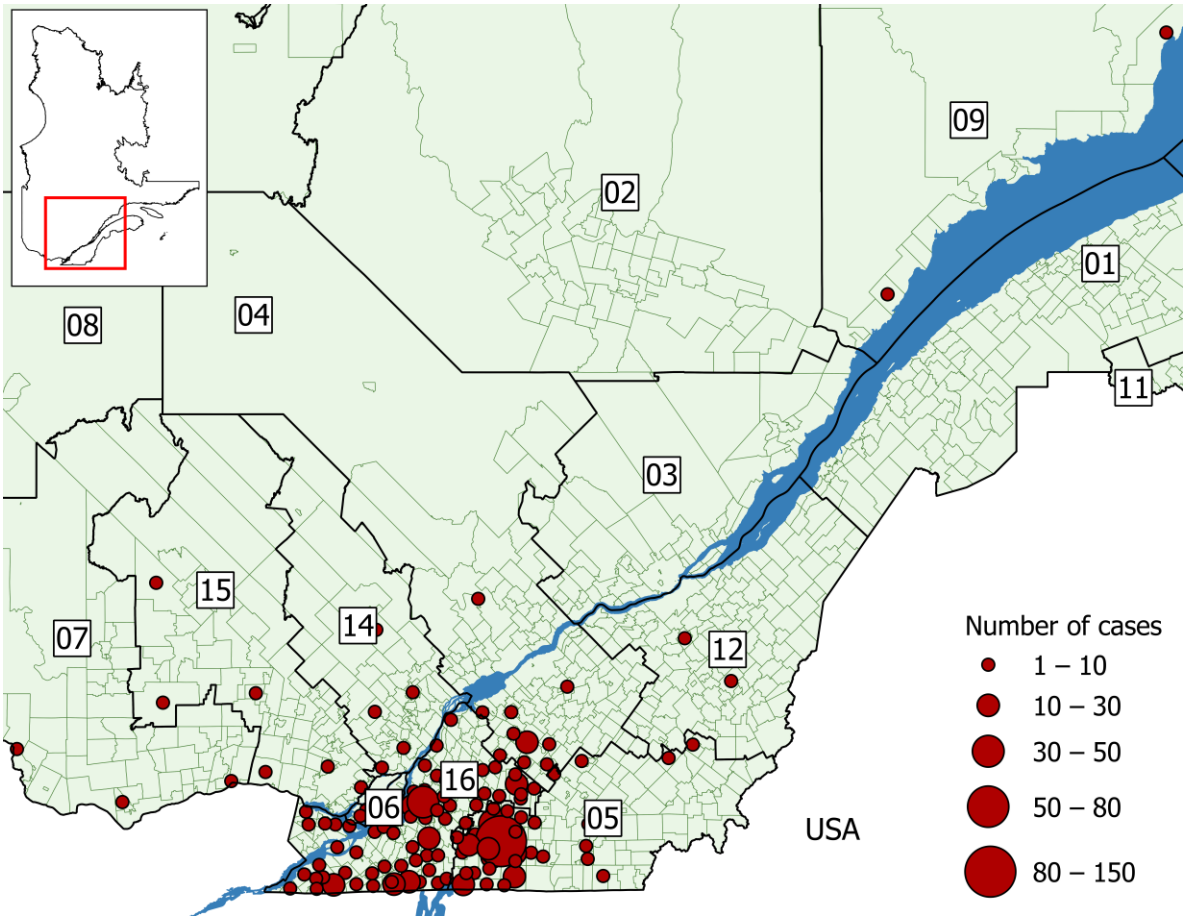


**Figure S1.** Cumulative number of Lyme disease cases in Québec acquired locally, 2006–2018 by date of symptom onset ($n$ = 693). Sociosanitary regions: 01) Bas-Saint-Laurent; 02) Saguenay – Lac-Saint-Jean; 03) Capitale-Nationale; 04) Mauricie et Centre-du-Québec; 05) Estrie; 06) Montréal; 07) Outaouais; 08) Abitibi-Témiscamingue; 09) Côte-Nord; 11) Gaspésie – Îles-de-la-Madeleine; 12) Chaudière-Appalaches; 14) Lanaudière; 15) Laurentides; 16) Montérégie.

