

Results from Simulation Study Exploring Weak Identifiability

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Table 1: Conditional contact probabilities used for simulations, mean estimated contact probabilities over 500 simulations, and 2.5% and 97.5% quantiles of the estimates.

Age 1	Age 2	Truth	Mean of Estimates	95 % Quantile Interval
0-5	0-5	0.4	0.57	[0.13, 0.98]
	6-11	0.5	0.56	[0.27, 0.98]
	12-18	0.6	0.79	[0.11, 0.99]
	19-35	0.4	0.54	[0.35, 1.00]
	36+	0.5	0.60	[0.33, 0.94]
6-11	6-11	0.6	0.73	[0.30, 0.99]
	12-18	0.4	0.43	[0.17, 0.93]
	19-35	0.5	0.61	[0.40, 0.86]
	36+	0.6	0.69	[0.48, 0.98]
12-18	12-18	0.4	0.43	[0.21, 0.72]
	19-35	0.5	0.61	[0.38, 0.95]
	36+	0.6	0.68	[0.56, 0.79]
19-35	19-35	0.4	0.60	[0.38, 1.00]
	36+	0.5	0.66	[0.52, 0.78]
36+	36+	0.6	0.94	[0.47, 1.00]

Table 2: At home probabilities used for simulations, mean estimated at home probabilities over 500 simulations, and 2.5% and 97.5% quantiles of the estimates.

Age	Truth	Mean of estimates	95% Quantile Interval
0-5	0.6	0.55	[0.37, 0.75]
6-11	0.7	0.67	[0.51, 0.83]
12-18	0.8	0.77	[0.64, 0.88]
19-35	0.9	0.73	[0.60, 0.83]
36+	0.8	0.67	[0.60, 0.93]