Providence

COVID-19 Resource Desk

#130 | 10.23.22 to 10.29.22

Prepared by System Library Services Retraction Watch

New Research

*note, **PREPRINTS** have not undergone formal peer review

COVID-19 related publications by Providence caregivers – see Digital Commons

Clinical Syndrome

1. **Distinguishing SARS-CoV-2 persistence and reinfection: A retrospective cohort study.** Turbett SE, et al. *Clin Infect Dis.* 2022 Oct 21:ciac830. doi: 10.1093/cid/ciac830. https://doi.org/10.1093/cid/ciac830

Despite good overall concordance with viral genomic analysis, clinical and Ct value-based assessments failed to identify 33% of genomically-supported reinfections. Scaling-up genomic analysis for clinical use would improve detection of SARS-CoV-2 reinfections.

Epidemiology & Public Health

2. **The changing epidemiology of PIMS-TS across COVID-19 waves: prospective national surveillance, January 2021 to July 2022, England.** Shingleton J, et al. *J Infect*. 2022 Oct 20:S0163-4453(22)00617-X. doi: 10.1016/j.jinf.2022.10.017. https://doi.org/10.1016/j.jinf.2022.10.017

In April 2020, a rare but serious paediatric Multisystem Inflammatory Syndrome (PIMS-TS, also known as MIS-C) was identified, which was temporally and geographically associated with SARS-CoV-2. [[1]] In England, we estimated a PIMS-TS risk of 0·045% (95% credible interval, 0·035–0·068%) after SARS-CoV-2 infection in <15 year-olds, with a lag of 2–6 weeks.

3. **Racial and Ethnic Disparities in Outpatient Treatment of COVID-19 - United States, January-July 2022.** Boehmer TK et al. *MMWR Morb Mortal Wkly Rep*. 2022 Oct 28;71(43):1359-1365. doi: 10.15585/mmwr.mm7143a2. https://www.cdc.gov/mmwr/volumes/71/wr/mm7143a2.htm?s_cid=mm7143a2_w

Using electronic health record (EHR) data from 692,570 COVID-19 patients aged ≥20 years who sought medical care during January-July 2022, treatment with Paxlovid, Lagevrio, Veklury, and mAbs was assessed by race and ethnicity, overall and among high-risk patient groups. During 2022, the percentage of COVID-19 patients seeking medical care who were treated with Paxlovid increased from 0.6% in January to 20.2% in April and 34.3% in July; the other three medications were used less frequently (0.7%-5.0% in July). During April-July 2022, when Paxlovid use was highest, compared with White patients, Black or African American (Black) patients were prescribed Paxlovid 35.8% less often,

multiple or other race patients 24.9% less often, American Indian or Alaska Native and Native Hawaiian or other Pacific Islander (AIAN/NHOPI) patients 23.1% less often, and Asian patients 19.4% less often; Hispanic patients were prescribed Paxlovid 29.9% less often than non-Hispanic patients. Racial and ethnic disparities in Paxlovid treatment were generally somewhat higher among patients at high risk for severe COVID-19, including those aged ≥50 years and those who were immunocompromised. The expansion of programs focused on equitable awareness of and access to outpatient COVID-19 treatments, as well as COVID-19 vaccination, including updated bivalent booster doses, can help protect persons most at risk for severe illness and facilitate equitable health outcomes.

4. **Notes From the Field: Dispensing of Oral Antiviral Drugs for Treatment of COVID-19 by Zip Code-Level Social Vulnerability - United States, December 23, 2021-August 28, 2022.** Sullivan M et al. *MMWR Morb Mortal Wkly Rep*. 2022 Oct 28;71(43):1384-1385. doi: 10.15585/mmwr.mm7143a3. https://www.cdc.gov/mmwr/volumes/71/wr/mm7143a3.htm?s_cid=mm7143a3_w

This report provides an updated analysis of dispensing rates by zip code-level social vulnerability and highlights important intervention strategies.