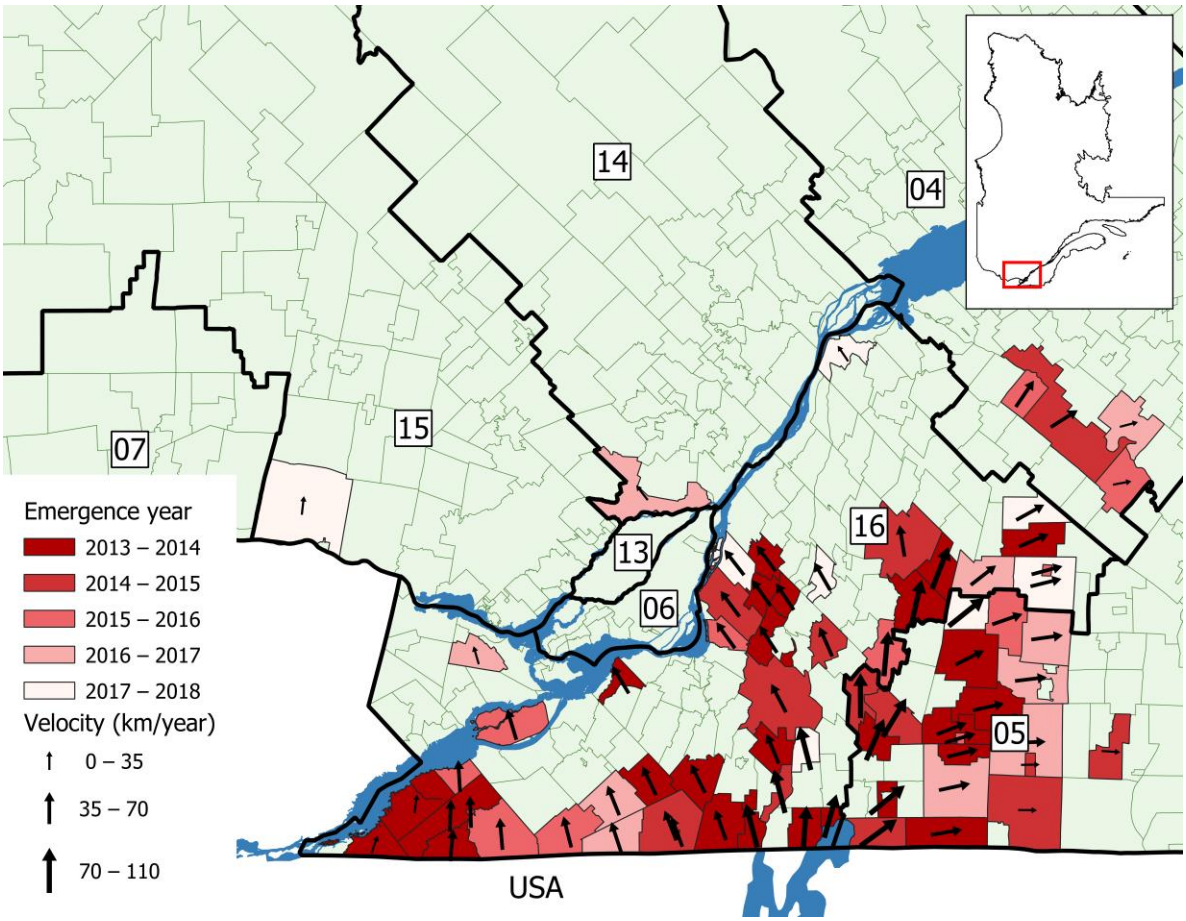


**Figure S2.** Lyme disease emergence velocity in Québec in municipalities having declared at least two cases in the last five years ($n$ = 70) by date of symptom onset (2013–2018). Sociosanitary regions: 04) Mauricie et Centre-du-Québec; 05) Estrie; 06) Montréal; 07) Outaouais; 13) Laval; 14) Lanaudière; 15) Laurentides; 16) Montérégie.

