

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

- **Cognitive impairments were found in 81% of inpatient rehabilitation patients (mean age 65 years) who were recovering from severe COVID-19.** [More](#)
- **Testing for SARS-CoV-2 was positive in 77% of children and adolescents who had an infected close household contact.** [More](#)
- **Adherence to physical distancing practices measured using virtual behavioral simulations were associated with lower risk of subsequently contracting COVID-19, while self-report of these behaviors was not associated with infection risk.** [More](#)
- **In pediatric patients, small strips inserted into the nose had sensitivity and specificity for detection of SARS-CoV-2 that were compared to pooled nasopharyngeal and oral specimens.** [More](#)

Non-Pharmaceutical Interventions

- *[Preprint, not peer-reviewed]* A participant's behavior during behavioral simulation of social distancing behaviors was associated with the risk of subsequently contracting COVID-19, whereas self-report of these behaviors was not. Results from a survey among 2,120 US residents determined that an individual's performance in a simulator intended to assess physical positioning was associated with lower risk of COVID-19 illness over the subsequent 4 months (OR=0.8), but self-reports of social distancing behavior did not show a significant association with infection of SARS-CoV-2. This association was maintained when considering only participants who were positive for SARS-CoV-2 and when considering participants who were untested but believed that they had been infected.

Fazio et al. (Nov 3, 2020). Avoiding versus Contracting COVID-19 On the Effectiveness of Social Distancing at the Level of the Individual. Pre-print downloaded Nov 4 from <https://doi.org/10.1101/2020.10.29.20222422>

Testing and Treatment

- In pediatric patients, the use of small strips inserted into each nostril was shown to have a sensitivity of 94% and specificity of 100% for the detection of SARS-CoV-2 when compared to pooled nasopharyngeal swab and throat swab samples. Viral loads of SARS-CoV-2 RNA were similar between paired nasal strip samples and nasal swab samples.

Chan et al. (Nov 3, 2020). SARS-CoV-2 Detection by Nasal Strips a Superior Tool for Surveillance of Pediatric Populations. Pre-print downloaded Nov 4 from <https://doi.org/10.1101/2020.10.28.20220673>

- *[Preprint, not peer-reviewed]* A study using electronic health records in Israel reported that the 11% of PCR tests for SARS-CoV-2 were negative with 0-5 days of clinical diagnosis among patients who had at least one positive PCR test (n= 521,696). Patients who were female (vs. male: OR=1.7) and patients who were younger (10 vs. 40 years of age: OR=2.5) were more likely to have a false-negative result.

Levine-Tiefenbrun et al. (Nov 3, 2020). Association of COVID-19 RT-QPCR Test False-Negative Rate with Patient Age Sex and Time since Diagnosis. Pre-print downloaded Nov 4 from <https://doi.org/10.1101/2020.10.30.20222935>

Clinical Characteristics and Health Care Setting

- A prospective cohort study in North Carolina found that 77% of children and adolescents living with a close household contact infected with SARS-CoV-2 had a positive SARS-CoV-2 PCR test. Hispanic ethnicity (OR=1.5) and having an infected sibling close contact (OR=1.7) were associated with increased infection risk. One or more symptoms were reported by 70% of children who were positive for SARS-CoV-2. Children ages 6-13 years were frequently asymptomatic (39%) and less likely to report respiratory symptoms than younger children ages 0-5 years or adolescents ages 14-20 years (29% vs. 48% and 60%, respectively). No difference was found in viral load between various age cohorts. *[EDITORIAL NOTE: A pre-print version of this article was summarized on August 24]*

Hurst et al. (Nov 3, 2020). SARS-CoV-2 Infections Among Children in the Biospecimens from Respiratory Virus-Exposed Kids (BRAVE Kids) Study. Clinical Infectious Diseases. <https://doi.org/10.1093/cid/ciaa1693>

- *[Preprint, not peer-reviewed]* Cognitive impairments were found frequently in patients recovering from severe COVID-19 in an inpatient rehabilitation facility. A cross-sectional study tested 57 patients with a mean age of 65 years using standard measures of memory and executive function and found that 81% had cognitive impairment, with deficits most common in working memory (55%), set-shifting (47%), divided attention (46%), and processing speed (40%).