Therapeutics

5. **Effect of Ivermectin vs Placebo on Time to Sustained Recovery in Outpatients With Mild to Moderate COVID-19: A Randomized Clinical Trial.** Accelerating COVID-19 Therapeutic Interventions and Vaccines (ACTIV-6) Study Group and Investigators. *JAMA.* 2022 Oct 21. doi: 10.1001/jama.2022.18590. https://doi.org/10.1001/jama.2022.18590

Among outpatients with mild to moderate COVID-19, treatment with ivermectin, compared with placebo, did not significantly improve time to recovery. These findings do not support the use of ivermectin in patients with mild to moderate COVID-19.

6. **A pilot randomized trial to evaluate the efficacy of oral and nasal povidone iodine in reducing the burden of severe acute respiratory syndrome coronavirus 2 RNA in patients with coronavirus disease 2019.** Redmond SN, et al. *Infect Control Hosp Epidemiol.* 2022 Oct 21:1-2. doi: 10.1017/ice.2022.257. https://doi.org/10.1017/ice.2022.257

Here, we tested the hypothesis that povidone iodine nasal solution and gargle would be effective in reducing nasal and oral SARS-CoV-2 RNA levels 8 hours after dosing in patients with acute COVID-19 infection.

7. **Effect of Lower vs Higher Oxygen Saturation Targets on Survival to Hospital Discharge Among Patients Resuscitated After Out-of-Hospital Cardiac Arrest: The EXACT Randomized Clinical Trial.** Bernard SA et al. *JAMA*. 2022 Oct 26. doi: 10.1001/jama.2022.17701. Online ahead of print. https://jamanetwork.com/journals/jama/fullarticle/2798013

Among patients achieving return of spontaneous circulation after out-of-hospital cardiac arrest, targeting an oxygen saturation of 90% to 94%, compared with 98% to 100%, until admission to the intensive care unit did not significantly improve survival to hospital discharge. Although the trial is limited by early termination due to the COVID-19 pandemic, the findings do not support use of an

oxygen saturation target of 90% to 94% in the out-of-hospital setting after resuscitation from cardiac arrest.
TRIAL REGISTRATION: ClinicalTrials.gov Identifier: NCT03138005.

8. **Favipiravir in early symptomatic COVID-19, a randomised placebo-controlled trial.** McMahon JH et al. *EClinicalMedicine*. 2022 Oct 20;54:101703. doi: 10.1016/j.eclinm.2022.101703. eCollection 2022 Dec. https://www.thelancet.com/journals/eclinm/article/PIIS2589-5370(22)00433-3/fulltext

Favipiravir does not improve the time to virological cure or clinical outcomes and shows no evidence of an antiviral effect when treating early symptomatic COVID-19 infection.
FUNDING: The study was supported in part by grants from the Commonwealth Bank Australia, the Lord Mayor's Charitable Foundation, Melbourne Australia and the Orloff Family Charitable Trust, Melbourne, Australia. JHM is supported by the Medical Research Future Fund, AYP, JT are supported by the Australian National Health and Medical Research Council.

Vaccines / Immunology

9. **Durability of ChAdOx1 nCoV-19 (AZD1222) vaccine and hybrid humoral immunity against variants including omicron BA.1 and BA.4 6 months after vaccination (COV005): a post-hoc analysis of a randomised, phase 1b-2a trial.** Madhi SA, et al. *Lancet Infect Dis.* 2022 Oct 20:S1473-3099(22)00596-5. doi: 10.1016/S1473-3099(22)00596-5. https://doi.org/10.1016/s1473-3099(22)00596-5

A single dose of AZD1222 in the general African population, where COVID-19 vaccine coverage is low and SARS-CoV-2 seropositivity is 90%, could enhance the magnitude and quality of antibody responses to SARS-CoV-2.

10. **Comparative risk of thrombosis with thrombocytopenia syndrome or thromboembolic events associated with different covid-19 vaccines: international network cohort study from five European countries and the US.** Li X et al. *BMJ*. 2022 Oct 26;379:e071594. doi: 10.1136/bmj-2022-071594. https://www.bmj.com/content/379/bmj-2022-071594

In this multinational study, a pooled 30% increased risk of thrombocytopenia after a first dose of the ChAdOx1-S vaccine was observed, as was a trend towards an increased risk of venous thrombosis with thrombocytopenia syndrome after Ad26.COV2.S compared with BNT162b2. Although rare, the observed risks after adenovirus based vaccines should be considered when planning further immunisation campaigns and future vaccine development.

