
Supplementary information

**Effective control of SARS-CoV-2
transmission in Wanzhou, China**

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Supplementary Table 1. Characteristics of Sample Excluded in the Multilevel Logistic Regression.

	Cases (N=89)	Negative Close Contacts (N=637)
Sex		
Men	45	353
Women	44	284
Age (years)		
<18	3	76
18-49	51	318
50-69	25	199
≥70	10	43
Timing of contact		
Day ≤5	22	29
Day >5	4	2
Duration of contact (hours)		
<8	6	498
≥8	5	130
Frequency of contact		
Occasional/not so often	17	473
Often	15	155
Mode of contact		
Living together [†]	17	122
Dining together	15	233
Other	9	273
Place of contact		
Home [‡]	27	322
Other	15	306
Relationship to the source case		
Relatives	23	308
Other	18	320

[†] Includes contacts living in the same room, the same dwelling unit, or the same household.

[‡] Includes contacts occurring at one's own home or at a relative's home during a visit.

Supplementary Table 2. Demographic Characteristics and Contact Patterns of COVID-19 Cases and Negative Close Contacts in Wanzhou, Chongqing.

	Cases (N=183)		Negative Close Contacts (N=1983)	Total (N=2166)	Chi-Square Test/ Fisher's Exact Test (P value)
	Symptomatic (N=123)	Asymptomatic (N=60)			
Sex — no./total no. (%)					
Men	69/1170 (5.9)	26/1170 (2.2)	1075/1169 (91.9)	1170	0.155
Women	49/988 (5.0)	34/988 (3.4)	905/989 (91.6)	988	
Missing	5	0	3	8	
Age (years) — mean±SD (total no.)	49.4±16.9 (118)	36.9±15.5 (60)	42.5±19.6 (1979)	42.7±19.5 (2157)	<0.001
Missing	5	0	4	9	
Timing of contact — no./total no. (%)					
Day ≤5	39/1083 (3.6)	29/1083 (2.7)	1015/1083 (93.7)	1083	0.008
Day >5	12/372 (3.2)	1/273 (0.3)	324/373 (96.5)	372	
Missing	72	30	1983	711	
Frequency of contact — no./total no. (%)					
Occasional	20/1206 (1.7)	10/1206 (0.8)	1176/1206 (97.5)	1206	<0.001
Not so often	12/386 (3.1)	5/386 (1.3)	369/386 (95.6)	386	
Often	25/466 (5.4)	15/466 (3.2)	426/466 (91.4)	466	
Missing	66	30	12	108	
Duration of contact — no./total no. (%)					
<8 hours	26/1761 (1.5)	16/1761 (0.9)	1719/1761 (97.6)	1761	<0.001
≥8 hours	12/276 (4.4)	12/276 (4.4)	252/276 (91.3)	276	
Missing	85	32	12	129	
Mode of contact — no. /total no. (%)					

	Cases (N=183)		Negative Close Contacts (N=1983)	Total (N=2166)	Chi-Square Test/ Fisher's Exact Test (P value)
	Symptomatic (N=123)	Asymptomatic (N=60)			
Living together [†]	23/401 (5.7)	9/401 (2.2)	369/401 (92.0)	401	0.014
Dining together	27/1065 (2.5)	16/1065 (1.5)	1022/1065 (96.0)	1065	
Other	13/601 (2.2)	8/601 (1.3)	580/601 (96.5)	601	
Missing	60	27	12	99	
Place of contact — no./total no. (%)					
Home [‡]	39/1326 (2.9)	24/1326 (1.8)	1263/1326 (95.3)	1326	0.002
Healthcare facility	1/155 (0.6)	0/155 (0.0)	154/155 (99.4)	155	
Workplace	1/61 (1.6)	1/61 (1.6)	59/61 (96.7)	61	
Place for recreational activities	8/64 (12.5)	3/64 (4.7)	53/64 (82.8)	64	
Other	14/462 (3.0)	6/462 (1.3)	442/462 (95.7)	462	
Missing	60	26	12	98	
Relationship with the source case — no./total no. (%)					
Relatives	33/1212 (2.7)	26/1212 (2.2)	1153/1212 (95.1)	1212	0.002
Friends/colleagues	16/249 (6.4)	3/249 (1.2)	230/249 (92.4)	249	
Neighbors/fellows	0/161 (0.0)	1/161 (0.6)	160/161 (99.4)	161	
Medical care providers/patients	3/100 (0.3)	0/100 (0.0)	97/100 (97.0)	100	
Passengers sharing the same transportation	3/192 (1.6)	0/192 (0.0)	189/192 (98.4)	192	
Other	7/153 (4.6)	4/153 (2.6)	142/153 (92.8)	153	
Missing	61	26	12	99	

COVID-19 denotes coronavirus disease 2019. SD: standard deviation.