Jaywant et al. (Nov 3, 2020). Frequency and Profile of Objective Cognitive Deficits in Hospitalized Patients Recovering from COVID-19. Pre-print downloaded Nov 4 from <https://doi.org/10.1101/2020.10.28.20221887>

Modeling and Prediction

- A simulation study of a school environment concluded that daily testing can assist with maintenance of a low infection rate. The authors concluded that a reasonable daily test percentage (6%-10% with social distancing and mask wearing, or 8-10% without mitigation procedures) among the student population can achieve a low infection rate ($\leq 10\%$).

Saad et al. (Nov 3, 2020). COVID-19 Active Surveillance Simulation Case Study - Health and Economic Impacts of Active Surveillance in a School Environment. Pre-print downloaded Nov 4 from <https://doi.org/10.1101/2020.10.28.20221416>

Public Health Policy and Practice

- *[Preprint, not peer-reviewed]* The epicenter of the Louisiana COVID-19 epidemic has varied temporally, beginning in the urban core of New Orleans and then moving to suburban/rural areas. Using census tract- and parish-level data in Louisiana, Schnake-Mahl et al. reported that the incidence (73 cases per 10,000) and mortality rate (5.6 deaths per 10,000) of COVID-19 were initially highest in New Orleans during the first wave of the epidemic which occurred during March-April 2020. During the period of July-September 2020, trends reversed with suburban/rural areas experiencing higher rates than New Orleans. During the second peak, suburban and other urban

areas had incidence rates over 70 cases per 10,000, nearly double the rate in New Orleans. Since May, positivity ratios have hovered close to 10% in other urban, suburban, and rural areas while remaining below 5% in New Orleans. Social vulnerability was associated with increased positivity and incidence during the first peak, and these disparities were ameliorated during re-opening and the second peak.

Schnake-Mahl et al. (Nov 3, 2020). They're Dying in the Suburbs COVID-19 Cases and Deaths by Geography in Louisiana (USA). Pre-print downloaded Nov 4 from <https://doi.org/10.1101/2020.10.28.20221341>

- In Los Angeles, geographic factors associated with an increased rate of SARS-CoV2 diagnosis included a higher proportion of Latino/Latina residents, higher rates of poverty and higher household density. The analysis was conducted using a spatial analysis of the health department data from the period of 1 March and 30 June 2020, with a total of 843,440 SARS-CoV-2 tests and 86,383 diagnoses and adjusted for age.

Vijayan et al. (Nov 3, 2020). Beyond the 405 and the 5: Geographic Variations and Factors Associated with SARS-CoV-2 Positivity Rates in Los Angeles County. Clinical Infectious Diseases. <https://doi.org/10.1093/cid/ciaa1692>

Other Resources and Commentaries

- [Widespread Smell Testing for COVID-19 Has Limited Application](#) – The Lancet (Nov 3)
- [Causal Impacts of Teaching Modality on U.S. COVID-19 Spread in Fall 2020 Semester](#) – MedRxiv (Nov 3)
- [A Rapid Systematic Review of Measures to Protect Older People in Long Term Care Facilities from COVID-19](#) – MedRxiv (Nov 3)
- [Zinc-Embedded Fabrics Inactivate SARS-CoV-2 and Influenza A Virus](#) – BioRxiv (Nov 3)
- [High Attack Rates of SARS-CoV-2 Infection through Household-Transmission a Prospective Study](#) – MedRxiv (Nov 4)
- [Investigating the Effects of Absolute Humidity and Human Encounters on Transmission of COVID-19 in the United States](#) – MedRxiv (Nov 4)
- [Phase II Clinical Trial for Evaluation of BCG as Potential Therapy for COVID-19](#) – MedRxiv (Nov 3)
- [Cohorting of Non-Critically Ill COVID-19 Patients A Multicenter Survey Study \(COVID-COHORT\)](#) – MedRxiv (Nov 4)
- [Preventing COVID-19 Fatalities State versus Federal Policies](#) – MedRxiv (Nov 3)
- [Preferential Observation of Large Infectious Disease Outbreaks Leads to Consistent Overestimation of Intervention Efficacy](#) – MedRxiv (Nov 4)

Report prepared by the UW Alliance 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