A

Outcome ~ Clade + Sex + Race + Age + Comorbidities + BMI + Vaccine Doses + Cases + Tests + Sequence/Case Ratio

Variable	Coefficient	Standard Error	z	p-value	95% Confidence Interval
Intercept	-3.2322	0.553	-5.846	**0.000**	[-4.316, -2.149]
Clade - 20B	-0.4093	0.43	-0.951	0.341	[-1.252, 0.434]
Clade - 20C	0.0571	0.392	0.146	0.884	[-0.711, 0.826]
Clade - 20G	-1.4683	0.35	-4.196	**0.000**	[-2.154, -0.782]
Clade - 20I (Alpha)	0.2083	0.383	0.544	0.586	[-0.542, 0.958]
Clade - 21A/I/J (Delta)	-0.5492	0.347	-1.583	0.113	[-1.229, 0.131]
Clade - 21K/L/M (Omicron)	0.329	0.423	0.779	0.436	[-0.499, 1.157]
Clade - Other	-0.3272	0.383	-0.854	0.393	[-1.078, 0.424]
Sex - Male	0.333	0.161	2.067	**0.039**	[0.017, 0.649]
Race - Black or African American	0.7768	0.212	3.659	**0.000**	[0.361, 1.193]
Race - Other	1.2982	0.235	5.523	**0.000**	[0.837, 1.759]
Race - Declined or Unknown	0.586	0.321	1.828	0.068	[-0.042, 1.214]
Race - Asian	0.5894	0.422	1.396	0.163	[-0.238, 1.417]
Age	0.0442	0.006	7.984	**0.000**	[0.033, 0.055]
Comorbidities (sum)	0.3377	0.052	6.495	**0.000**	[0.236, 0.44]
Body Mass Index	0.0149	0.011	1.383	0.167	[-0.006, 0.036]
Vaccine Doses before Infection	-0.6415	0.101	-6.377	**0.000**	[-0.839, -0.444]
Cases	-0.00009	0.00004	2.018	**0.044**	[0.000003, 0.0002]
Tests Administered	-0.00003	0.000006	-5.186	**0.000**	[-0.00005, -0.00002]
Sequence to Case Ratio	-0.0675	0.022	-3.085	**0.002**	[-0.11, -0.025]

Note: The most frequent categorical variables for sex (female) and race (white) were set as the reference.
Clade 20A served as the reference for the categorical variable 'clade'.

B

Outcome ~ Clade + Sex + Race + Age + Comorbidities + BMI + Cases + Tests + Sequence/Case Ratio

Variable	Coefficient	Standard Error	z	p-value	95% Confidence Interval
Intercept	-3.4992	1.743	-2.008	**0.045**	[-6.915, -0.083]
Clade - 20B	-0.1953	0.651	-0.3	0.764	[-1.471, 1.081]
Clade - 20C	-0.6145	0.702	-0.875	0.382	[-1.991, 0.762]
Clade - 20G	-0.8454	0.501	-1.687	0.092	[-1.828, 0.137]
Clade - Other	-0.0829	0.996	-0.083	0.934	[-2.035, 1.869]
Sex - Male	0.4177	0.39	1.07	0.285	[-0.347, 1.183]
Race - Black or African American	1.1326	0.51	2.222	**0.026**	[0.134, 2.131]
Race - Other	1.2086	0.553	2.186	**0.029**	[0.125, 2.292]
Race - Declined or Unknown	1.0574	0.755	1.4	0.162	[-0.423, 2.538]
Age	0.072	0.015	4.69	**0.000**	[0.042, 0.102]
Comorbidities (sum)	0.1944	0.129	1.504	0.133	[-0.059, 0.448]
Body Mass Index	0.0447	0.027	1.646	0.1	[-0.009, 0.098]
Cases	-0.0001	0.000	-0.346	0.729	[-0.0007, 0.0005]
Tests Administered	-0.00008	0.00004	-2.037	**0.042**	[-0.0002, -0.000003]
Sequence to Case Ratio	-0.4535	0.101	-4.47	**0.000**	[-0.652, -0.255]

Note: The most frequent categorical variables for sex (female) and race (white) were set as the reference.
Clade 20A served as the reference for the categorical variable 'clade'.