[†] Includes contacts living in the same room, the same dwelling unit, or the same household.

[‡] Includes contacts occurring at one's own home, or at a relative's home during a visit.

Supplementary Table 3. Contact Patterns for Presymptomatic and Asymptomatic Transmission.

	Presymptomatic Cases	Asymptomatic Cases	Negative Close Contacts
Timing of contact — no. /total no. (%)			
Day ≤5	28/789 (3.6)	24/789 (3.0)	737/789 (93.4)
Day >5	6/162 (3.7)	1/162 (0.6)	155/162 (95.7)
Missing	0/142 (0.0)	4/142 (2.8)	138/142 (97.8)
Duration of contact (hours) — no. /total no. (%)			
<8	14/946 (1.4)	12/946 (1.3)	921/946 (97.4)
≥8	8/123 (6.5)	7/123 (5.7)	108/123 (87.8)
Missing	13/24 (54.2)	10/24 (41.7)	1 (4.2)
Frequency of contact — no. /total no. (%)			
Occasional/not so often	10/784 (1.3)	9/784 (1.2)	765/784 (97.6)
Often	17/292 (5.8)	11/292 (3.8)	264/292 (90.4)
Missing	7/17 (41.2)	9/17 (52.9)	1/17 (5.9)
Mode of contact — no. /total no. (%)			
Living together [†]	14/261 (5.4)	6/261 (2.3)	241/261 (92.3)
Dining together	12/623 (1.9)	14/623 (2.3)	597/623 (95.8)
Other	4/198 (2.40)	3/198 (1.5)	191/198 (96.5)
Missing	4/11 (36.4)	6/11 (54.6)	1/11 (9.1)
Place of contact			
Home [‡]	22/785 (2.8)	18/785 (2.3)	745/785 (94.9)
Other	8/297 (2.7)	5/297 (1.7)	284/297 (95.6)
Missing	4/11 (36.4)	6/11 (54.6)	1/11 (9.1)
Relationship to the source case			
Relatives	20/760 (2.6)	20/760 (2.6)	720/760 (94.7)
Other	10/323 (3.1)	4/323 (1.2)	309/323 (95.7)
Missing	4/10 (40.0)	5/10 (50.0)	1/10 (10.0)

[†] Includes contacts living in the same room, the same dwelling unit, or the same household.

[‡] Includes contacts occurring at one's own home or at a relative's home during a visit.

Supplementary Table 4. Estimated Posterior Median of Incubation Period for Symptomatic Cases (N=72) by Different Parametric Forms of the Incubation Period Distribution.

	Posterior median (days, 95% CI)	LOO IC^s
Distribution		
Weibull	11.95 (10.38-13.75)	463.0
Gamma	11.77 (10.17-13.70)	464.9
Lognormal	9.53 (8.02-11.30)	470.4

Note: Only G2-G4 symptomatic cases (N=72) were included in the calculation of the posterior median of incubation period which requires information on the date of contact with the source case and the date of symptom onset. G1 symptomatic cases were excluded because there was no information on when they had contact with their source cases.

CI: confidence interval; LOO IC: leave-one-out information criterion.

^s LOO IC indicates the goodness-of-fit; lower values indicate a better fit and differences >2 are statistically relevant.

Supplementary Table 5. Incubation Period by Different Definition of Date of Contact.

	Symptomatic cases with one close contact only	Symptomatic cases with the first and last date of contact	All symptomatic cases (N=72)
Incubation period – mean±SD (Total no.)			
Using midpoint	10.40±6.33 (42)	11.15±8.25 (30)	10.71±7.37 (72)
Using first contact date	10.40±6.33 (42)	13.27±8.45 (30)	11.60±7.15 (72)
Using last contact date	10.40±6.33 (42)	9.03±8.49 (30)	9.83±7.28 (72)

Note: Only G2-G4 symptomatic cases (N=72) were included in the calculation of the posterior median of incubation period. G1 symptomatic cases were excluded because there was no information on the date when they had contact with their source cases.

SD: standard deviation.