



2019-nCoV Literature

Situation Report (Lit

Rep)

October 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

- **Twenty counties in the US in which mass-gathering rallies associated with the US Presidential campaign were held during August-September 2020 had an average 50% increase in the COVID-19 incidence 15 days after the gathering date. In comparison, the incidence among counties without such gatherings had a 2% increase.** [More](#)
- **Shorter time between exposure and the development of symptoms was associated with more frequent detection of COVID-19 associated pneumonia.** [More](#)
- **Household and neighborhood characteristics associated with COVID-19 mortality among persons ≥70 years in Sweden included close exposure to working-age household members, living in a care home, and living in dense neighborhoods.** [More](#)

Transmission

- *[Pre-print, not peer reviewed]* Among 20 counties in the US in which mass-gathering rallies associated with presidential campaigns were held (19 outdoor and 1 indoor) during August-September 2020, the COVID-19 incidence increased from 8.6 per 100,000 capita at the time of the gathering to 12.8 per 100,000 capita 15 days after the gathering (average of 50% increase, range 20% to 380%). In comparison, counties without gatherings had a 2% increase in incidence using a comparison index date (September 15). The authors suggest a need for precautions in mass gatherings, even when outdoors and in areas with a low incidence of COVID-19. *[EDITORIAL NOTE: This ecological comparison did not account for potential differences in other infection control measures in place between counties.]*
Miron et al. (Oct 27, 2020). COVID-19 Infections Following Outdoor Mass Gatherings in Low Incidence Areas Retrospective Cohort Study. Pre-print downloaded Oct 28 from <https://doi.org/10.1101/2020.10.22.20184630>
- *[Pre-print, not peer reviewed]* A study examining the effect of school re-opening on county-level COVID-19 incidence in Florida reported that counties with in-person instruction experienced a 16% increase in SARS-CoV-2 incidence at day 20 after school reopening among children age 6-13 years (from 11 to 12.8 per 100,000) and an increase of 27% among children age 14-17 (from 16.1 to 20.5 per 100,000). In counties with remote teaching, there was no significant increase; however, during the 10 days before school re-openings, counties that remained remote had considerably lower incidence than counties that subsequently started in-person instruction, indicating differences in community transmission between counties that did and did not re-open schools with in-person

instruction. [EDITORIAL NOTE: This ecological comparison did not account for potential differences in other infection control measures in place between counties. Additionally, in-person instruction may have resulted in a higher level of detection of infected children that may not have been identified in the absences of in-person instruction. No information was provided as to whether testing practices differed between counties or were altered by school openings.]

Miron et al. (Oct 27, 2020). COVID-19 Infections Following Physical School Reopening. Pre-print downloaded Oct 28 from <https://doi.org/10.1101/2020.10.24.20218321>

Testing and Treatment

- [Pre-print, not peer reviewed] A direct comparison between the STANDARD Q-COVID-19 Antigen Test (Ag-RDT) (Roche) and an approved RT-PCR (Roche Cobas) in samples obtained from 289 ambulatory participants demonstrated that the sensitivity of Ag-RDT with a supervised, self-collected anterior nasal swab sampling was 74.4% and specificity was 99.2%. The sensitivity with a professional-collected nasopharyngeal swab was 79.5% and specificity was 99.6%.

Lindner et al. (Oct 27, 2020). Head-to-Head Comparison of SARS-CoV-2 Antigen-Detecting Rapid Test with Self-Collected Anterior Nasal Swab versus Professional-Collected Nasopharyngeal Swab. Pre-print downloaded Oct 28 from <https://doi.org/10.1101/2020.10.26.20219600>

- [Pre-print, not peer reviewed] Paired testing between nasopharyngeal swab (NPS) and saliva samples from 300 patients (including both pediatric and adult patients) showed that the concordance of saliva and NPS samples was 91.0% and 94.7%, respectively. The positive percent agreement was 81.4% (79/97) and 89.7% (87/97), respectively. The authors suggest that saliva can be an appropriate alternative sample choice to NPS for detection of SARS-CoV-2.

Yee et al. (Oct 27, 2020). Saliva Is a Promising Alternative Specimen for the Detection of SARS-CoV-2 in Children and Adults. Pre-print downloaded Oct 28 from <https://doi.org/10.1101/2020.10.25.20219055>

- [Pre-print, not peer reviewed] Results from 3 non-overlapping cohorts in the UK demonstrated that the overall prevalence of detectable IgG antibodies against SARS-CoV-2 declined by 27% (from 6.0% to 4.4%) between late June and September 2020. Greater levels of decline were seen among older people aged 75+ years (-39%) compared to those 18-24 years old (-15%) and people who did not report a history of COVID-19 symptoms (-64%) compared to those with SARS-CoV-2 infection confirmed on PCR (-22%).

Ward et al. (Oct 27, 2020). Declining Prevalence of Antibody Positivity to SARS-CoV-2 a Community Study of 365000 Adults. Pre-print downloaded Oct 28 from <https://doi.org/10.1101/2020.10.26.20219725>

Vaccines and Immunity

- [Pre-print, not peer reviewed] In a cohort of workers outside Paris, both the concentration (titer) and quality of antibodies against SARS-CoV-2 declined 4-8 weeks after sampling. Among a cohort of 1,847 active workers in the Paris conurbation in France, 11% were positive for IgG against SARS-CoV-2-specific protein and 9.5% had evidence of viral neutralization. After 4-8 weeks since the first sampling, anti-N and anti-S IgG titers and neutralization activity declined by 31%, 17%, and 53%, respectively.

