



## 2019-nCoV Literature Situation Report (Lit Rep)

June 19, 2020

The scientific literature on COVID-19 is rapidly evolving and these articles were selected for review based on their relevance to Washington State decision making around COVID-19 response efforts. Included in these Lit Reps are some manuscripts that have been made available online as pre-prints but have not yet undergone peer review. Please be aware of this when reviewing articles included in the Lit Reps.

### Key Takeaways

- **A composite test for both SARS-CoV-2 virus and antibodies shows promise for rapid diagnosis with high test validity.** [More](#)
- **Probable anxiety disorders were found to have nearly doubled from pre-pandemic levels in two UK cohorts.** [More](#)
- **A study in the Baltimore/Washington, D.C. region found that Latino patients were more likely than non-Latino patients to test positive for COVID-19, but were less likely to be hospitalized.** [More](#)

### Non-Pharmaceutical Interventions

- Using Google COVID-19 community mobility reports, Huynh demonstrated that countries with a higher “Uncertainty Avoidance Index” had a lower proportion of people gathering in public, even after controlling for gross domestic product (GDP) per capita.  
*Huynh. (Oct 2020). Does Culture Matter Social Distancing under the COVID-19 Pandemic? Safety Science. <https://doi.org/10.1016/j.ssci.2020.104872>*

### Testing and Treatment

- A retrospective cohort study of 4,480 patients with COVID-19 using data from the Danish national administrative registries found that prior use of ACE inhibitors and angiotensin receptor blockers (ACEI/ARBs) was not associated with higher mortality from COVID-19.
- *[EDITORIAL NOTE: The article was accompanied by a [JAMA editorial](#) that concluded that when there is a clinical indication for their use, ACEI/ARBs should not be discontinued in patients with COVID-19, unless the drugs cannot be tolerated due to hemodynamic instability. However, we note that adjusted models showed a significant or nearly significant modest association with severe COVID-19]*  
*Fosbøl et al. (June 19, 2020). Association of Angiotensin-Converting Enzyme Inhibitor or Angiotensin Receptor Blocker Use With COVID-19 Diagnosis and Mortality. JAMA. <https://doi.org/10.1001/jama.2020.11301>*
- *[pre-print, not peer reviewed]* Micochova et al. compared a combined rapid test (nucleic acid amplification on nose/throat swab and lateral flow assay antibody test on serum) suitable for point-of-care use with a composite gold standard on 45 patients with suspected moderate to severe COVID-19 disease. In days 1-7 of illness, sensitivity of the nucleic acid test alone was 79.2%, which increased to 100% when combined with the rapid antibody test. Specificity of the combined test in

days 1-7 of illness was 90% (95% CI 55.5-99.7%). These results show a potentially promising point-of-care approach that improves sensitivity while maintaining relatively high specificity.

*Micochova et al. (June 18, 2020). Combined Point of Care Nucleic Acid and Antibody Testing for SARS-CoV-2 a Prospective Cohort Study in Suspected Moderate to Severe COVID-19 Disease. Pre-print downloaded June 19 from <https://doi.org/10.1101/2020.06.16.20133157>*

- *[pre-print, not peer reviewed]* Among 16 SARS-CoV-2 neutralizing monoclonal antibodies from 5 patients with severe disease, 19 potentially neutralized the virus *in vitro*, 9 with exquisite potency. Several are promising candidates for treatment or prevention of COVID-19. These 19 antibodies were nearly equally divided between two regions at the top of the viral spike — the receptor binding domain and the N-terminal domain — demonstrating the immunogenicity of these regions.

*Ho et al. (June 18, 2020). Potent Neutralizing Monoclonal Antibodies Directed to Multiple Epitopes on the SARS-CoV-2 Spike. Pre-print downloaded June 19 from <https://doi.org/10.1101/2020.06.17.153486>*

### Clinical Characteristics and Health Care Setting

- *[pre-print, not peer reviewed]* A systematic review and meta-analysis (n=19 studies; 5,652 patients) studied the incidence of cardiac endpoints among COVID-19 patients treated with chloroquine or hydroxychloroquine, including QT prolongation—a potential precursor to the arrhythmias torsades de pointes (TdP) or ventricular tachycardia (VT) or cardiac arrest—as well as TdP/VT or cardiac arrest. The pooled incidence was 90 per 1,000 for prolonged QTc, 3 per 1,000 for TdP/VT or cardiac arrest, and 50 per 1,000 for discontinuation of either medication due to prolonged QTc or arrhythmias. Treatment of COVID-19 patients with chloroquine or hydroxychloroquine is associated with a substantial risk of QTc prolongation and its sequelae.

*Tleyjeh et al. (June 18, 2020). The Cardiac Toxicity of Chloroquine or Hydroxychloroquine in COVID-19 Patients: A Systematic Review and Meta-Regression Analysis. Pre-print downloaded June 19 from <https://doi.org/10.1101/2020.06.16.20132878>*

- A retrospective telephone survey of patients diagnosed with COVID-19 during March 5-23, 2020 (n=204) found that 57% reported reduction of taste and/or smell prior to diagnosis and that 40% reported reduction of both taste and smell prior to diagnosis. 55% reported taste reduction and 41% reported smell reduction. Nasal obstruction was rare among patients with severe taste or smell reduction. Changes to taste and smell may be a frequent and early symptom of COVID-19.

