

Appendix 1

Table 1: Characteristics of Health Care Worker Breakthrough Infections during the Delta and Omicron periods

Characteristics of BTIs in the first 78-days	Delta period N=15195		Omicron period N=26393		Adjusted OR for comparisons between Omicron and Delta* (95% CI)
	N	%	N	%	
Sex					
Female	11540	75.9	20655	78.3	Reference
Male	3655	24.1	5738	21.7	0.89 (0.85-0.94)
Age					
18-30	2214	14.6	5342	20.2	Reference
31-54	9919	65.3	17583	66.6	0.72 (0.69-0.76)
55+	3062	20.2	3467	13.1	0.47 (0.44-0.50)
Characteristics of hospitalized BTIs in the first 78-days	Delta period n=850		Omicron period n=882		Adjusted OR for comparisons between Omicron and Delta* (95% CI)
Sex					
Female	628	73.9	739	83.8	Reference
Male	222	26.1	143	16.2	0.61 (0.48-0.78)
Age					
18-30	52	6.1	130	14.7	Reference
31-54	514	60.5	588	66.7	0.44 (0.31-0.62)
55+	284	33.4	164	18.6	0.24 (0.16-0.35)
Co-morbidities					
HIV (8%)	48	5.6	77	8.7	1.54 (1.05-2.25)
Hypertension (16%)	295	34.7	188	21.3	0.64 (0.51-0.80)
Diabetes (6%)	192	22.6	92	10.4	0.53 (0.40-0.70)
Ward on admission					
General Ward	756	88.9	797	90.4	Reference
High care	38	4.5	56	6.3	1.66 (1.08-2.53)
Intensive Care Unit	56	6.6	29	3.3	0.70 (0.42-1.14)
Care needed in hospital					
Ever Ventilated‡	61	7.4	13	1.5	0.24 (0.12-0.46)

Ever Oxygenated‡	343	41.9	138	16.1	0.29 (0.25-0.40)
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* Adjusted odds ratios, assessing the effect of age and gender on Omicron vs Delta infection were computed using logistic regression including the variable “Province” adjusting for clustering within patient for repeated events. Similar analysis was conducted for hospitalization.

‡ two separate models were fitted for ever ventilated and ever oxygenated, each adjusted for age, gender, province, clustering, HIV, hypertension, diabetes, and ward.