

## Supplementary Information

### Contribution of low population immunity to the severe Omicron BA.2 outbreak in Hong Kong

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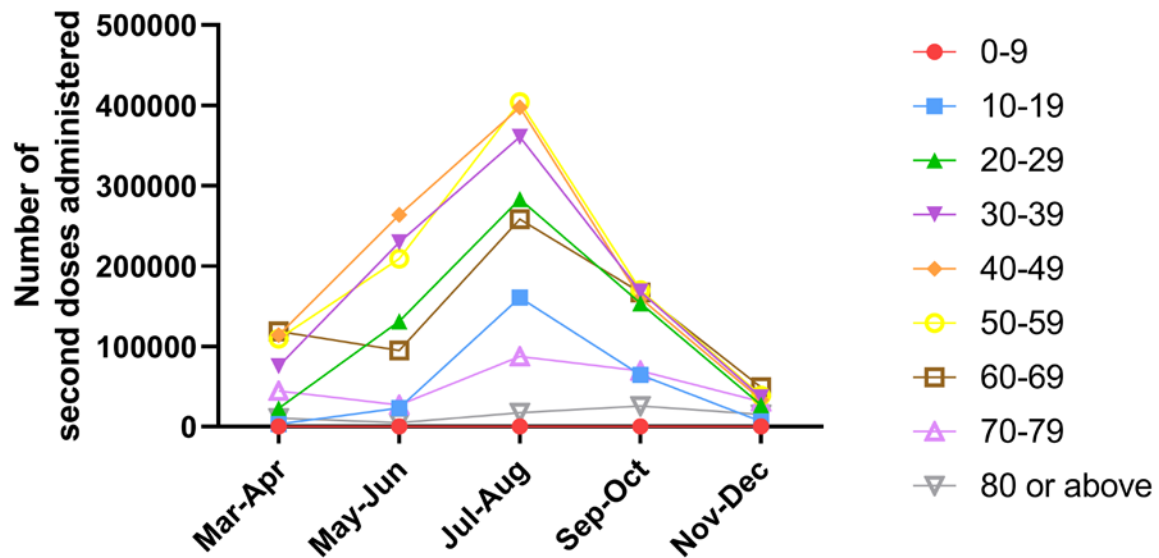
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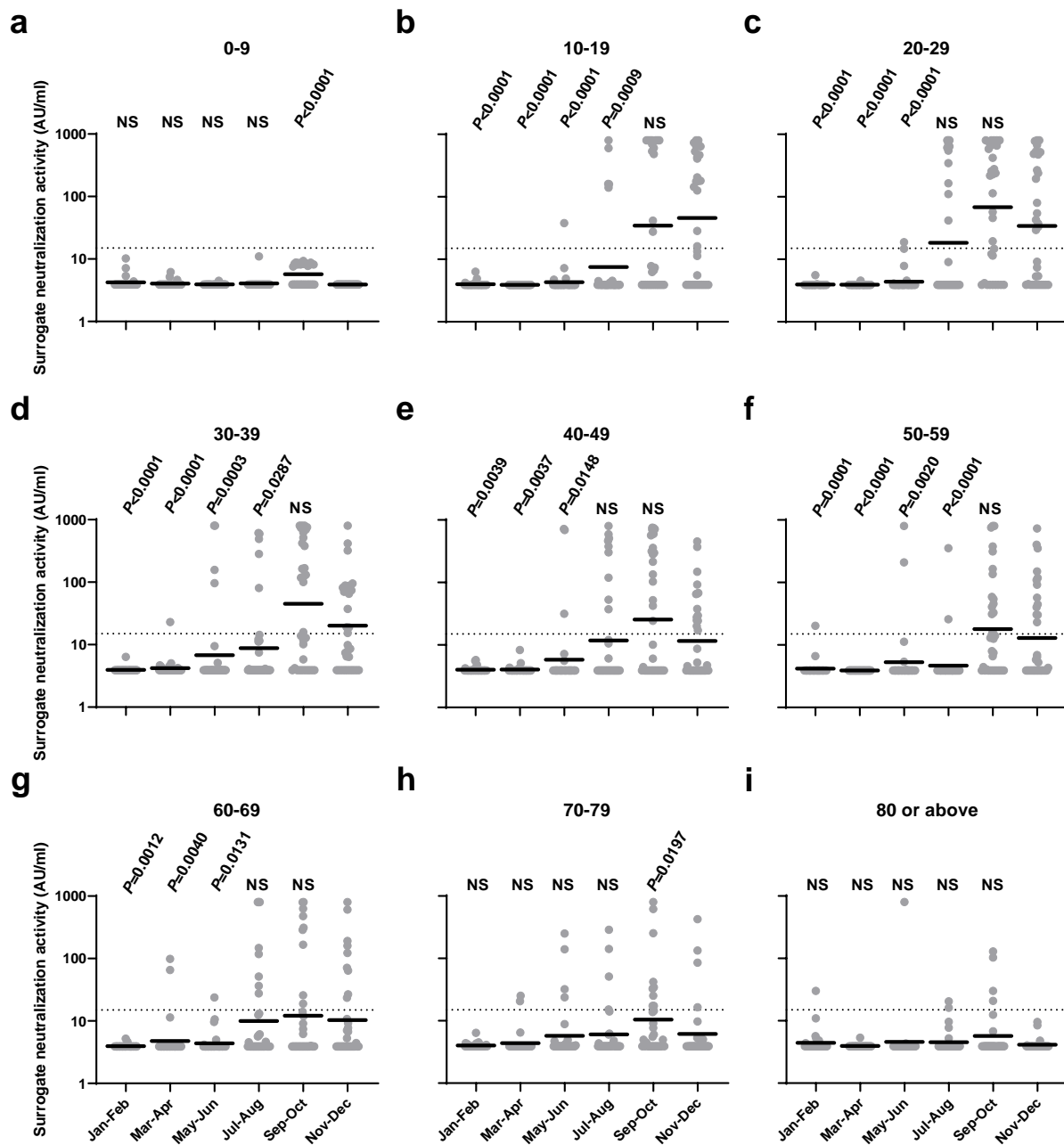
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**Supplementary Figure S1. Number of individuals with second dose of COVID-19 vaccine administered in each time period.** Data were obtained from the website of the Food and Health Bureau of Hong Kong <sup>32</sup>. Source data are provided as a Source Data file.



**Supplementary Figure S2. The levels of neutralizing antibody in the surrogate virus neutralization test.** (a-i) The levels of neutralizing antibody in different age groups. The geometric mean level is shown in the horizontal bar. Dotted horizontal lines represent the manufacturer's seropositivity cutoff level (15 AU/ml). The geometric mean antibody titer

for each age group was compared to the  $\geq 80$  years age group using the one way ANOVA with Dunn's multiple comparisons test. The number of serum specimens tested in each period is shown in Supplementary Table S1. Source data are provided as a Source Data file. Abbreviations: ns, not significant

**Supplementary Table S1.** Number of serum specimens tested by surrogate virus neutralization test.

Age group	Jan/Feb 2021	Mar/Apr 2021	May/June 2021	July/Aug 2021	Sep/Oct 2021	Nov/Dec 2021	Total
0-9	25	25	27	26	32	32	167
10-19	34	32	34	33	32	32	197
20-29	33	34	33	33	32	32	197
30-39	35	35	34	34	32	32	202
40-49	35	35	34	36	36	36	212
50-59	32	35	35	36	36	36	210
60-69	33	35	35	36	36	36	211
70-79	31	35	34	33	32	32	197
>=80	42	34	34	33	32	32	207
Total	300	300	300	300	300	300	1800