SUPPLEMENTARY TABLE. Estimated vaccine effectiveness against hospitalization with COVID-19 after previous SARS-CoV-2 infection that was confirmed by nucleic acid amplification test only* — United States, June 2021–February 2022

Vaccination status	No. case-patients[†]	No. control-patients[†]	VE[§] (95% CI)	
	N = 2,146	N = 4,887	Unadjusted	Adjusted
Unvaccinated (Ref)	1,352	2,498	—	—
Any mRNA vaccine, one dose[¶]	102	277	32.4 (11.8–48.2)	33.2 (12.4–49.0)
Any mRNA vaccine, two doses[¶]	551	1,543	38.2 (28.8–46.4)	40.3 (30.6–48.6)
Pfizer-BioNTech[¶]	299	891	45.5 (33.9–55.1)	48.3 (36.9–57.7)
Moderna[¶]	252	652	26.1 (8.56–40.3)	28.8 (11.0–42.9)
Any mRNA vaccine, booster dose[¶]	141	569	61.3 (51.1–69.3)	61.6 (51.4–69.7)

Abbreviations: NAAT = nucleic acid amplification test; Ref = referent group; VE = vaccine effectiveness.

* Initial diagnosis was based on a previous positive SARS-CoV-2 NAAT result >90 days before the date of the NAAT associated with subsequent hospitalization.

[†] Case-patients had a positive NAAT performed between 10 days before through 3 days after the date of hospitalization with a diagnosis of COVID-19-like illness; control-patients had a negative NAAT result. COVID-19–like illness diagnoses were defined based on other methods (https://www.nejm.org/doi/full/10.1056/nejmoa2110362) and included acute respiratory illness (e.g., COVID-19, respiratory failure, or pneumonia) or related signs or symptoms (e.g., cough, fever, dyspnea, vomiting, or diarrhea) using diagnostic codes from the *International Classification of Diseases, Tenth Revision*. Patients were eligible for inclusion if the hospitalization-associated SARS-CoV-2 NAAT was performed during June 20, 2021–February 24, 2022.

[§] VE was calculated as ([1−odds ratio] x 100), estimated using conditional logistic regression in a test-negative design after matching by 2-week calendar period of NAAT associated with hospital admission, 10-year age group, and state of residence. Adjusted estimates accounted additionally for measured differences in sex, race/ethnicity (White race: yes/no and Hispanic ethnicity: yes/no), number of clinical encounters during 2019 (0, 1–9, or ≥10), number of underlying conditions (0, 1, or >1), and days since previous infection.

[¶] Patients were categorized on the date of the NAAT associated with hospitalization as: 1) unvaccinated, if no COVID-19 vaccine had been received; 2) after dose 1, if ≥14 days had elapsed since receipt of the first dose of an mRNA COVID-19 vaccine and before any second dose; 3) after dose 2, if ≥14 days had elapsed since receipt of a second mRNA vaccine, and no subsequent dose was received; or 4) after a booster dose, if ≥14 days had elapsed since receipt of an mRNA booster dose administered ≥5 months after a second dose. Patients were excluded from the analysis if they received a non-mRNA COVID-19 vaccine, the day of the NAAT associated hospitalization was <14 days after dose 1, dose 2 or a booster dose, dose 2 was <14 days after dose 1, any booster dose was <5 months after dose 2, they received >3 doses of vaccine, or their previous positive NAAT result or COVID-19 diagnosis was after the date of the most recent vaccine dose.