Providence

COVID-19 Resource Desk

#149 | 3.26.23 to 4.1.23

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. **The Covid-19 pandemic and the expansion of the mortality gap between the United States and its European peers.** Heuveline P. *PLoS One*. 2023 Mar 29;18(3):e0283153. doi: 10.1371/journal.pone.0283153. eCollection 2023. https://doi.org/10.1371/journal.pone.0283153

Applying population-weighted average mortality rates of the five largest West European countries to the US population reveals that this mortality gap increased the number of US deaths by 34.8% in 2021, causing 892,491 "excess deaths" that year. Controlling for population size, the annual number of excess deaths has nearly doubled between 2019 and 2021 (+84.9%). Diverging trends in Covid-19 mortality contributed to this increase in excess deaths, especially towards the end of 2021 as US vaccination rates plateaued at lower levels than in European countries. In 2021, the number of excess deaths involving Covid-19 in the United States reached 223,266 deaths, representing 25.0% of all excess deaths that year. However, 45.5% of the population-standardized increase in excess deaths between 2019 and 2021 is due to other causes of deaths. While the contribution of Covid-19 to excess mortality might be transient, divergent trends in mortality from other causes persistently separates the United States from West European countries. Excess mortality is particularly high between ages 15 and 64. In 2021, nearly half of all US deaths in this age range are excess deaths (48.0%).

Healthcare Delivery & Healthcare Workers

2. **Support for clinicians with moral loss after the pandemic.** Delany C, McDougall R. *BMJ.* 2023 Mar 30;380:e072629. doi: 10.1136/bmj-2022-072629. https://doi.org/10.1136/bmj-2022-072629

Key messages:

- Patient centred care, moral identity, and professional autonomy over clinical practice were restricted by public health regulations at the height of the covid-19 pandemic
- Frontline health staff experienced moral distress and loss as a result of these restrictions and are unlikely to have recovered
- Facilitated ethics discussions are a way of acknowledging and responding to clinicians' experiences and to repair their sense of moral identity

- They also provide an avenue for them to contribute to redesigning and restructuring health system processes as part of covid recovery plans

Prognosis

3. **Association between any underlying health condition and COVID-19-associated hospitalization by age group, Washington State, 2020-2021: a retrospective cohort study.** McConnell KH, et al. *BMC Infect Dis.* 2023 Mar 30;23(1):193. doi: 10.1186/s12879-023-08146-7. https://doi.org/10.1186/s12879-023-08146-7

Individuals with UHCs are at significantly increased risk of COVID-19-associated hospitalization regardless of age. Our findings support the prevention of severe COVID-19 in adults with UHCs in all age groups and in older adults aged 65 + years as ongoing local public health priorities.

Survivorship & Rehabilitation

4. **Functional limitations in individuals with long COVID.** Mazer B, Feldman DE. *Arch Phys Med Rehabil.* 2023 Mar 24:S0003-9993(23)00162-4. doi: 10.1016/j.apmr.2023.03.004. https://doi.org/10.1016/j.apmr.2023.03.004

This population-based study suggests that individuals hospitalized for COVID-19 infection have symptoms that impact daily functional activities many months after infection. It is imperative that the impact of infection is better understood so that those affected long-term can receive the needed services.

Therapeutics

5. **COVID-19 convalescent plasma utilization in the United States: data from the National Inpatient Sample.** Bloch EM, et al. *Clin Infect Dis.* 2023 Mar 29:ciad185. doi: 10.1093/cid/ciad185. https://doi.org/10.1093/cid/ciad185

COVID-19 convalescent plasma (CCP) use between October-December 2020 was characterized using the National Inpatient Sample database. CCP was administered in 18.0% of COVID-19-associated hospitalizations, and was strongly associated with older age and increased disease severity. There were disparities in the receipt of CCP by race and ethnicity, geography, and insurance.

6. **Clinical efficacy of Azithromycin for COVID-19 management: A systematic meta-analysis of meta-analyses.** Yousafzai ADK, et al. *Heart Lung.* 2023 Mar 16;60:127-132. doi: 10.1016/j.hrtlng.2023.03.004. https://doi.org/10.1016/j.hrtlng.2023.03.004

The meta-analysis of meta-analyses portrays AZO as a pharmacological agent that does not appear to have a comparatively superior clinical efficacy than BAT when it comes to COVID-19 management. Secondary to a very real threat of anti-bacterial resistance, it is suggested that AZO be discontinued and removed from COVID-19 management protocols.

