an open-label, randomized, phase 2 trial](#) The Lancet May 8,2020

- A multicenter, prospective, open-label, randomized, phase 2 trial with COVID-19 who were admitted to six hospitals in Hong Kong. 86 pts in combination group were given 14-day combination of lopinavir 400 mg and ritonavir 100 mg every 12 h, ribavirin 400 mg every 12 h, and three doses of 8 million international units of interferon beta-1b on alternate days. The control group (41 pts) was given 14 days of lopinavir 400 mg and ritonavir 100 mg every 12 h. The author concluded that triple antiviral therapy with interferon beta-1b, lopinavir–ritonavir, and ribavirin were safe and superior to lopinavir–ritonavir alone in shortening virus shedding, alleviating symptoms, and facilitating discharge of patients with mild to moderate COVID-19 in the early stage.

[Remdesivir for the Treatment of Covid-19 – Preliminary Report.](#) Beigel, J. H., et al. *NEJM*, 22 May 2020.

- In this phase III, multicenter, double blind, randomized, placebo-controlled trial: 1059 pts were monitored for time to recovery of 200 mg LD then 100 mg daily for 9d of IV remdesivir vs placebo for 10 days. Ratio of recovery of remdesivir to placebo was 1.32; 95% CI 1.12-1.55; P<0.001; 11d for patients on remdesivir compared to 15days for the control group. Twenty one percent (n=114) of pts in remdesivir had severe ADE compared to 27% (n=141) in placebo. Ten days remdesivir IV is superior to placebo, especially in pts with baseline ordinal score of 5 (receiving oxygen). The overall mortality rate in the remdesivir group was 7.1%, and 11.9%, giving a hazard ratio of 0.7. However, this was not statistically significant with CI of the HR 0.47-1.04.

## BASIC SCIENCE

[Circulating plasma concentrations of angiotensin-converting enzyme 2 in men and women with heart failure and effects of renin–angiotensin–aldosterone inhibitors.](#) Sama, IE., et al. *European Heart Journal*. 10 May 2020.

- Two large, European, CHF cohorts were used to measure circulating plasma ACE2 levels. Men were shown to have higher levels than women (5.38 vs. 5.09 (p<0.001); 5.46 vs 5.16 (p<0.001)), and no significant differences were seen between patients on RAAS blocking therapies and those who were not. Notably, plasma ACE2 was measured rather than membrane bound ACE2, and the relationship between these two levels is not fully understood. These results suggest taking RAAS blocking therapies does not alter ACE2 expression, and, by extension, may not change susceptibility to SARS-CoV-2 infection.

[Predicting infectious SARS-CoV-2 from diagnostic samples.](#) Bullard T, et al., *Clin. Infect. Dis.* 22 May 2020.

- A cohort of 90 COVID-19 patients with positive RT-PCR diagnostic tests were used to culture SARS-CoV-2 virus to assess infectivity of patients. Time from symptom onset to test and cycle threshold were both predictive of whether a sample would yield virus. Samples from patients who were tested 8 days or later after symptom onset did not culture viruses. Similarly, samples with cycle thresholds greater than 24 also did not grow viruses.

These data suggest persistent positive RT-PCR tests in patients do not necessarily indicate infectivity, and other markers (such as time from symptom onset to test and Ct) may be used to infer patient infectivity and inform isolation and return to work protocols.

## GUIDELINES AND FIGURES:

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### FROM CDC

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June 9

- Updates on [Telehealth](#)
  - Describing the landscape of telehealth services and provide considerations for healthcare systems, practices, and providers during the pandemic and after
- Updates on [Pregnancy & Breastfeeding](#)
  - Follow guidelines on social distancing and handwashing
  - Individuals who are pregnant are at greater risk of getting sick than those that are not, therefore be mindful about reducing risks
  - Follow guidelines on social distancing and handwashing
  - Do not skip prenatal care appointments or postpartum appointments
  - Plastic face shields for newborns and infants are NOT recommended
  - Routine well child visits and vaccine visits are important during the pandemic times
- Updates on [Running Errands](#)
  - Stay home if sick
  - Wear cloth mask
  - Use social distancing measures

### FROM WHO

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June 8 – [Situation Report 140](#)

- Medical certification, ICD mortality coding, and reporting mortality associated with Covid-19 has been updated to help with classification of deaths related to Covid-19 and to identify all deaths according to this disease
- WHO welcomes funding for vaccines which was pledged at the Global Vaccine Summit, and will help Gavi, the Vaccine alliance, to protect the next generation and reduce disease inequality by reaching an additional 3000 million children with vaccines by 2025

June 9 - [Situation Report 141](#)

- The situation in Europe is improving but worsening globally
- WHO Regional Office for the America published a guide with recommendations on measures to reduce transmission among indigenous populations, Afro-descendants and other ethnic groups
- WHO supports equality and the global movement against racism. WHO encourages protesting around the world and to do so safely: keep at least 1-meter, clean hands, cover cough and wear a mask
- WHO published 14 new community and risk engagement posters on parenting during the pandemic. Topics include learning through play, keeping calm and managing stress, keeping children safe online, family budgeting, talking about covid-19

June 10 – [Situation Report 142](#)

- WHO Regional office of the America is supporting Venezuelan National Assembly seeking funds for Covid-19 response
- Winter is complicating response to pandemic in South America while hurricane season is complicating efforts in North and Central America, especially in the Caribbean
- WHO regional office for Europe is coordinating large-scale COVID-19 response in Tajikistan

June 11 – [Situation Report 143](#)

- Cases in the Easter Mediterranean have increased during the past 3 weeks and there is a risk cases will continue to rise as countries ease restrictions
- Somalia is expanding its Early Warning, Alert, and Response Network (EWARN) across the country to facilitate early detection of suspected cases of COVID-19

FROM JOHNS HOPKINS

<b>April 17, 2020 Cases/Deaths</b>	<b>June 12, 2020 Cases/Deaths</b>
World: 2,188,194/147,632	World: 7,550,933/422,136
US: 662,045/28,998	US: 2,026,073/113,883
NC: 5,639/150	North Carolina: 39,584/1,106
Orange County: 172/2	Orange County, NC: 427/40