

**Supplementary Table S1** Exposure characteristics-based risk classification

Exposure detail		Duration of contact (Cumulative within 24 hours)	Contact risk category
PPE of contact personnel and exposure distance	PPE of Index cases		
<ul style="list-style-type: none"> <li>- Surgical mask with eye protection or</li> <li>- Surgical mask with distance &gt;1 meter</li> </ul>	Surgical or cloth mask	Any	Insignificant
	No mask	≤15 minutes	Low
	No mask	>15 minutes	Moderate
<ul style="list-style-type: none"> <li>- Surgical mask with distance ≤1 meter without eye protection</li> </ul>	Surgical or cloth mask	≤15 minutes	Low
	Surgical or cloth mask	>15 minutes	Moderate
	No mask	≤15 minutes	Moderate
	No mask	>15 minutes	High
<ul style="list-style-type: none"> <li>- Contact personnel not wearing a mask</li> <li>- Improper PPE during an aerosol-generating procedure (at least N95 respirator and eye protection)</li> <li>- Direct contacts of mucosa with the aerodigestive secretion of index case without proper hand hygiene or sharing food with the same utensils</li> <li>- Eating together without a barrier board</li> <li>- Close contact in the same vehicle</li> </ul>		Any	High
<ul style="list-style-type: none"> <li>- Indirect contacts with fomite of index case without proper hand hygiene</li> </ul>		Any	Moderate
<ul style="list-style-type: none"> <li>- Eating together with a barrier board</li> </ul>		>15 minutes	Moderate
<ul style="list-style-type: none"> <li>- Eating together with a barrier board without talking or sharing food</li> </ul>		≤15 minutes	Low

**Supplementary Table S2** Management of contact hospital workers in terms of guided testing and quarantine duration based on contact risk and vaccination history

Contact risk category	Immunization history*	Guidance of testing date after last known contact	Quarantine duration (days)
High	Immunized	Immediate, day #7, day #14	7
	Unimmunized		14
Moderate	Immunized	Day #7, day #14	No
	Unimmunized		7–14**
Low	Any	Once during day #7–14	No

\* See Supplementary Table S3

\*\* Depend on the judgement of the division chief according to the extent of staff shortage

**Supplementary Table S3** Definition of immunization during the study period

Time	Factors determine immunity		
	Number of total vaccine doses	Vaccine regimens	Minimum duration (days) from last shot to the date of exposure
Before August 27, 2021	2	CoronaVac	14
	1	ChAdOx-1	28
	OR previous COVID-19 infection within the past 90 days		
August 27, 2021, and later	3	2 of CoronaVac + booster with mRNA or ChAdOx-1	14
	3	Inactivated vaccine	28
	2	2 of mRNA or 2 ChAdOx-1 or Inactivated vaccine+ChAdOx-1 or ChAdOx-1+ mRNA	14
	OR previous COVID-19 infection within the past 90 days		

**Supplementary Table S4** Vaccine regimen potency grouping, adapted from Thai COVID-19 vaccination guidelines for a booster shot from the Ministry of Public Health as of December 2021.

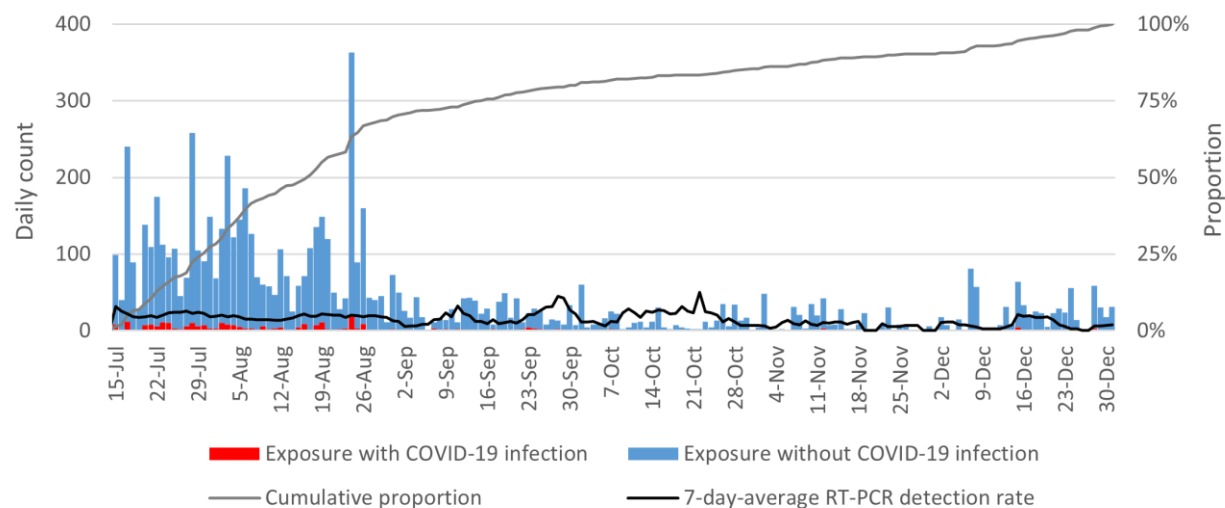
Potency group	Vaccination history		Recommended booster duration after last shot
	Doses	Regimens	
Low	1–3	Inactivated vaccine (CoronaVac or BBIBP)	4 weeks
	1	ChAdOx-1 or mRNA	4–12 weeks
Moderate	3	2 inactivated vaccines plus 1 ChAdOx-1 or mRNA	3 months
	2	ChAdOx-1	3 months

	2	Inactivated vaccine plus ChAdOx-1 or mRNA	3 months
High	3 or more	Contain at least ChAdOx-1 plus mRNA or 2 mRNA	Booster not recommended
	2	mRNA (BNT162b2 or mRNA-1273)	6 months
	2	ChAdOx-1 plus mRNA	6 months

**Supplementary Table S5** Parallel analysis of variables associated with SARS-CoV-2 infection using exposure risk category, the final logistic model

<b>Risk factor</b>	<b><math>\beta</math></b>	<b>Adjusted odds Ratio (95% CI)</b>	<b>P-value</b>
The highest education attainment			0.000
Primary or secondary school (reference)			
Undergraduate (associate's or bachelor's)	-0.66	0.52 (0.4–0.67)	0.000
Postgraduate (master's or doctoral)	-1.25	0.29 (0.17–0.48)	0.000
Exposure risk category			0.000
Low risk (reference)			
Moderate risk	0.95	2.57 (1.44–4.59)	0.001
High risk	2.14	8.53 (5.16–14.1)	0.000
Insignificant risk with symptom(s) or reasons for RT-PCR	0.89	2.43 (1.23–4.78)	0.010
Fever or other COVID-19 related symptoms	1.67	5.31 (4.10–6.88)	0.000
Vaccination group			0.000
Unvaccinated (reference)			
Low potency	-1.08	0.34 (0.2–0.59)	0.000
Moderate potency	-1.52	0.22 (0.12–0.39)	0.000
High potency	-2.68	0.07 (0.01–0.53)	0.010
Constant	-3.68		0.000

**Supplementary Figure S1** Daily number and cumulative percentage of occupational exposures among healthcare personnel in the study, 15 September to 31 December 2021



**Supplementary Figure S2** Distribution of SARS-CoV-2 PCR assay detection day after last known exposure

