Table S1. Model parameters, distribution information, values, and sources for *Listeria* transmission between agents.

| Symbol | Description *a* | Distribution                      | Mean   | 5th-95th percentile | Reference          |
|--------|------------------|-----------------------------------|--------|---------------------|---------------------|
| p11    | Probability of contact from contaminated surface in Zone 1 to another surface in Zone 1 | Pert (0.0, 0.10, 0.90, 4) | 0.22   | [0.30, 0.49]        | expert opinion      |
| p12    | Probability of contact from contaminated Zone 1 to Zone 2 | Pert (0.00, 0.20, 0.80, 4) | 0.27   | [0.61, 0.52]        | expert opinion      |
| p13    | Probability of contact from contaminated Zone 1 to Zone 3 | Pert (0.00, 0.15, 0.85, 4) | 0.24   | [0.48, 0.53]        | expert opinion      |
| p14    | Probability of contact from contaminated Zone 1 to an employee | Pert (0.00, 0.10, 0.80, 4) | 0.20   | [0.28, 0.45]        | expert opinion      |
| p21    | Probability of contact from contaminated Zone 2 to Zone 1 | Pert (0.00, 0.20, 0.95, 4) | 0.29   | [0.56, 0.60]        | expert opinion      |
| p22    | Probability of contact from contaminated Zone 2 to another Zone 2 | Pert (0.00, 0.15, 0.70, 4) | 0.22   | [0.44, 0.44]        | expert opinion      |
| p23    | Probability of contact from contaminated Zone 2 to Zone 3 | Pert (0.00, 0.20, 0.85, 4) | 0.28   | [0.62, 0.55]        | expert opinion      |
| p24    | Probability of contact from contaminated Zone 2 to an employee | Pert (0.00, 0.10, 0.80, 4) | 0.20   | [0.35, 0.44]        | expert opinion      |
| p31    | Probability of contact from contaminated Zone 3 to Zone 1 | Pert (0.00, 0.2, 0.90, 4) | 0.16   | [0.01, 0.40]        | expert opinion      |
| p32    | Probability of contact from contaminated Zone 3 to Zone 2 | Pert (0.00, 0.04, 0.90, 4) | 0.17   | [0.01, 0.43]        | expert opinion      |
| p33    | Probability of contact from contaminated Zone 3 to another Zone 3 | Pert (0.00, 0.13, 0.85, 4) | 0.23   | [0.04, 0.49]        | expert opinion      |
| p34    | Probability of contact from contaminated Zone 3 to an employee | Pert (0.00, 0.02, 0.60, 4) | 0.11   | [0.01, 0.29]        | expert opinion      |
| p41    | Probability of contact from contaminated employee to Zone 1 | Pert (0.00, 0.10, 0.95, 4) | 0.23   | [0.03, 0.51]        | expert opinion      |
| p42    | Probability of contact from contaminated employee to Zone 2 | Pert (0.00, 0.10, 0.80, 4) | 0.20   | [0.02, 0.45]        | expert opinion      |
| p43    | Probability of contact from contaminated employee to Zone 3 | Pert (0.00, 0.10, 0.90, 4) | 0.22   | [0.03, 0.51]        | expert opinion      |
| p44    | Probability of contact from contaminated employee to another employee | Pert (0.00, 0.05, 0.40, 4) | 10     | [0.01, 0.22]        | expert opinion      |

*a All parameter values correspond to an hourly time-scale, the time-scale of the model.
Table S2. Transfer coefficient matrix based on zone or employee type. Transfer coefficient was selected based on a combination of the sender (i: horizontal) and receiver (j: vertical). Values are log10 of the transfer coefficient.

|       | Zone 1 | Zone 2 | Zone 3 | Employee |
|-------|--------|--------|--------|----------|
| Zone 1| -1.51  | -3.68  | -0.28  | -1.97    |
| Zone 2| -1.51  | -1.51  | -3.53  | -1.97    |
| Zone 3| -0.31  | -0.31  | -0.31  | -0.82    |
| Employee| -1.97  | -1.97  | -1.69  | -3.43    |

Table S3. Standard deviation matrix based on zone or employee type. Standard Deviation was selected based on a combination of the sender (i: horizontal) and receiver (j: vertical).

|       | Zone 1 | Zone 2 | Zone 3 | Employee |
|-------|--------|--------|--------|----------|
| Zone 1| 0.2    | 0.2    | 0.2    | 0.87     |
| Zone 2| 0.2    | 0.2    | 0.2    | 0.87     |
| Zone 3| 0.2    | 0.2    | 0.2    | 0.87     |
| Employee| 0.87  | 0.87  | 0.87  | 0.79     |