Providence

COVID-19 Resource Desk

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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

Epidemiology & Public Health

1. **Rate of COVID-19 vaccination among patients with cancer who tested positive for severe acute respiratory syndrome-coronavirus 2: Analysis of the American Society of Clinical Oncology Registry.** Kurbegov D et al. *Cancer*. 2023 Mar 15. doi: 10.1002/cncr.34726. https://acsjournals.onlinelibrary.wiley.com/doi/full/10.1002/cncr.34726

Patient age, cancer type, comorbidity, area-level education attainment, and unemployment rates were associated with differential vaccine uptake rates. These findings should inform strategies to communicate about vaccine safety and efficacy to patients with cancer.

2. **Vaccines for Children Provider Practices in the COVID-19 Vaccination Program: Barriers to Participation, Intentions to Offer COVID-19 Vaccination to Children Aged <5 Years, and Vaccination Promotion, United States, March 2022.** Kang Y, et al. *Clin Pediatr (Phila)*. 2023 Mar 15:99228231161335. doi: 10.1177/00099228231161335. https://journals.sagepub.com/doi/10.1177/00099228231161335

The aim of the study was to assess barriers to Vaccines for Children (VFC) provider practices participating in the COVID-19 Vaccination Program and intentions to offer COVID-19 vaccination to children aged <5 years. We invited a random sample of 15 000 VFC provider practices in the United States to complete an online survey during February 28 to March 11, 2022. Of 2809 practices that completed the survey, 2246 (80.0%) were enrolled in the COVID-19 Vaccination Program. Concerns around staff resources, vaccine and supply storage space, and vaccine wastage from multidose vials were the most frequently reported program-enrollment barriers. Among enrolled practices that have decided whether to offer COVID-19 vaccination to the children aged <5 years, 1641 (88.8% of 1848) reported likely offering it to current patients, and 1165 reported likely offering it to children who are not current patients. Addressing participation barriers and encouraging active promotion may increase COVID-19 vaccination coverage of children.

Healthcare Delivery & Healthcare Workers

3. **Intentions for uptake of the coronavirus disease 2019 (COVID-19) vaccine booster in healthcare workers.** Stone TD, et al. *Infect Control Hosp Epidemiol*. 2023 Mar 13:1-3. doi: 10.1017/ice.2022.307. https://doi.org/10.1017/ice.2022.307

Most HCWs (82.8%) in this sample planned or had received the COVID-19 vaccine booster August 2021–October 2021, and 85% had received the booster by April 2022. This willingness or receipt was higher than the uptake rate for US adults (51.5%) as of August 2022, for US healthcare personnel (67.1%) in the 2021–2022 season, and for Chicago adults (47.3%) as of November 21, 2022. This higher rate of actual or planned booster uptake in our cohort is encouraging given the toll of COVID-19 among HCWs and the need for HCWs to be trusted purveyors of health information. High booster uptake rates in physicians and specific HCW populations are consistent with previous data showing higher vaccination rates in physicians than other HCWs including nurses and by age and race.

Therapeutics

4. **Effectiveness of Molnupiravir and Nirmatrelvir-Ritonavir in Hospitalized Patients With COVID-19 : A Target Trial Emulation Study.** Wan EYF, et al. *Ann Intern Med*. 2023 Mar 14. doi: 10.7326/M22-3057. https://doi.org/10.7326/m22-3057

Molnupiravir and nirmatrelvir-ritonavir reduced all-cause mortality in both vaccinated and unvaccinated hospitalized patients. No significant reduction in ICU admission or the need for ventilatory support was observed.

Transmission / Infection Control

5. **Coronavirus disease 2019 (COVID-19) outbreak on an in-patient medical unit associated with unrecognized exposures in common areas-Epidemiological and whole-genome sequencing investigation.** Kain DC, et al. *Infect Control Hosp Epidemiol.* 2023 Mar 13:1-5. doi: 10.1017/ice.2023.34. https://doi.org/10.1017/ice.2023.34

During outbreak prevention and management, the risk of informal patient care settings, such as geriatric chairs, should be considered. During high-risk periods or during outbreaks, efforts should be made to care for patients in their rooms when possible.

6. **Detection of severe acute respiratory coronavirus virus 2 (SARS-CoV-2) in the air near patients using noninvasive respiratory support devices.** Besen BAMP et al. *Infect Control Hosp Epidemiol*. 2023 Mar 15:1-3. doi: 10.1017/ice.2022.296. https://www.cambridge.org/core/journals/infection-control-and-hospital-epidemiology/article/detection-of-severe-acute-respiratory-coronavirus-virus-2-sarscov2-in-the-air-near-patients-using-noninvasive-respiratory-support-devices/B9CFFD7E9F5221207B22C599EEB432AD

Noninvasive respiratory support (NIRS) devices have increasingly been used for the treatment of acute hypoxemic respiratory failure, including high-flow nasal oxygen (HFNO) and noninvasive positive pressure ventilation (NIPPV). During the coronavirus disease 2019 (COVID-19) pandemic, the use of these devices was subject to divergent recommendations because of being framed as aerosol-generating procedures. The initial reluctance to use NIRS partially contributed to an early intubation paradigm and uncertainty remains. We evaluated whether use of such devices increased severe acute

respiratory coronavirus virus 2 (SARS-CoV-2) in air samples near COVID-19 patients. We detected SARS-CoV-2 positivity using real-time polymerase-chain reaction (RT-PCR).

