

2019-nCoV Literature Situation Report (Lit Rep) September 8, 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

- **Non-randomized phase 1/2 studies in Russia of adenovirus recombinant vaccines, rAD5 and rAd26, were well tolerated with no serious adverse events. All participants (n=38 per vaccine) produced antibodies to the vaccines, and humoral and cellular immune responses were strong.** [More](#)
- **Compared to past flu seasons, hospitalizations for acute respiratory illnesses among young children in rural Alaska dropped dramatically in April, coinciding with control measures in response to the COVID-19 pandemic.** [More](#)
- **Cost modeling suggests that extensive social distancing with masks on college campuses could prevent up to 87% of COVID-19 cases at a cost of \$168 per infection prevented. Addition of asymptomatic testing every 3 days could prevent 96% of cases, but could markedly increase the cost, depending on the price of the tests.** [More](#)
- **Convalescent plasma transfusion was not associated with a reduction in mortality or progression to severe COVID-19 in a randomized clinical trial among participants with moderate COVID-19 in India.** [More](#)

Non-Pharmaceutical Interventions

- People who expressed higher levels of self-efficacy, perceived severity of COVID-19 illness, and a belief that prevention measures would be effective were more like to plan to engage in eight behaviors designated as critical by the CDC for the prevention of COVID-19. The authors suggest that public health messaging should focus on the severity of COVID-19 and the relative ease of engaging in the preventative methods.

Berg and Lin. (Sept 7, 2020). Prevalence and Predictors of Early COVID-19 Behavioral Intentions in the United States. Translational Behavioral Medicine. <https://doi.org/10.1093/tbm/ibaa085>

Testing and Treatment

- *[Pre-print, not peer-reviewed]* COVID-19 convalescent plasma infusion was not associated with a reduction in mortality or progression to severe COVID-19 at 28 days post-enrollment (aOR=1.1, 95% CI: 0.7, 1.8) in a randomized trial among persons with moderate COVID-19 in India (n=464). Death or progression to severe disease occurred in 18.7% of participants in the intervention arm and 17.9% in the control arm.
- Participants in the intervention arm received two doses of 200 mL convalescent plasma that were transfused 24 hours apart. An analysis limited to participants who received infusions within three

days of symptom onset also found no significant difference in the composite outcome between intervention and control groups (aOR=0.6, 95% CI 0.2, 1.2).

Agarwal et al. (Sept 8, 2020). *Convalescent Plasma in the Management of Moderate COVID-19 in India An Open-Label Parallel-Arm Phase II Multicentre Randomized Controlled Trial (PLACID Trial)*. Pre-print downloaded Sep 8 from <https://doi.org/10.1101/2020.09.03.20187252>

Vaccines and Immunity

- Findings from two, non-randomized phase 1/2 studies (n=38 per study) conducted in Russia of recombinant vaccines based on adenovirus type 5 (rAd5) and type 26 (rAd26) show that both vaccine formulations were well tolerated with no serious adverse events reported.
- All participants produced SARS-CoV-2 antibodies, and the vaccines induced strong humoral and cellular immune responses in participants.

Logunov et al. (Sept 4, 2020). *Safety and Immunogenicity of an RAd26 and RAd5 Vector-Based Heterologous Prime-Boost COVID-19 Vaccine in Two Formulations: Two Open, Non-Randomised Phase 1/2 Studies from Russia*. *The Lancet*. [https://doi.org/10.1016/S0140-6736\(20\)31866-3](https://doi.org/10.1016/S0140-6736(20)31866-3)

Clinical Characteristics and Health Care Setting

- There were no vertical transmissions of SARS-CoV-2 from mother to neonate nor differences in clinical manifestations, radiological and biochemical results among neonates born to 15 women with confirmed and 17 with suspected COVID-19 who delivered in Hubei Province in China.

Liu et al. (Sept 6, 2020). *Clinical Analysis of Neonates Born to Mothers with or without COVID-19: A Retrospective Analysis of 48 Cases from Two Neonatal Intensive Care Units in Hubei Province*. *American Journal of Perinatology*. <https://doi.org/10.1055/s-0040-1716505>

Mental Health and Personal Impact

- US parents responding to an online survey reported that the most common physical activities during April to May 2020 for children (n=211, mean age=8.3 years) were free play/unstructured activity (90%) and going for a walk (55%). Children engaged in about 90 min of school-related sitting and over 8 hours of leisure-related sitting per day.
- Parents of children ages 9-13 years were more likely to perceive a greater decrease of physical activity compared to parents of children ages 5-8.

