

Appendix

VE Estimates of any SARS-COV-2 infection

Table 1. SARS-COV-2 vaccine effectiveness estimates for any SARS-CoV-2 infection in the healthcare worker COVID-19 vaccine effectiveness study in Zambia, May-March 2022

Characteristic	SARS-CoV-2 infection, (%)	Vaccine effectiveness, % (95% CI)	
		Crude VE	Adjusted VE
Vaccination status [‡]			
Full (n = 422)	79 (18.7)	70.7 (61.7, 77.8)	67.2 (56.4, 75.5)
Partial (n = 195)	75 (38.5)	20.6 (-8.42, 42.1)	22.9 (-7.2, 44.9)
Indeterminate (n = 91)	15 (16.5)	74.9 (57.0, 86.3)	74.2 (54.8, 86.2)
Time period (predominant variant) [¶]			
May to November 2021 (delta) (n = 80)	14 (17.5)	77.0 (59.7, 87.8)	78.0 (59.0, 87.9)
December 2021 to March 2022 (omicron) (n = 342)	65 (19.0)	25.6 (-16.4, 52.1)	29.9 (-10.4, 55.2) [§]
Vaccine type [¶]			
ChAdOx1-S (n = 133)	33 (24.8)	75.0 (57.8, 85.4)	75.6 (57.0, 86.5)
Ad26.COV2.S (n = 286)	46 (16.1)	64.4 (46.9, 76.4)	61.8 (41.9, 75.0)
[†] Mixed-effects model for sex, age, number of comorbidities, and province (random-effects term) [‡] Full vaccination defined as receiving the 1st dose of a one-dose vaccine or 2nd dose of a two-dose vaccine ≥ 14 days prior to COVID-19 [¶] Estimate for full vaccination series adjusted for sex, age, comorbidity, and province [§] All HCWs for Omicron predominant phase were from Lusaka; adjusted for sex, age and number of comorbidities CI: confidence interval; VE: vaccine effectiveness			

VE Estimates for symptomatic SARS-COV-2 infection excluding unvaccinated HCWs with prior SARS-CoV-2 infection

Table 2: SARS-COV-2 vaccine effectiveness estimates for **symptomatic SARS-CoV-2 infection excluding unvaccinated HCWs with prior SARS-CoV-2 infection** in the COVID-19 vaccine effectiveness study in Zambia, May 2021 - March 2022, N=1049

Characteristic	SARS-CoV-2 infection, (%)	Vaccine effectiveness, % (95% CI)	
		Crude VE	Adjusted VE
Vaccination status [†]			
Full (n = 282)	62 (22.0)	74.3 (64.6, 81.6)	69.9 (57.5, 78.9)
Partial (n = 130)	65 (50.0)	8.9 (-33.4, 37.7)	16.9 (-21.1, 44.9)
Indeterminate (n = 49)	13 (26.5)	67.1 (38.2, 83.5)	65.4 (32.7, 83.4)
Time period (predominant variant) [¶]			
May to November 2021 (delta) (n = 43)	10 (23.3)	77.4 (54.7, 89.6)	79.2 (56.5, 90.9)
December 2021 to March 2022 (omicron) (n = 239)	52 (21.8)	12.6 (-58.3, 50.5)	21.2 (-44.9, 56.2) [§]
Vaccine type [¶]			
ChAdOx1-S (n = 97)	27 (27.8)	86.9 (73.9, 93.7)	88.6 (74.4, 95.2)
Ad26.COVS.S (n = 183)	35 (19.1)	65.9 (44.5, 79.3)	57.8 (28.5, 72.6)
[†] Mixed-effects model for sex, age, number of comorbidities, and province (random-			

effects term)

‡ Full vaccination defined as receiving the 1st dose of a one-dose vaccine or 2nd dose of a two-dose vaccine ≥ 14 days prior to COVID-19

¶ Estimate for full vaccination series adjusted for sex, age, comorbidity, and province

§ All HCWs for Omicron predominant phase were from Lusaka; adjusted for sex, age and number of comorbidities

CI: confidence interval; VE: vaccine effectiveness