Vaccines / Immunology

7. **Long-term COVID-19 booster effectiveness by infection history and clinical vulnerability and immune imprinting: a retrospective population-based cohort study.** Chemaitelly H, et al. *Lancet Infect Dis.* 2023 Mar 10:S1473-3099(23)00058-0. doi: 10.1016/S1473-3099(23)00058-0. https://doi.org/10.1016/s1473-3099(23)00058-0

Protection against omicron infection waned after the booster, and eventually suggested a possibility for negative immune imprinting. However, boosters substantially reduced infection and severe COVID-19, particularly among individuals who were clinically vulnerable, affirming the public health value of booster vaccination.

8. **Comparative effectiveness of BNT162b2 versus mRNA-1273 covid-19 vaccine boosting in England: matched cohort study in OpenSAFELY-TPP.** Hulme WJ et al. *BMJ*. 2023 Mar 15;380:e072808. doi: 10.1136/bmj-2022-072808. https://www.bmj.com/content/380/bmj-2022-072808

This matched observational study of adults estimated a modest benefit of booster vaccination with mRNA-1273 compared with BNT162b2 in preventing positive SARS-CoV-2 tests and hospital admission with covid-19 20 weeks after vaccination, during a period of delta followed by omicron variant dominance.

9. **Immunogenicity of Omicron BA.1-adapted BNT162b2 vaccines; randomized trial, 3 months follow-up.** Barda N et al. *Clin Microbiol Infect*. 2023 Mar 13:S1198-743X(23)00121-0. doi: 10.1016/j.cmi.2023.03.007. https://www.sciencedirect.com/science/article/pii/S1198743X23001210

BA.1-adapted mRNA vaccines lead to a stronger neutralizing antibody response against the Omicron BA.1 subvariant.

10. **Early Estimates of Bivalent mRNA Vaccine Effectiveness in Preventing COVID-19-Associated Emergency Department or Urgent Care Encounters and Hospitalizations Among Immunocompetent Adults - VISION Network, Nine States, September-November 2022.** Tenforde MW et al. *MMWR Morb Mortal Wkly Rep*. 2023 Mar 17;71(53):1637-1646. doi: 10.15585/mmwr.mm7153a1. https://www.cdc.gov/mmwr/volumes/71/wr/mm7153a1.htm?s_cid=mm7153a1_w

All eligible persons should stay up to date with recommended COVID-19 vaccinations, including receiving a bivalent booster dose. Persons should also consider taking additional precautions to avoid respiratory illness this winter season, such as masking in public indoor spaces, especially in areas where COVID-19 community levels are high.

11. **Estimation of COVID-19 mRNA Vaccine Effectiveness and COVID-19 Illness and Severity by Vaccination Status During Omicron BA.4 and BA.5 Sublineage Periods.** Link-Gelles R et al.

JAMA Netw Open. 2023 Mar 1;6(3):e232598. doi: 10.1001/jamanetworkopen.2023.2598. https://jamanetwork.com/journals/jamanetworkopen/fullarticle/2802473

In this case-control study of COVID-19 vaccines and illness, VE associated with protection against medically attended COVID-19 illness was lower with increasing time since last dose; estimated VE was higher after receipt of 1 or 2 booster doses compared with a primary series alone.

12. **Protective immunity of SARS-CoV-2 infection and vaccines against medically attended symptomatic omicron BA.4, BA.5, and XBB reinfections in Singapore: a national cohort study.** Tan CY, Chiew CJ, Pang D, Lee VJ, Ong B, Lye DC, Tan KB. *Lancet Infect Dis*. 2023 Mar 13:S1473-3099(23)00060-9. doi: 10.1016/S1473-3099(23)00060-9. https://www.thelancet.com/journals/laninf/article/PIIS1473-3099(23)00060-9/fulltext

Protection against XBB reinfection conferred by a previous omicron infection with vaccination was lower and waned faster than protection against BA.4 or BA.5 reinfection, which is indicative of the greater immune evasiveness of the XBB sublineage. Although severe COVID-19 is uncommon, populations remain vulnerable to future reinfection waves from emerging SARS-CoV-2 variants despite high rates of vaccination and infection, as reflected by substantially higher reinfection rates during Singapore's XBB wave than during the previous BA.5-driven wave. Policy makers could consider emerging public health interventions, such as omicron-adapted bivalent vaccines, to maintain population immunity against COVID-19.

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Women & Children

13. **Changes in Pregnancy-Related Mortality Associated With the Coronavirus Disease 2019 (COVID-19) Pandemic in the United States.** Thoma ME, Declercq ER. *Obstet Gynecol*. 2023 Mar 16. doi: 10.1097/AOG.0000000000005182. https://journals.lww.com/greenjournal/Fulltext/9900/Changes_in_Pregnancy_Related_Mortality_Associated.721.aspx

Pregnancy-related mortality ratios increased more rapidly in 2021 than in 2020, consistent with rising rates of COVID-19-associated mortality among women of reproductive age. This further exacerbated racial and ethnic disparities, especially among American Indian/Alaska Native birthing people.

FDA / CDC / NIH / WHO Updates

CDC and FDA Identify Preliminary COVID-19 Vaccine Safety Signal for Persons Aged 65 Years and Older

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