Anna et al. (Oct 27, 2020). High Seroprevalence but Short-Lived Immune Response to SARS-CoV-2 Infection in Paris. Pre-print downloaded Oct 28 from <https://doi.org/10.1101/2020.10.25.20219030>

Clinical Characteristics and Health Care Setting

- Shorter time between exposure and the development of symptoms was associated with more frequent detection of COVID-19 associated pneumonia. A study of 330 patients hospitalized with laboratory-confirmed COVID-19 in January and February reported that patients with a shorter incubation period (defined as <3 days between the time of exposure and the onset of symptoms) were more likely to have aggravation of lung involvement based on CT scan, compared to patients with a longer incubation period (>10 days) (21% vs. 8%, $p=0.042$). Exposure was defined using medical history and “travel track” data (derived from smartphones, mobile payment, closed-circuit television, high-speed rail or airplane, and other sources).
Lai et al. (Oct 27, 2020). Shorter Incubation Period Is Associated with Severe Disease Progression in Patients with COVID-19. Virulence. <https://doi.org/10.1080/21505594.2020.1836894>
- Household and neighborhood characteristics associated with COVID-19 mortality among older people (aged ≥ 70 years) included close exposure to working-age household members, living in a care home, and living in dense neighborhoods. In a population-based cohort of older adults in Stockholm county in Sweden ($n=274,712$), close exposure to working-age household members (<66 years) ($aHR=1.6$), living in a care home ($aHR=4.1$), and living in neighborhoods with the highest population density ($aHR=1.7$) were associated with higher COVID-19 mortality.
Brandén et al. (Oct 28, 2020). Residential Context and COVID-19 Mortality among Adults Aged 70 Years and Older in Stockholm: A Population-Based, Observational Study Using Individual-Level Data. The Lancet Healthy Longevity. [https://doi.org/10.1016/S2666-7568\(20\)30016-7](https://doi.org/10.1016/S2666-7568(20)30016-7)

Mental Health and Personal Impact

- Nurses in China reported low levels of post-traumatic stress and moderate levels of post-traumatic growth when surveyed in April. An online cross-sectional survey of 12,596 nurses in China (52% worked in COVID-19 designated hospitals) reported that 13% reported trauma whereas 39% experienced post-traumatic growth. Nurses who identified as women, worked in ICUs, COVID-19 designated hospitals, and departments involved with treating COVID-19 patients had greater prevalence of self-reported traumatic response and emotional exhaustion. Nurses reported moderate levels of burnout, with higher levels reported among nurses who work in COVID units.
Chen et al. (Oct 27, 2020). A Large-Scale Survey on Trauma, Burnout, and Posttraumatic Growth among Nurses during the COVID-19 Pandemic. International Journal of Mental Health Nursing. <https://doi.org/10.1111/inm.12796>
- [Pre-print, not peer reviewed] Qualitative interviews following school re-opening in the UK demonstrated that both families and staff were generally supportive of COVID-19 mitigation efforts. A qualitative interview with 13 school staff, 20 parents and 17 young people revealed that participants saw the anticipated COVID-19 mitigation plans implemented prior to school re-opening as acceptable and pragmatic. Specific measures included including mask wearing, handwashing, social distancing between teachers and students, and year “bubbles” (preventing groups of young students from mixing with others). Participants supported school COVID-19 testing but identified the need to consider data security and stigma.
Lorenc et al. (Oct 27, 2020). Reducing Covid-19 Risk in Schools a Qualitative Examination of Staff and Family Views and Concerns. Pre-print downloaded Oct 28 from <https://doi.org/10.1101/2020.10.25.20216937>

Modeling and Prediction

- [Pre-print, not peer reviewed] According to estimates from a modeling study, the Executive Order issued by New York State mandating mask use reduced the number of COVID-19 infections by 99,517

(95% CIs: 72,723-126,312) and COVID-related deaths by 7,978 (5,692-10,265). If the Executive Order were implemented earlier, greater numbers of infections and deaths would have been averted (12% more reduction in infections and 13% in deaths if 1 week earlier; 29% in infections and 32% in deaths if 2 weeks earlier).

Shen et al. (Oct 27, 2020). Effects of New York's Executive Order on Face Mask Use on COVID-19 Infections and Mortality A Modeling Study. Pre-print downloaded Oct 28 from <https://doi.org/10.1101/2020.10.26.20219527>

Other Resources and Commentaries

- [Maintaining Confidentiality of Emerging Results in COVID-19 Vaccine Trials Is Essential](#) – The Lancet (Oct 28)
- [Effects of the COVID-19 Imposed Lockdown in Adults with ADHD: A Cross-Sectional Survey](#) – JMIR Formative Research (Oct 27)
- [A Cautionary Note on the Association between Meteorological Parameters and COVID-19 Pandemic](#) – Journal of Global Health (Aug 11)
- [Policies Matter! Factors Contributing to Nursing Home Outbreaks During the COVID-19 Pandemic](#) – Policy, Politics, & Nursing Practice (Oct 27)
- [Bibliometric Analysis of Early COVID-19 Research: The Top 50 Cited Papers](#) – Infectious Diseases
- [Financial Stability as a Goal of Payment Reform—A Lesson From COVID-19](#) – JAMA (Oct 27)
- [From Biological Safety to Social Safety: How Taiwan's Community Centered Prevention Program Controlled the COVID-19 Outbreak](#) – Journal of Global Health (July 21)
- [Fluctuating High Throughput Serological Assay Results in Recurrent Convalescent Plasma Donors](#) – MedRxiv (Oct 27)
- [CO2 Measurements in Instrumental and Vocal Closed Room Settings as a Risk Reducing Measure for a Coronavirus Infection](#) – MedRxiv (Oct 27)
- [Abusers Indoors and Coronavirus Outside: An Examination of Public Discourse about COVID-19 and Family Violence on Twitter \(Preprint\)](#) – Journal of Medical Internet Research (Oct 27)

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