Supplementary 1. Incidence Rate Ratio (IRR) / Secondary Attack Rate (SARs) / Odds Ratio (OR) and predictor variables of secondary cases investigated as determinants of SARS-CoV-2 transmission									
					Mean n. cases for patient (SD)	*univariate analysis*		*multivariate analysis*	
Variable	**Index cases (n=53)**	**Close contact (n=346)**	**Secondary cases (n=34)**	**SARs**		**IRR (95% CI)**	***p***	**IRR (95% CI)**	***p***
Clinical characteristics of COVID-19 index cases									
Cough									
no	38	191	8	4.2%	0.21 (0.70)	*ref.*	-	*ref.*	-
yes	15	155	26	16.8%	1.73 (3.36)	8.2 (3.7-18.2)	<0.001	6.94 (3.13-15.38)	<0.001
Fever									
no	30	177	11	6.2%	0.37 (1.33)	*ref.*	-		
yes	23	169	23	13.6%	1 (2.58)	2.7 (1.3-5.6)	0.006		
Fatigue									
no	33	158	3	1.9%	0.09 (0.29)	*ref.*	-		
yes	20	188	31	16.5%	1.55 (3.02)	17.1 (5.2-55.8)	<0.001		
Gastroenteric symptoms									
no	51	328	27	8.2%	0.52 (1.79)	*ref.*	-		
yes	2	18	7	38.9%	3.5 (4.9)	6.6 (2.9-15.2)	<0.001		
Headache									
no	47	307	22	15.3%	0.47 (1.79)	*ref.*	-		
yes	6	39	12	15.4%	2 (2.89)	4.3 (2.1-8.6)	<0.001		
Sore throat									
no	45	292	28	9.6%	0.62 (2.12)	*ref.*	-		
yes	8	54	6	11.1%	0.75 (0.71)	1.2 (0.5-2.9)	0.68		
Runny nose									
no	49	333	34	-	0.69 (2.04)	-	-		
yes	4	13	0	-	0	-	-		
Anosmia / ageusia									
no	49	326	34	-	0.69 (2.04)	-	-		
yes	4	20	0	-	0	-	-		

Nausea									
no	52	343	34	-	0.65 (1.99)	-	-		
yes	1	3	0	-	0	-	-		
Dyspnea									
no	52	333	34	-	0.65 (1.99)	-	-		
yes	1	13	0	-	0	-	-		
Asymptomatic									
no	42	292	34	-	0.81 (2.19)	-	-		
yes	11	54	0	-	0	-	-		
Concurrent symptom presentation among COVID-19 index case									
Asymptomatic	11	54	0	0%	0	-	-		
A single COVID-19 symptom of presentation at contact occasion	10	49	1	2%	0.1 (0.3)	*ref.*	-		
Two COVID-19 symptoms of presentation at contact occasion	19	118	3	3%	0.16 (0.37)	1.6 (0.2-15.2)	0.69		
Three or more COVID-19 symptoms of presentation at contact occasion	13	125	30	24%	2.31 (3.54)	23.1 (3.1-169.2)	0.002		
Setting of exposure									
Office	13	53	1	1.9%	0.08 (0.28)	*ref.*	-		
Classroom	5	91	2	2.2%	0.4 (0.89)	5.2 (0.5-57.3)	0.18		
Laboratory	5	34	1	2.9%	0.2 (0.45)	2.6 (0.2-41.6)	0.50		
Healthcare setting	18	70	4	5.7%	0.22 (0.43)	2.9 (0.3-25.8)	0.34		
Sharing eating areas	6	47	9	19.1%	1.5 (2.8)	19.5 (2.5-153.9)	0.005		
Household	6	51	17	33.3%	2.8 (4.8)	36.8 (4.9-276.8)	<0.001		
Adoption of PPE									

No PPE adopted	12	98	26	27%	2.2 (3.8)	ref.	-	ref.	-
PPE by close contact, not by case	2	8	1	13%	0.5 (0.7)	0.2 (0.03-1.7)	0.15	0.17 (0.02-1.28)	0.086
PPE adopted by either close contact or case	39	240	7	3%	0.18 (0.45)	0.08 (0.03-0.2)	<0.001	0.098 (0.04-0.23)	<0.001

Variable	Close contact (n=346)	Secondary cases (n=34)	SARs		OR (95% CI)	p			
Demographic variables									
Index case (20-29) n=31									
20-29	194	22	11.3%	11.9%	2.3 (0.7-7.9)	0.1860			
30-39	17	0	0						
40-49	7	0	0						
50-59	6	0	0						
>60	2	1	50.0%						
Index case (30-39) n=11									
20-29	25	0	0	4.7%	ref.	-			
30-39	22	1	4.5%						
40-49	9	2	22.2%						
50-59	5	0	0						
>60	3	0	0						
Index case (40-49) n=2									

20-29	0	0	0						
30-39	0	0	0						
40-49	24	0	0	0	-	-			
50-59	0	0	0						
>60	0	0	0						
Index case (50-59) n=5									
20-29	3	0	0						
30-39	3	0	0						
40-49	10	0	0	0	-	-			
50-59	6	0	0						
>60	1	0	0						
Index case (>60) n=4									
20-29	9	2	22.2%						
30-39	11	4	36.4%						
40-49	2	0	0.0%	27.6%	7.7 (1.9-31.9)	0.0046			
50-59	2	0	0.0%						
>60	5	2	40.0%						
Close contact									
20-29	231	24	10.4%		1.1 (0.4-3.1)	0.8047			
30-39	53	5	9.4%		ref.	-			

40-49	32	2	6.3%	0.7 (0.1-3.6)	0.6239			
50-59	19	0	0	-	-			
>60	11	3	27.3%	3.7 (0.7-18.5)	0.1141			

Supplementary Table 2. COVID-19 cases among physicians and residents of University of Genova employed at IRCCS Ospedale Policlinico San Martino of Genoa in the period 1st October 2020 - 31st March 2021, Secondary Attack Rate (SARs) analyzed for exposure to index cases univariate analysis regarding HCWs clinical activity in COVID-19 wards.

Variable	Residents n (%)	Physiscian n (%)	COVID-19 Cases (n)	Infection prevalence (%)	Household community close contact n (%)	Unknown exposure n (%)	Close contact with patients n (%)	Workplace close contact n (%)
HCWs on field (n=860)	690 (80.2)	170 (19.8)	97	11.3	15 (15.5)	34 (35)	44 (45.4)	4 (4.1)
HCWs employed in COVID-19 wards (n=261)	211 (24.5)	50 (29.4)	34	13.0	2 (5.9)	11 (32.4)	17 (50)	4 (11.8)
HCWs employed in non-COVID-19 wards (n=599)	479 (76.5)	120 (70.6)	63	10.5	13 (20.6)	23 (36.5)	27 (42.9)	0
HCWs employed in COVID-19 wards infected	32 (15.2)	2 (1.2)	-	-	-	-	-	-
HCWs employed in non-COVID-19 wards infected	48 (10.0)	15 (12.5)	-	-	-	-	-	-
	On field (n)		COVID-19 cases (n)	OR (95% CI)	*p*			
HCWs employed in non-COVID-19 wards	599		63	*ref*	-			
HCWs employed in COVID-19 wards	261		34	1.16 (0.8-1.7)	0.467			
Residents employed in non-COVID-19 wards	479		48	*ref*	-			
Residents employed in COVID-19 wards	211		32	1.51 (1.0-2.3)	0.0514			
Physicians employed in non-COVID-19 wards	120		15	*ref*	-			
Physicians employed in COVID-19 wards	50		2	0.32 (0.07-1.35)	0.1204			