A - Data

Subject	Infection status	Infection time
1	infected	NA
2	infected	NA
3	NA	NA
4	infected	NA
5	uninfected	NA

B - Iteration 1

a. Initiate model parameters with arbitrary value. e.g. household transmission probability p = 0.1

b. Initiate infection status and time

Infection status	Infection time
infected	t_1
infected	t_2
uninfected	
infected	t_3
uninfected	

c. Determine likelihood

Log-likelihood
- 2.1
- 5.4
- 0.3
- 9.3
- 1.6

Sum: - 18.7

C - Iteration i

a. Update parameter value to improve likelihood e.g. household transmission probability (p) = 0.12

b. Update infection status and time

Infection status	Infection time
infected	t_{11}
infected	t_{21}
infected	t_{41}
infected	t_{31}
uninfected	

c. Determine likelihood

Log-likelihood
- 1.5
- 2.6
- 1.3
- 4.1
- 0.2

Sum: - 9.7