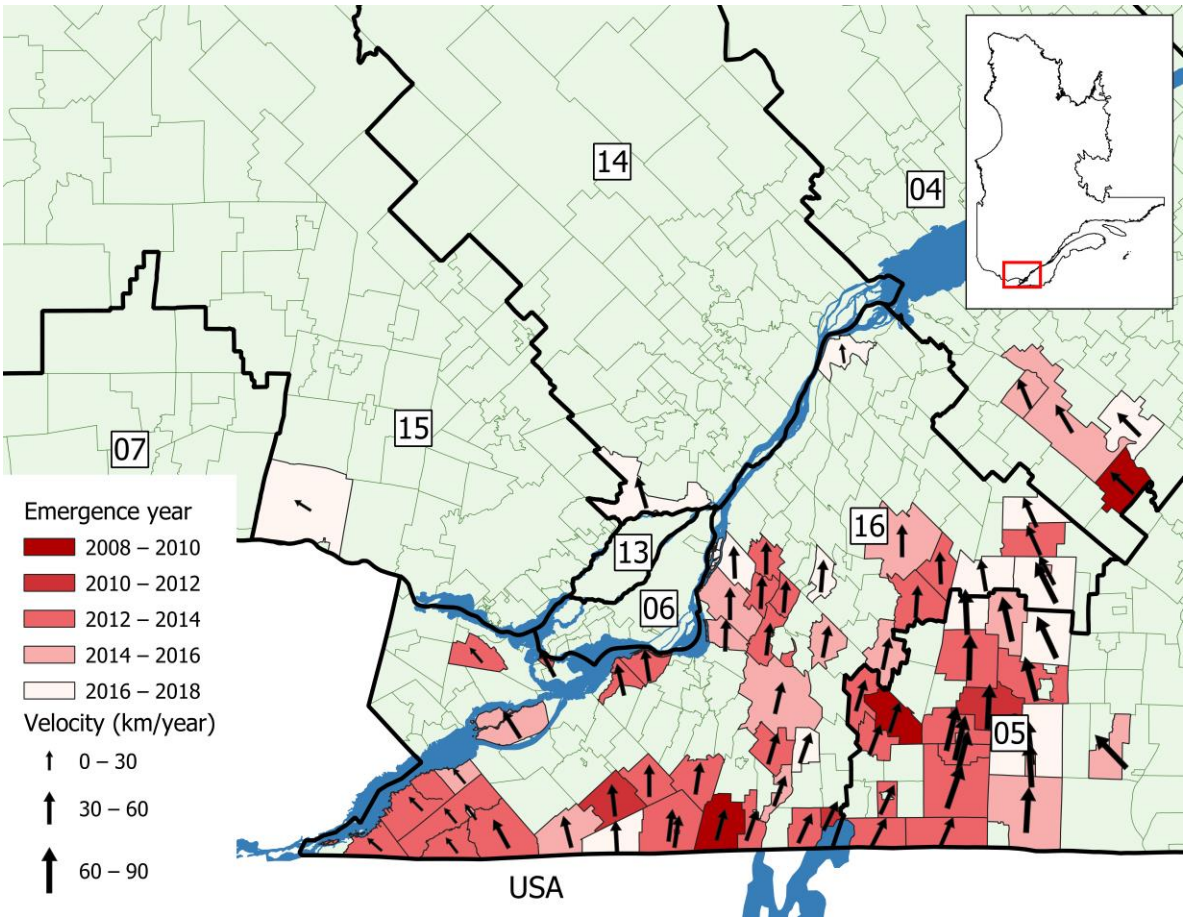


**Figure S3.** Lyme disease emergence velocity in Québec in municipalities having declared at least two cases ($n$ = 72) by date of symptom onset (2006–2018). Sociosanitary regions: 04) Mauricie et Centre-du-Québec; 05) Estrie; 06) Montréal; 07) Outaouais; 13) Laval; 14) Lanaudière; 15) Laurentides; 16) Montérégie.