11. **Vaccine-Triggered Acute Autoimmune Myocarditis: Defining, Detecting, and Managing an Apparently Novel Condition.** Mohiddin SA, Guttmann O, Marelli-Berg F. *J Am Heart Assoc*. 2022 Oct 26:e026873. doi: 10.1161/JAHA.122.026873. Online ahead of print. https://www.ahajournals.org/doi/10.1161/JAHA.122.026873

Among the seemingly endless “unknown-unknowns” that the COVID era has foisted on policy makers, public health, health care providers, researchers, and the public is the apparently novel cardiac disease identified in this issue of the Journal of the American Heart Association (JAHA)1 as ”myocarditis after COVID-19 vaccination,” elsewhere as ”postvaccine myocarditis,” and perhaps in the future along the

lines of ”vaccine-triggered, self-limiting, acute autoimmune myocarditis.” This potentially serious complication has been associated with serious harm, arguably most prominently through promotion of vaccine hesitancy, another complex mechanism underlying COVID19-mediated harm.

Women & Children

12. **Effect of Wearing a Face Mask on Hand-to-Face Contact by Children in a Simulated School Environment: The Back-to-School COVID-19 Simulation Randomized Clinical Trial.** Science M et al. *JAMA Pediatr*. 2022 Oct 24. doi: 10.1001/jamapediatrics.2022.3833. Online ahead of print. https://jamanetwork.com/journals/jamapediatrics/fullarticle/2797601

In this clinical trial of simulated school attendance, hand-to-face contacts did not differ among students required to wear face masks vs students not required to wear face masks; however, hand-to-mucosa contracts were lower in the face mask group. This suggests that mask wearing is unlikely to increase infection risk through self-inoculation.
TRIAL REGISTRATION: ClinicalTrials.gov Identifier: NCT04531254.

13. **Association of Spike-Specific T Cells With Relative Protection From Subsequent SARS-CoV-2 Omicron Infection in Young Children.** Dowell AC, Ireland G, Zuo J, Moss P, Ladhani S; sKIDs Investigation Team. *JAMA Pediatr*. 2022 Oct 24. doi: 10.1001/jamapediatrics.2022.3868. Online ahead of print. https://jamanetwork.com/journals/jamapediatrics/fullarticle/2797604

Plain Language Summary: This cohort study investigates the risk of SARS-CoV-2 reinfection among young children with and without spike-specific T-cell responses.

14. **Myocarditis After COVID-19 Vaccination in Pediatrics: A Proposed Pathway for Triage and Treatment.** Sandeep N, Fairchok MP, Hasbani K. *J Am Heart Assoc*. 2022 Oct 26:e026097. doi: 10.1161/JAHA.122.026097. Online ahead of print. https://www.ahajournals.org/doi/10.1161/JAHA.122.026097

With the goal of standardizing care and reducing variability, while still ensuring safety, we propose this pathway to guide decision-making about triaging, testing, and treatment for all providers involved in the care of these patients, beginning in the emergency department, where most (if not all) patients will be triaged (Figure). We believe our pathway can be applied at all centers including those without immediate access to certain cardiology testing modalities (eg, continuous telemetry, pediatric echocardiography services, cardiac MRI). The terms myocarditis and myopericarditis (ie, myocarditis accompanied by inflammation of the pericardium) have been used interchangeably in the literature, and herein we follow the CDC convention of using myocarditis to include myocarditis, pericarditis, and myopericarditis.

15. **Infants Born Following SARS-CoV-2 Infection in Pregnancy.** Capretti MG et al. *Pediatrics*. 2022 Oct 26:e2022056206. doi: 10.1542/peds.2022-056206. Online ahead of print. https://publications.aap.org/pediatrics/article/doi/10.1542/peds.2022-056206/189773/Infants-Born-Following-SARS-CoV-2-Infection-in?

Clinical outcomes were favorable in all infants. Matching peak IgG level after infection and higher IgG transplacental transfer might result in the most durable neonatal passive immunity.

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