Vaccines / Immunology

7. **Determinants of COVID-19 vaccine fatigue.** Stamm TA, et al. *Nat Med*. 2023 Mar 27. doi: 10.1038/s41591-023-02282-y. https://doi.org/10.1038/s41591-023-02282-y

The experiments were embedded in an online survey (n = 6,357 participants) conducted in two European countries (Austria and Italy). Our results suggest that vaccination campaigns should be tailored to subgroups based on their vaccination status. Among the unvaccinated, campaign messages conveying community spirit had a positive effect, whereas offering positive incentives, such as a cash reward or voucher was pivotal to the decision-making of those vaccinated once or twice. Among the triple vaccinated, vaccination readiness increased when adapted vaccines were offered, but costs and medical dissensus reduced their likelihood to get vaccinated. We conclude that failing to mobilize the triple vaccinated is likely to result in booster vaccination rates falling short of expectations. For long-term success, measures fostering institutional trust should be considered. These results provide guidance to those responsible for future COVID-19 vaccination campaigns.

8. **Predicting vaccine effectiveness against severe COVID-19 over time and against variants: a meta-analysis.** Cromer D, et al. *Nat Commun.* 2023 Mar 24;14(1):1633. doi: 10.1038/s41467-023-37176-7. https://doi.org/10.1038/s41467-023-37176-7

Vaccine protection from symptomatic SARS-CoV-2 infection has been shown to be strongly correlated with neutralising antibody titres; however, this has not yet been demonstrated for severe COVID-19. To explore whether this relationship also holds for severe COVID-19, we performed a systematic search for studies reporting on protection against different SARS-CoV-2 clinical endpoints and extracted data from 15 studies. Since matched neutralising antibody titres were not available, we used the vaccine regimen, time since vaccination and variant of concern to predict corresponding neutralising antibody titres. We then compared the observed vaccine effectiveness reported in these studies to the protection predicted by a previously published model of the relationship between neutralising antibody titre and vaccine effectiveness against severe COVID-19. We find that predicted neutralising antibody titres are strongly correlated with observed vaccine effectiveness against symptomatic and severe COVID-19 and that the loss of neutralising antibodies over time and to new variants are strongly predictive of observed vaccine protection against severe COVID-19.

Women & Children

9. **Sex-Specific Neurodevelopmental Outcomes Among Offspring of Mothers With SARS-CoV-2 Infection During Pregnancy.** Edlow AG, et al. *JAMA Netw Open.* 2023 Mar 1;6(3):e234415. doi: 10.1001/jamanetworkopen.2023.4415. https://doi.org/10.1001/jamanetworkopen.2023.4415

In this cohort study of offspring with SARS-CoV-2 exposure in utero, such exposure was associated with greater magnitude of risk for neurodevelopmental diagnoses among male offspring at 12 months following birth. As with prior studies of maternal infection, substantially larger cohorts and longer follow-up will be required to reliably estimate or refute risk. In this cohort study of offspring with SARS-CoV-2 exposure in utero, such exposure was associated with greater magnitude of risk for neurodevelopmental diagnoses among male offspring at 12 months following birth. As with prior studies of maternal infection, substantially larger cohorts and longer follow-up will be required to reliably estimate or refute risk.

10. **Accelerated Longitudinal Weight Gain Among Infants With In Utero COVID-19 Exposure.** Ockene MW, et al. *J Clin Endocrinol Metab.* 2023 Mar 29:dgad130. doi: 10.1210/clinem/dgad130. https://doi.org/10.1210/clinem/dgad130

Infants with in utero COVID-19 exposure exhibited lower birth weight and accelerated weight gain in the first year of life, which may be harbingers of downstream cardiometabolic pathology. Further studies are needed to delineate cardiometabolic sequelae among this emerging global population.

11. **Extracorporeal Membrane Oxygenation Characteristics and Outcomes in Children and Adolescents With COVID-19 or Multisystem Inflammatory Syndrome Admitted to U.S. ICUs.** Overcoming COVID-19 Investigators. *Pediatr Crit Care Med.* 2023 Mar 30. doi: 10.1097/PCC.0000000000003212. https://doi.org/10.1097/pcc.0000000000003212

ECMO support for SARS-CoV-2-related critical illness was uncommon, but type, initiation, and duration of ECMO use in MIS-C and acute COVID-19 were markedly different. Like pre-pandemic pediatric ECMO cohorts, most patients survived to hospital discharge.

GUIDELINES & CONSENSUS STATEMENTS

Guidance for Cardiopulmonary Resuscitation of Children With Suspected or Confirmed COVID-19. *Pediatrics.* 2023 Mar 27:e2023061453. doi: 10.1542/peds.2023-061453.

Update to living WHO guideline on drugs to prevent covid-19. *BMJ.* 2023 Mar 23;380:p692. doi: 10.1136/bmj.p692.

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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