*Mercante et al. (June 18, 2020). Prevalence of Taste and Smell Dysfunction in Coronavirus Disease 2019. JAMA Otolaryngology–Head & Neck Surgery. <https://doi.org/10.1001/jamaoto.2020.1155>*

### Mental Health and Personal Impact

- *[pre-print, not peer reviewed]* Two longitudinal cohorts in the UK collected validated mental health measures before and during the COVID-19 pandemic. Anxiety and lower wellbeing, but not depression, increased since the start of the pandemic. The percentage of individuals with probable anxiety disorder nearly doubled from 13% to 24%. Younger people, women, those with pre-existing mental or physical health conditions, and those living alone and in socio-economic adversity were at a higher risk of these outcomes. There was no evidence that key workers or healthcare workers were at higher risk of these outcomes.

*Kwong et al. (June 18, 2020). Mental Health during the COVID-19 Pandemic in Two Longitudinal UK Population Cohorts. Pre-print downloaded June 19 from <https://doi.org/10.1101/2020.06.16.20133116>*

## Public Health Policy and Practice

- Among 29,299 workers in Wuhan, China who were screened for SARS-CoV-2 by PCR prior to returning to work, 18 (0.061%) were positive, all of whom were asymptomatic. Of the 18 positives, 13 became negative within 8 days, and 41 of their close contacts tested negative. Among 22,633 workers tested for SARS-CoV-2 antibodies, 617 (3%) had positive IgG but negative IgM, 40 (0.2%) had negative IgG but positive IgM, and 196 (0.9%) were positive for both.

*Han et al. (Sept 2020). Severe Acute Respiratory Syndrome Coronavirus 2 among Asymptomatic Workers Screened for Work Resumption, China. Emerging Infectious Diseases.*

<https://doi.org/10.3201/eid2609.201848>

- A national survey conducted in March and April among US adults (n=5,198) found that African American respondents, men, and younger people had less accurate knowledge about COVID-19 symptoms and preventive behaviors than white respondents, women, and older individuals.
- Additionally, African American respondents were 3.5 percentage points more likely than white respondents to report having been infected with COVID-19, and men across race/ethnicity groups were 3.2 percentage points more likely than women to report having been infected.

*Alsan et al. (June 18, 2020). Disparities in Coronavirus 2019 Reported Incidence, Knowledge, and Behavior Among US Adults. JAMA Network Open.*

<https://doi.org/10.1001/jamanetworkopen.2020.12403>

- Out of 37,727 patients from 5 hospitals who were tested for SARS-CoV-2 in the Baltimore/Washington, D.C. region, 16.3% (95% CI 16.0-16.7%) tested positive. Prevalence was significantly higher for Latino patients (42.6%, 95% CI 41.1-44.1%), black patients (17.6%, 95% CI 16.6-18.3%) and patients of other non-white race/ethnicity (17.2%, 95% CI 16.2-18.3%) compared to white patients (8.8%, 95% CI 8.4-9.2%). Trends in positivity peaked later for Latino patients than white or black patients. The hospital admission rate was lower for Latino patients (29.1%, 95% CI 27.0-31.2%) than white patients (40.1%, 95% CI 37.6-42.5%) or black patients (41.7%, 95% CI 39.5-43.8%). Hospitalized Latino patients were younger and had lower rates of comorbidities than white or black patients.

*Martinez et al. (June 18, 2020). SARS-CoV-2 Positivity Rate for Latinos in the Baltimore-Washington, DC Region. JAMA. <https://doi.org/10.1001/jama.2020.11374>*

## Other Resources and Commentaries

- [Polymorphism and selection pressure of SARS-CoV-2 vaccine and diagnostic antigens: implications for immune evasion and serologic diagnostic performance](#) – bioRxiv (June 18)
- [COVID-19 projections for reopening Connecticut](#) – medRxiv (June 19)
- [Pathological Findings and Management of COVID-19 Patients: A Brief Overview of Modern-day Pandemic](#) – Cureus (May 15)
- [Isolation, Sequence, Infectivity, and Replication Kinetics of Severe Acute Respiratory Syndrome Coronavirus 2](#) – Emerging Infectious Diseases
- [Host range of SARS-CoV-2 and implications for public health](#) – Lancet Microbe (June 18)
- [COVID-19's Crushing Effects on Medical Practices, Some of Which Might Not Survive](#) – JAMA (June 18)
- [Amplifying RNA Vaccine Development](#) – New England Journal of Medicine (June 18)

- [Challenges of “Return to Work” in an Ongoing Pandemic](#) – New England Journal of Medicine (June 18)
- [Economic Vulnerability of Households With Essential Workers](#) – JAMA (June 18)
- [Effects of the COVID-19 pandemic on the mental health of prisoners](#) – The Lancet Psychiatry (June 19)
- [Seeing COVID-19 through José Saramago's Blindness](#) – The Lancet (June 19)

*Report prepared by the UW MetaCenter for Pandemic Preparedness and Global Health Security and the START Center in collaboration with and on behalf of WA DOH COVID-19 Incident Management Team*