

**Supplemental Table 1: Multivariable analyses of the relationship between sociodemographic, health and vaccine-related variables on immunogenicity measures one and three months following the second vaccine dose**

Immunogenicity outcome	Variable	Time point					
		1 month after 2nd dose			3 months after 2nd dose		
		Estimate	95% CI	p-value	Estimate	95% CI	p-value
<b>Log<sub>10</sub> anti-RBD Abs<sup>a</sup></b>	HIV infection	-0.017	-0.18 to 0.14	0.83	-0.13	-0.27 to 0.019	0.088
	Age (per year)	-0.0057	-0.0098 to -0.0017	<b>0.0053</b>	-0.0035	-0.0072 to 0.000079	0.055
	Male sex	-0.016	-0.16 to 0.13	0.82	0.028	-0.10 to 0.16	0.68
	White ethnicity	0.053	-0.078 to 0.18	0.43	0.048	-0.069 to 0.17	0.42
	# Chronic conditions (per additional)	-0.11	-0.19 to -0.030	<b>0.0072</b>	-0.086	-0.16 to -0.012	<b>0.022</b>
	Dual ChAdOx1 as initial regimen	-0.63	-0.97 to -0.29	<b>0.0003</b>	-0.70	-1.00 to -0.40	<b>&lt;0.0001</b>
	Interval btw 1st and 2nd doses (per day)	0.0036	0.00039 to 0.0069	<b>0.028</b>	0.0037	0.00085 to 0.0066	<b>0.011</b>
	Days since second dose	-0.0018	-0.024 to 0.020	0.87	0.0061	-0.010 to 0.022	0.46
	Prior COVID-19	0.063	-0.13 to 0.26	0.53	0.14	-0.030 to 0.31	0.10
<b>Viral neutralization<sup>b</sup></b>	HIV infection	0.20	-0.47 to 0.86	0.56	-0.063	-0.74 to 0.62	0.86
	Age (per year)	-0.018	-0.030 to -0.0050	<b>0.0064</b>	-0.012	-0.025 to 0.00051	0.059
	Male sex	-0.39	-0.84 to 0.055	0.086	-0.12	-0.59 to 0.34	0.60
	White ethnicity	-0.21	-0.61 to 0.18	0.29	-0.19	-0.60 to 0.21	0.36
	# Chronic conditions (per additional)	-0.29	-0.53 to -0.041	<b>0.022</b>	-0.15	-0.41 to 0.10	0.23
	Dual ChAdOx1 as initial regimen	-1.39	-2.41 to -0.37	<b>0.0077</b>	-1.57	-2.60 to -0.53	<b>0.0032</b>
	Interval btw 1st and 2nd doses (per day)	0.0073	-0.0038 to 0.018	0.2	0.00067	-0.010 to 0.012	0.91
	Days since second dose	-0.0061	-0.073 to 0.060	0.86	-0.029	-0.084 to 0.027	0.31
	EDTA as anticoagulant <sup>c</sup>	0.85	0.091 to 1.61	<b>0.028</b>	0.58	-0.20 to 1.35	0.14
Prior COVID-19	1.15	0.56 to 1.75	<b>0.0002</b>	1.65	1.06 to 2.24	<b>&lt;0.0001</b>	

<sup>a</sup>quantified using the Roche Elecsys anti-S assay

<sup>b</sup>for viral neutralization, reciprocal plasma dilutions were log<sub>2</sub> transformed prior to multivariable analysis.

<sup>c</sup>Neutralization assays were performed using plasma, so the analysis also corrects for the anticoagulant used, with ACD as the reference category.

Analyses of anti-RBD concentration do not correct for this variable because this assay was performed on serum collected in the same tube type.

**Supplemental Table 2: Multivariable analyses of the relationship between sociodemographic, health and vaccine-related variables and detectable viral neutralization activity six months following the second vaccine dose**

<b>Immunogenicity outcome</b>	<b>Variable</b>	<b>Odds Ratio</b>	<b>95% CI</b>	<b>p-value</b>
<b>Detectable viral neut. 6 months after 2nd dose<sup>a</sup></b>	HIV infection	0.51	0.12 to 1.77	0.32
	Age (per year)	0.98	0.96 to 1.01	0.22
	Male sex	0.68	0.29 to 1.50	0.35
	White ethnicity	0.88	0.44 to 1.78	0.73
	# Chronic conditions (per additional)	1.00	0.61 to 1.63	1.00
	Dual ChAdOx1 as initial regimen	0.19	0.0079 to 2.36	0.21
	Interval btw 1st and 2nd doses (per day)	1.01	0.99 to 1.03	0.14
	Days since second dose	1.03	0.98 to 1.09	0.24
	EDTA as anticoagulant <sup>b</sup>	9.31	2.41 to 44.62	<b>0.0023</b>
	Prior COVID-19	4.57	1.74 to 13.99	<b>0.0037</b>

<sup>a</sup> Results are presented as the adjusted Odds Ratios and 95% CI of detectable viral neutralization activity at this time point, calculated using multivariable logistic regression.

<sup>b</sup> Neutralization assays were performed using plasma, so the analysis also corrects for the anticoagulant used, with ACD as the reference category.

**Supplemental Table 3: Multivariable analysis of the relationship between sociodemographic, health and vaccine-related variables and viral neutralization activity one month following the third vaccine dose**

<b>Immunogenicity outcome</b>	<b>Variable</b>	<b>Estimate</b>	<b>95% CI</b>	<b>p-value</b>
<b>Viral neut. (log<sub>2</sub>) 1 mo after 3rd dose<sup>a</sup></b>	HIV infection	0.58	-0.22 to 1.37	0.15
	Age (per year)	-0.00068	-0.017 to 0.016	0.94
	Male sex	-0.047	-0.61 to 0.51	0.87
	White ethnicity	-0.27	-0.74 to 0.20	0.27
	# Chronic conditions (per additional)	-0.067	-0.35 to 0.21	0.64
	Dual ChAdOx1 as initial regimen	0.96	-0.18 to 2.10	0.099
	mRNA-1273 as third dose (vs. BNT162b2)	0.78	0.32 to 1.23	<b>0.0009</b>
	Interval between 1st and 2nd doses (per day)	-0.00095	-0.015 to 0.013	0.89
	Interval between 2nd and 3rd doses (per day)	0.0016	-0.0066 to 0.0097	0.71
	Days since 3rd dose (per day)	-0.016	-0.065 to 0.034	0.53
	EDTA as anticoagulant <sup>b</sup>	0.28	-0.68 to 1.25	0.56
	Prior COVID-19	0.98	0.39 to 1.57	<b>0.0013</b>

<sup>a</sup>for viral neutralization, reciprocal plasma dilutions were log<sub>2</sub> transformed prior to multivariable analysis.

<sup>b</sup>Neutralization assays were performed using plasma, so the analysis also corrects for the anticoagulant used, with ACD as the reference category.



