

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

May 28, 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 randomized trial found comparable outcomes for 5-day and 10-day courses of remdesivir for hospitalized COVID-19 patients.**
- **Black patients are disproportionately represented among COVID-19 hospitalizations and deaths (>70%) in Louisiana. Black race was associated with increased odds of hospitalization, even after controlling for age, comorbidities, and socioeconomic status.**
- **Screening of pediatric patients at Seattle Children's Hospital found a low prevalence of SARS-CoV-2 seropositivity (1%); however, 8 out of 10 seropositive children were not suspected of having had COVID-19.**
- **Out-of-hospital cardiac arrest in Paris, France doubled during the COVID-19 pandemic. This increase may be due to a direct effect of COVID-19 infections, as well as an indirect effect of the lockdown and its impact on health-care services.**

### Non-Pharmaceutical Interventions

- The World Health Organization-recommended alcohol-based hand rub formulations do not meet the European standards for hygienic hand sanitizers or surgical hand preparation. However, modified formulas that use alcohol concentrations of 80% ethanol or 75% isopropanol in combination with a reduced glycerol concentration (0.5%) meet these requirements and may be useful alternatives to unavailable commercial hand hygiene products.  
*Suchomel et al. (May 27, 2020). Evaluation of World Health Organization-Recommended Hand Hygiene Formulations. Emerging Infectious Diseases. <https://doi.org/10.3201/eid2609.201761>*
- *[pre-print, not peer reviewed]* A systematic review of automated and partially-automated contact tracing methods found no empirical evidence of effectiveness. However, several modelling studies suggest that epidemic control would require high population-level uptake of automated contact-tracing apps in combination with other control measures.  
*Braithwaite et al. (May 28, 2020). Automated and Partially-Automated Contact Tracing a Rapid Systematic Review to Inform the Control of COVID-19. Pre-print downloaded May 28 from <https://doi.org/10.1101/2020.05.27.20114447>*

### Testing and Treatment

- A randomized trial among hospitalized COVID-19 patients who did not require mechanical ventilation found no differences between a 5-day course and a 10-day course of remdesivir. By day

14, clinical improvement was observed in over half of patients in both treatment arms. However, this trial lacked a placebo control and could not determine if this improvement that was attributable to remdesivir.

*Goldman et al. (May 27, 2020). Remdesivir for 5 or 10 Days in Patients with Severe Covid-19. The New England Journal of Medicine. <https://doi.org/10.1056/NEJMoa2015301>*

### Clinical Characteristics and Health Care Setting

- Baker et al. report on a case in which 44 healthcare workers (HCW) were exposed to a single undiagnosed COVID-19 patient over a 13-day period. During this period, the patient stayed in a single room and HCWs did not use contact and droplet precautions. On the 13th day of hospitalization, the patient developed sudden acute respiratory failure and subsequently tested positive for SARS-CoV-2 after being transferred to the ICU. The authors found that 2 (5%) HCW contacts developed COVID-19, potentially attributable to this exposure.

*Baker et al. (May 27, 2020). COVID-19 Infections among Healthcare Workers Exposed to a Patient with a Delayed Diagnosis of COVID-19. Infection Control and Hospital Epidemiology. <https://doi.org/10.1017/ice.2020.256>*

- Black patients disproportionately accounted for COVID-19 hospitalizations and deaths in a Louisiana integrated-delivery health system: 77% of hospitalizations and 71% of deaths were patients who were black, despite black residents comprising only 31% of the total population. Black race was associated with increased odds of hospitalization, even after controlling for age, comorbidities, use of public insurance (e.g. Medicare or Medicaid), residence in a low-income area, and obesity.
- Black race was not associated with higher in-hospital mortality compared to white race, after adjustment for differences in sociodemographic and clinical characteristics on admission.

*Price-Haywood et al. (May 27, 2020). Hospitalization and Mortality among Black Patients and White Patients with Covid-19. The New England Journal of Medicine. <https://doi.org/10.1056/NEJMsa2011686>*

- Among 78 SARS-CoV-2 positive patients who were exposed to the Hunan seafood market or had close contact with other patients with COVID-19 in Wuhan, China, 42% were asymptomatic and 58% were symptomatic. Those who were asymptomatic were younger and more likely to be women (67% v 31%), compared to symptomatic patients. Asymptomatic patients also had a shorter duration of viral shedding from nasopharynx swabs (median duration of 9 vs. 15 days).

*Yang et al. (May 27, 2020). Comparison of Clinical Characteristics of Patients with Asymptomatic vs Symptomatic Coronavirus Disease 2019 in Wuhan, China. JAMA Network Open. <https://doi.org/10.1001/jamanetworkopen.2020.10182>*

- *[pre-print, not peer reviewed]* Dingens et al. serologically screened residual samples from 1,076 pediatric patients at Seattle Children's Hospital for evidence of past SARS-CoV-2 infection. Only 10 (1%) children were seropositive; however, most seropositive children (8/10) were not suspected of having had COVID-19.

