Supplemental Online Content

Jones JM, Opsomer JD, Stone M, et al. Updated US infection- and vaccine-induced SARS-CoV-2 seroprevalence estimates based on blood donations, July 2020-December 2021 *JAMA*. doi:10.1001/jama.2022.9745

eMethods

Additional Acknowledgments

This supplemental material has been provided by the authors to give readers additional information about their work.

eMethods

Study methods were previously published. All blood specimens were tested for S antibodies using the Ortho VITROS SARS-CoV-2 total antibody assay (Ortho Clinical Diagnostics). From July through December 2020, only specimens with borderline positive S antibody results (i.e., signal-to-cutoff ratio, 1-10) were tested for N antibodies. Beginning in January 2021, all specimens that were positive for S antibodies were tested for N antibodies using the Roche Elecsys anti-N total antibody assay (Roche Diagnostics). From June through September 2021, participating laboratories transitioned to testing all specimens for N antibodies using the Ortho VITROS® anti-N total antibody assay (Ortho Clinical Diagnostics). Because infected patients produce both S and N antibodies and the Ortho and Roche N antibody assays are similar in design, these changes were not expected to alter the seroprevalence estimates.

Study regions, based on state and metropolitan borders, were created that encompassed the zip codes in which included blood donors resided. A map of the study regions has been published.[1] Increases in infection-induced seroprevalence were correlated to vaccination rates using vaccine administration data reported to CDC. To account for demographic differences between the blood donor sample and general population, the study seroprevalence estimates were weighted by raking. The 2018 American Community Survey was used to estimate the age, sex, race, and ethnicity composition of the general population of the study regions. In the analysis comparing vaccination rates and seroprevalence, study regions from Georgia and Hawaii were excluded because of high proportions of data missing county rates of residence. January 2021 was used as the beginning date in this analysis because COVID-19 vaccine administration using an FDA-authorized vaccine began on December 14, 2020. The linear regression was estimated with ordinary least squares regression.

Reference

1. Jones JM, Stone M, Sulaeman H, et al. Estimated US infection- and vaccine-induced SARS-CoV-2 seroprevalence based on blood donations, July 2020-May 2021. *JAMA*. 2021;326(14):1400-1409. doi:10.1001/jama.2021.15161

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Consultant

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