

Keskin S, Emecen AN, Ergör A. Infection risk prediction in healthcare settings: Lessons from COVID-19 contact tracing. Infect Dis Clin Microbiol. 2024;1:XX-XX.

**Supplementary Table 1.** Comparison of exposed healthcare workers who underwent SARS-CoV-2 PCR testing or not (n=3389).

	PCR testing n (%)		p
	No n=938	Yes n=2451	
<b>Gender</b>			
Female	533 (26.8)	1456 (73.2)	0.19
Male	405 (28.9)	995 (71.1)	
Age, mean±SD	35.9±9.25	34.9±8.87	0.004
<b>Profession</b>			
Physician	246 (29.2)	597 (70.8)	0.31
Nurse	295 (28.6)	738 (71.4)	
Allied healthcare personnel	37 (26.4)	103 (73.6)	
Auxiliary staff	299 (27.0)	807 (73.0)	
Support staff	61 (22.8)	206 (77.2)	
<b>Previously infected</b>			
Yes	32 (32.0)	68 (68.0)	0.39
No	906 (27.5)	2383 (72.5)	
<b>Two doses vaccinated</b>			
Yes	832 (27.7)	2177 (72.3)	0.97
No	106 (27.9)	274 (72.1)	
<b>Case type</b>			
Colleague	472 (20.6)	1820 (79.4)	<0.001
Patient	466 (42.5)	631 (57.5)	
<b>Contact distance</b>			
≥1 meter	432 (41.6)	606 (58.4)	<0.001
<1 meter	506 (21.5)	1845 (78.5)	
<b>Contact duration</b>			
<15 minutes	618 (46.5)	711 (53.5)	<0.001
≥15 minutes	320 (15.5)	1740 (84.5)	
<b>Any PPE use</b>			
Yes	841 (43.6)	1088 (56.4)	<0.001
No	97 (6.64)	1363 (93.4)	

**Continue to Supplementary Table 1**

<b>Use of surgical masks</b>			
Yes	741 (43.7)	954 (56.3)	<0.001
No	197 (11.6)	1497 (88.4)	
<b>Use of respiratory masks</b>			
Yes	100 (42.7)	134 (57.3)	<0.001
No	838 (26.6)	2317 (73.4)	
<b>Use of goggles or face shields</b>			
Yes	57 (67.1)	28 (32.9)	<0.001
No	881 (26.7)	2423 (73.3)	
<b>Having symptoms</b>			
Yes	37 (4.49)	787 (95.5)	<0.001
No	901 (35.1)	1664 (64.9)	
<b>Risk assessment category</b>			
Low	773 (65.2)	412 (34.8)	<0.001
Medium	147 (12.5)	1026 (87.5)	
High	18 (1.75)	1013 (98.3)	

**Supplementary Table 2.** Contact-based and risk assessment-based weighted models for reporting PCR positivity within 14-days after the last exposure.

	Contact-based weighted models		Risk assessment-based weighted models	
	Model 1	Model 2	Model 3	Model 4
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
No PPE use	1.63 (1.11-2.42)	1.56 (1.05-2.32)	-	-
<1 meter contact distance	1.13 (0.78-1.68)	1.06 (0.73-1.59)	-	-
≥ 15-minute contact duration	1.79 (1.24-2.65)	1.72 (1.18-2.55)	-	-
Having symptoms	-	1.55 (1.10-2.16)	-	1.46 (1.03-2.04)
<b>Risk category</b>				
Low	-	-	Ref	Ref
Medium	-	-	0.87 (0.55-1.38)	0.83 (0.52-1.33)
High	-	-	3.04 (2.03-4.65)	2.75 (1.81-4.25)
<b>Model parameters</b>				
AUC, 95% CI	0.64 (0.59-0.69)	0.65 (0.60-0.69)	0.67 (0.63-0.71)	0.67 (0.63-0.72)
Accuracy, %	62.6	63.2	58.5	57.2
Sensitivity, %	62.7	60.4	71.5	73.6
Specificity, %	62.7	63.4	57.7	56.2
PPV, %	9.6	9.4	9.5	9.5
NPV, %	96.3	96.3	97.0	97.2
AIC	1300.7	1296.9	1278.9	1276.6
Tjur's R <sup>2</sup>	0.014	0.017	0.021	0.024

PPE: Personal protective equipment, CI: Confidence interval, AUC: Area under the curve, PPV: Positive predictive value, NPV: Negative predictive value, AIC: Akaike information criterion.

Weighted Model 1 included PPE use, contact distance, duration, and adjustment variables.

Weighted Model 2 included PPE use, contact distance, duration, having symptoms, and adjustment variables.

Weighted Model 3 included the risk category and adjustment variables.

Weighted Model 4 included the risk category, having symptoms, and adjustment variables.

**Adjustment variables:** Demographic variables (age, gender), occupational variables (profession, case type) and COVID-19 history (previous infection, vaccination).