*Dingens et al. (May 28, 2020). Seroprevalence of SARS-CoV-2 among Children Visiting a Hospital during the Initial Seattle Outbreak. Pre-print downloaded May 28 from <https://doi.org/10.1101/2020.05.26.20114124>*

## Mental Health and Personal Impact

- Jacobson et al. examine whether stay-at-home orders produced changes in mental health search queries on Google during March 16-23, 2020. They found that mental health search queries (including search terms measuring anxiety, depression, obsessive-compulsive, negative thoughts, irritability, fatigue, anhedonia, concentration, insomnia, and suicidal ideation) increased rapidly prior to the issuance of stay-at-home orders, and that these changes dissipated following the announcement and enactment of these orders.  
*Jacobson et al. (May 14, 2020). Flattening the Mental Health Curve: COVID-19 Stay-at-Home Orders Are Associated with Alterations in Mental Health Search Behavior in the United States. JMIR Mental Health. <https://doi.org/10.2196/19347>*
- Lee et al. developed and evaluated a Coronavirus Anxiety Scale (CAS) using an online survey of 398 US adults. The CAS was correlated with coronavirus diagnosis, history of anxiety, coronavirus fear, functional impairment, alcohol/drug coping, religious coping, hopelessness, suicidal ideation, as well as social attitudes (e.g., satisfaction with President Trump). These findings support the validity of this mental health screener for COVID-19 related research and practice.  
*Lee et al. (May 20, 2020). Clinically Significant Fear and Anxiety of COVID-19: A Psychometric Examination of the Coronavirus Anxiety Scale. Psychiatry Research. <https://doi.org/10.1016/j.psychres.2020.113112>*
- McIntyre and Lee predict the number of excess suicides in Canada resulting from the impact of COVID-19 on unemployment. They estimate that an incremental 1-percentage point increase in unemployment from 2020 to 2021 would be associated with a 1.0% increase in the suicide rate. Assuming a small increase in unemployment (1.2-1.6%), they predict a total of 418 excess suicides in 2020-2021. Assuming a large increase in unemployment (8.9-10.7%), they predict a total of 2,114 excess suicides in 2020-2021.  
*McIntyre and Lee. (May 19, 2020). Projected Increases in Suicide in Canada as a Consequence of COVID-19. Psychiatry Research. <https://doi.org/10.1016/j.psychres.2020.113104>*

## Modeling and Prediction

- *[pre-print, not peer reviewed]* Firth et al. simulated contact tracing and testing strategies for SARS-CoV-2 using a real-world social network generated from GPS data. They found that tracing 2nd degree contacts (e.g. contacts-of-contacts) was more effective than only tracing 1st degree contacts, but would result in almost one third of the local population being quarantined at a single point in time. Testing and releasing non-infectious individuals would reduce the number of quarantined individuals, but would require high testing capacity.  
*Firth et al. (May 27, 2020). Combining Fine-Scale Social Contact Data with Epidemic Modelling Reveals Interactions between Contact Tracing Quarantine Testing and Physical Distancing for Controlling COVID-19. Pre-print downloaded May 28 from <https://doi.org/10.1101/2020.05.26.20113720>*

## Public Health Policy and Practice

- Marijon et al. found that out-of-hospital cardiac arrest (OHCA) in Paris, France doubled during the COVID-19 pandemic. Weekly OHCA incidence increased from 13.4 to 26.6 per million inhabitants in the control and pandemic time periods, respectively. They also observed a higher rate of OHCA at

home. The authors hypothesize that these results may be due to a direct effect of COVID-19 infections, as well as an indirect effect of the lockdown and its impact on health-care services.

*Marijon et al. (May 27, 2020). Out-of-Hospital Cardiac Arrest during the COVID-19 Pandemic in Paris, France: A Population-Based, Observational Study. The Lancet Public Health.*

[https://doi.org/10.1016/S2468-2667\(20\)30117-1](https://doi.org/10.1016/S2468-2667(20)30117-1)

- Kudchadkar et. al evaluated a social media campaign that promoted the joint usage of #PedsICU and #COVID19 on Twitter for posts relevant to the COVID-19 pandemic and pediatric critical care. During the time period monitored, 69% #PedsICU tweets included COVID-19 content.
- The most popular tweets shared on Twitter were open-access resources, links for updated literature, narrative reviews, and educational videos relevant to clinical care. Tweets including #PedsICU were shared 49,865 times across six continents between February and May, 2020, suggesting that social media hashtag campaigns may be effective for rapid information dissemination, collaboration, and for combating misinformation.

*Kudchadkar and Carroll. (May 27, 2020). Using Social Media for Rapid Information Dissemination in a Pandemic: #PedsICU and Coronavirus Disease 2019. Pediatric Critical Care Medicine.*

<https://doi.org/10.1097/PCC.0000000000002474>

### Other Resources and Commentaries

- [Conducting Clinical Research During the COVID-19 Pandemic](#) – JAMA (May 28)
- [Opening Hospitals to More Patients During the COVID-19 Pandemic-Making It Safe and Making It Feel Safe](#) – JAMA Internal Medicine (May 27)
- [Potential Therapeutic Targeting of Coronavirus Spike Glycoprotein Priming](#) – Molecules (May 22)
- [Audio Interview: New Data on Remdesivir in Covid-19](#) –The New England Journal of Medicine (May 28)
- [The Immune System of Children: The Key to Understanding SARS-CoV-2 Susceptibility?](#) – The Lancet Child & Adolescent Health (May 6)
- [Promoting Healthy Movement Behaviours among Children during the COVID-19 Pandemic](#) – The Lancet Child & Adolescent Health (Apr 29)
- [Use of Apps in the COVID-19 Response and the Loss of Privacy Protection](#) – Nature Medicine (May 26)
- [Digital Smartphone Tracking for COVID-19: Public Health and Civil Liberties in Tension](#) – JAMA (May 27)
- [Excess mortality in men and women in Massachusetts during the COVID-19 Pandemic](#) – The Lancet (May 27)
- [Ratio, Rate, or Risk?](#) – The Lancet Infectious Diseases (May 27)

*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*