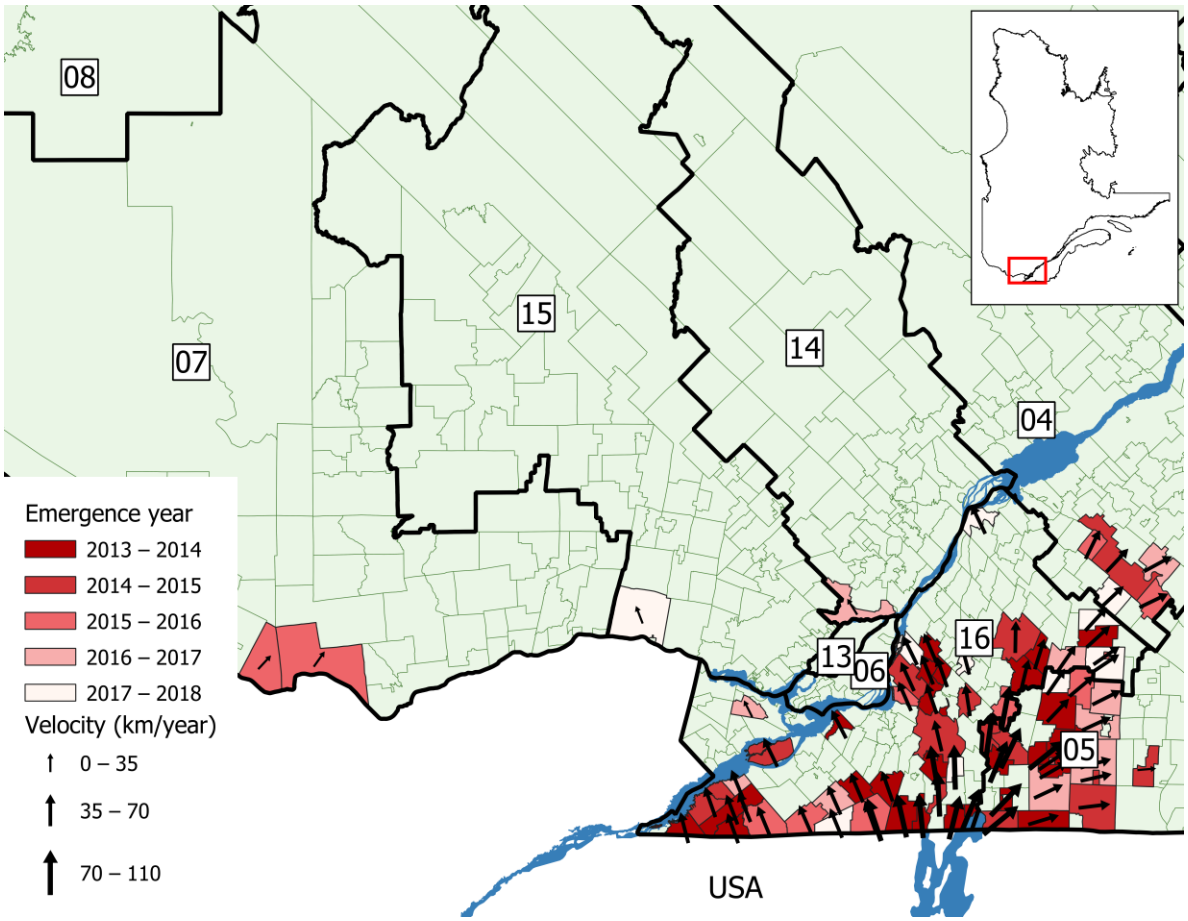


**Figure S4.** Lyme disease emergence velocity in Québec in municipalities having declared at least two cases in the last five years ($n$ = 73) by date of notification (2013–2018). Sociosanitary regions: 04) Mauricie et Centre-du-Québec; 05) Estrie; 06) Montréal; 07) Outaouais; 08) Abitibi-Témiscamingue; 13) Laval; 14) Lanaudière; 15) Laurentides; 16) Montérégie.