Dunton et al. (Dec 4, 2020). *Early Effects of the COVID-19 Pandemic on Physical Activity and Sedentary Behavior in Children Living in the U.S*. *BMC Public Health*. <https://doi.org/10.1186/s12889-020-09429-3>

- Cross-sectional surveys in Singapore, China, and Italy (n=4,505) show that respondents reported high awareness of COVID-19 and its symptoms, and similarly high levels of information sufficiency, adherence, and acceptance to public health control measures. Higher self-efficacy was associated with lower anxiety levels, while superstition, fatalism, and considering messaging apps as the most trustworthy sources were associated with higher anxiety levels.

Lim et al. (Sept 5, 2020). *Population Anxiety and Positive Behaviour Change during the COVID-19 Epidemic: Cross-sectional Surveys in Singapore, China and Italy*. *Influenza and Other Respiratory Viruses*. <https://doi.org/10.1111/irv.12785>

- Based on a screening questionnaire for post-partum depression, 15% of women (n=223) whose last trimester of pregnancy overlapped with national lockdowns in Turkey and gave birth in a tertiary

care center with strong hospital restrictions were considered at risk for postpartum depression, compared to an estimate of 8% of post-partum women in a period prior to the pandemic. These women also had lower Maternal Attachment Inventory scores than women who were not at risk for postpartum depression.

Oskovi-Kaplan et al. (Sept 4, 2020). The Effect of COVID-19 Pandemic and Social Restrictions on Depression Rates and Maternal Attachment in Immediate Postpartum Women: A Preliminary Study. Psychiatric Quarterly. <https://doi.org/10.1007/s11126-020-09843-1>

Modeling and Prediction

- *[Pre-print, not peer-reviewed]* Cost modeling indicates that implementing extensive social distancing with masks on college campuses could prevent up to 87% of COVID-19 cases at a cost of \$168 per case prevented. Adding lab testing of asymptomatic students every 3 days would prevent up to 96% of cases, but would raise the cost to \$8,300 per case prevented for tests that cost \$10 per test. Using a \$1 test would cost \$275 per case prevented.

Losina et al. (Sept 5, 2020). College Campuses and COVID-19 Mitigation Clinical and Economic Value. Pre-print downloaded Sep 8 from <https://doi.org/10.1101/2020.09.03.20187062>

- Based on a modeling study based on Ontario, Canada, enacting lockdown policies at the county level would cause significantly fewer person-days of closure compared to enacting them at the province level, even under the same trigger threshold for cases and in a scenario with high intercounty travel. The authors conclude that these findings suggest local strategies may be better suited for handling the tail-end of the pandemic.

Karatayev et al. (Sept 4, 2020). Local Lockdowns Outperform Global Lockdown on the Far Side of the COVID-19 Epidemic Curve. Proceedings of the National Academy of Sciences.

<https://doi.org/10.1073/pnas.2014385117>

- *[Pre-print, not peer-reviewed]*In the context of outbreak control on university campuses, Bergstrom et al. modeled the potential trade-offs of testing accuracy, frequency, and delay of results and found that even with a false negative rate of 30%, testing every second day can reduce R_0 from 2.5 to below 1 given a one day delay of results.
- Even if tests are done daily, a 2-day delay would not be able to lower R_0 below 1.

Bergstrom et al. (Sept 8, 2020). Frequency and Accuracy of Proactive Testing for COVID-19. Pre-print downloaded Sep 8 from <https://doi.org/10.1101/2020.09.05.20188839>

Public Health Policy and Practice

- Hospitalizations of young children due to acute respiratory illnesses (ARI) dropped dramatically in April 2020 in rural Alaska, in contrast to the past 10 seasons, when the seasonal decline began in June. Among 26 seasons of data, no season prior to the COVID-19 pandemic season also had a four-week stretch with no ARI admissions, demonstrating the potential secondary benefits of physical distancing and travel restrictions.

Nolen et al. (Sept 5, 2020). Impact of Social Distancing and Travel Restrictions on Non-COVID-19 Respiratory Hospital Admissions in Young Children in Rural Alaska. Clinical Infectious Diseases.

<https://doi.org/10.1093/cid/ciaa1328>

- Compared to white respondents, Black respondents to a Pew survey (n=10,624) had a 1.4-fold higher odds of reporting that they had used telehealth as a result of the COVID-19 pandemic. The

association was particularly strong among respondents who perceived the COVID-19 pandemic to be a minor threat (aOR=1.92).

