

**Supplementary Table 1. Stratified analysis of severe exacerbation and mortality risk**

Subgroup	COVID-19	Adjusted HR (95% CI) <sup>a)</sup>	
		Severe exacerbation	Mortality
Age (yr)			
20–69	No	Reference	Reference
	Yes	2.74 (1.24–6.07)	1.38 (0.36–5.28)
≥ 70	No	Reference	Reference
	Yes	2.22 (1.05–4.71)	3.44 (1.82–6.50)
<i>p</i> for interaction		0.03	< 0.01
Sex			
Male	No	Reference	Reference
	Yes	2.76 (1.42–5.37)	3.35 (1.77–6.33)
Female	No	Reference	Reference
	Yes	1.43 (0.58–3.52)	1.95 (0.62–6.24)
<i>p</i> for interaction		< 0.01	< 0.01
Low income			
No	No	Reference	Reference
	Yes	2.54 (1.35–4.80)	3.17 (1.61–6.24)
Yes	No	Reference	Reference
	Yes	6.09 (0.51–72.29)	3.51 (0.54–22.80)
<i>p</i> for interaction		0.18	0.33
Smoking			
Never smoker	No	Reference	Reference
	Yes	1.38 (0.59–3.27)	2.09 (0.71–6.15)
Ever-smoker	No	Reference	Reference
	Yes	3.07 (1.34–7.00)	8.85 (2.69–29.07)
<i>p</i> for interaction		< 0.01	< 0.01
Body mass index (kg/m <sup>2</sup> )			
< 23.0	No	Reference	Reference
	Yes	1.31 (0.51–3.37)	2.50 (1.02–6.11)
≥ 23.0	No	Reference	Reference
	Yes	3.01 (1.55–5.84)	3.92 (1.68–9.12)
<i>p</i> for interaction		< 0.01	< 0.01
CCI score			
0–2	No	Reference	Reference
	Yes	4.78 (0.47–48.28)	2.81 (0.16–49.04)
≥ 3	No	Reference	Reference
	Yes	2.72 (1.37–5.39)	2.85 (1.52–5.32)
<i>p</i> for interaction		< 0.01	< 0.01

COVID-19, coronavirus disease 2019; HR, hazard ratio; CI, confidence interval; CCI, Charlson comorbidity index.

<sup>a)</sup>Adjusted for smoking status, income level, and CCI score.