Campos-Castillo and Anthony. (Sept 7, 2020). Racial and Ethnic Differences in Self-Reported Telehealth Use during the COVID-19 Pandemic: A Secondary Analysis of a U.S. Survey of Internet Users from Late March. Journal of the American Medical Informatics Association.
<https://doi.org/10.1093/jamia/ocaa221>

- The Cornell Farmworker Program, in partnership with Finger Lakes Community Health, implemented an approach to support farmworkers by creating a language concordant text messaging system that reached over 3,000 farmworkers and a webinar to communicate COVID-19 information regarding safety and regulations in which over 500 farmworkers participated.

Dudley. (Sept 7, 2020). Reaching Invisible and Unprotected Workers on Farms during the Coronavirus Pandemic. Journal of Agromedicine.
<https://doi.org/10.1080/1059924X.2020.1815625>

- *[Pre-print, not peer-reviewed]* As of July 2020, only 16 states had recommended asymptomatic testing of the public, while 9 states actively recommended against it. The per capita rate of COVID-19 tests reported in each state correlated with more permissive testing recommendations and with higher epidemic intensity. Higher per capita testing was weakly associated with more complete reporting of COVID-19 deaths.

Perniciaro et al. (Sept 7, 2020). Variations in State-Level SARS-COV-2 Testing Recommendations in the United States March-July 2020. Pre-print downloaded Sep 8 from
<https://doi.org/10.1101/2020.09.04.20188326>

Other Resources and Commentaries

- [COVID-19 Exacerbates Violence against Health Workers](#) – The Lancet (Sept 5)
- [Immunological Considerations for COVID-19 Vaccine Strategies](#) – Nature Reviews Immunology (Sept 4)
- [COVID-19: A New Lens for Non-Communicable Diseases](#) – The Lancet (Sept 5)
- [US University Workers Fight a Return to Campus as COVID-19 Cases Grow](#) – Nature (Sept 4)
- [Attitudes Toward a Potential SARS-CoV-2 Vaccine: A Survey of U.S. Adults](#) – Annals of Internal Medicine (Sept 4)
- [Presenting Characteristics, Smoking versus Diabetes and Outcome among Patients Hospitalized with COVID-19](#) – Journal of Medical Virology (Sept 4)
- [Humor in the Age of COVID-19 Lockdown: An Explorative Qualitative Study](#) – Psychiatria Danubina (Sept 5)
- [Social Distancing and COVID-19: An Unprecedented Active Transport Public Health Opportunity](#) – British Journal of Sports Medicine (Sept 7)
- [Decreased Case Fatality Rate of COVID-19 in the Second Wave: A Study in 53 Countries or Regions](#) – Transboundary and Emerging Diseases (Sept 6)
- [Factors Associated with Nursing Homes' Late Participation in COVID-19 Reporting](#) – Journal of the American Geriatrics Society (Sept 7)
- [Asymptomatic SARS Coronavirus 2 Infection: Invisible yet Invincible](#) – International Journal of Infectious Diseases (Sept 3)

- [Interdisciplinary Information for Infectious Disease Response: Exercising for Improved Medical/Public Health Communication and Collaboration](#) – Disaster Medicine and Public Health Preparedness (Sept 8)
- [SARS-CoV-2 RNA in Plasma Is Associated with ICU Admission and Mortality in Patients Hospitalized with COVID-19](#) – Clinical Infectious Diseases (Sept 5)
- [Years of Life Lost Associated with COVID-19 Deaths in the United States](#) – Journal of Public Health (Sept 7)
- [Multi-System Inflammatory Syndrome in Children & Adolescents \(MIS-C\): A Systematic Review of Clinical Features and Presentation](#) – Paediatric Respiratory Reviews (Aug 11)
- [COVID-19 and HIV Spotlight the U.S. Imperative for Permanent Affordable Housing](#) – Clinical Infectious Diseases (Sept 5)
- [Beneficial and Harmful Outcomes of Tocilizumab in Severe COVID-19 A Systematic Review and Meta-Analysis](#) – medRxiv (Sept 8)
- [What Is COVID-19 Teaching Us About Community Health Systems? A Reflection From a Rapid Community-Led Mutual Aid Response in Cape Town, South Africa](#) – International Journal of Health Policy and Management (Sept 1)
- [Clinical Characteristics, Cause Analysis and Infectivity of COVID-19 Nucleic Acid Re-positive Patients: A Literature Review](#) – Journal of Medical Virology. (Sept 5)

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