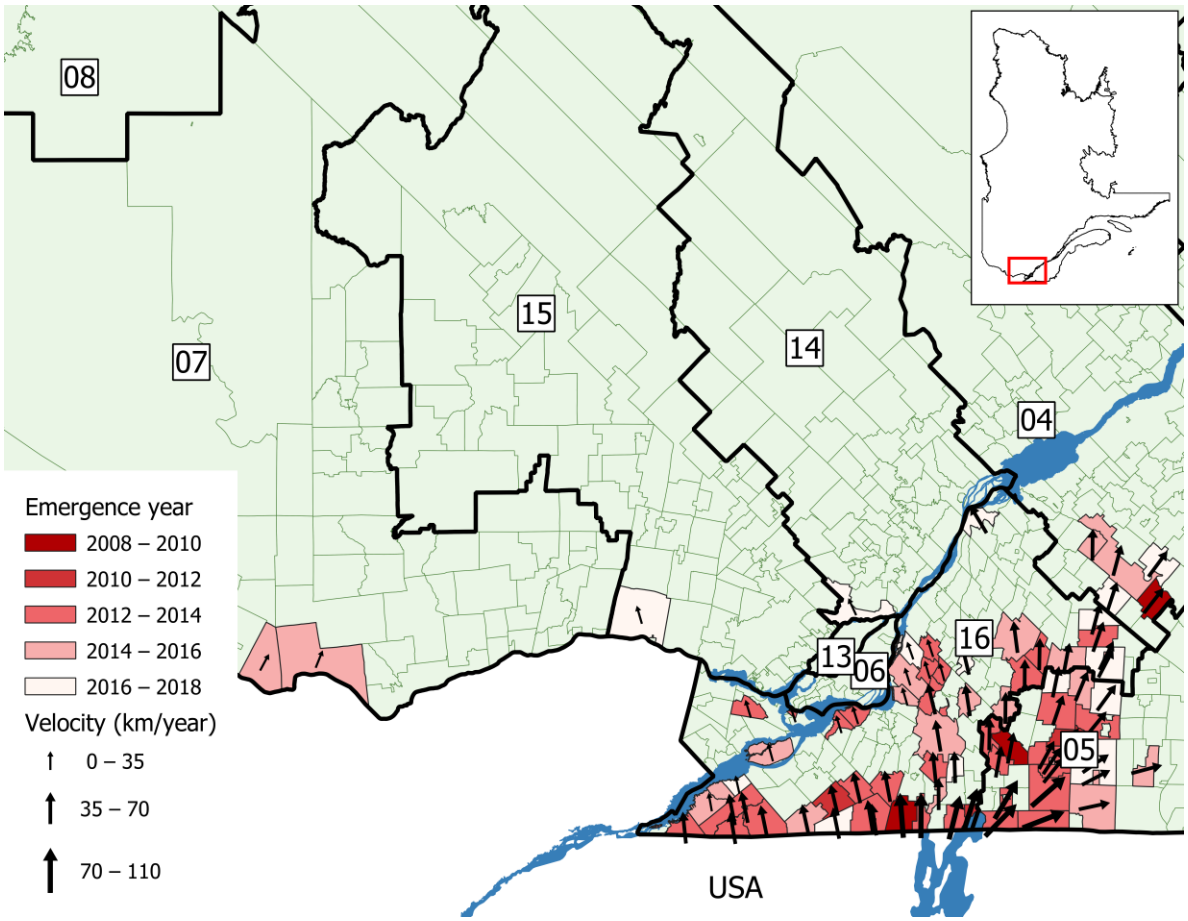


**Figure S5.** Lyme disease emergence velocity in Québec in municipalities having declared at least two cases over the whole study period ($n$ = 75) by date of notification (2006–2018). Sociosanitary regions: 04) Mauricie et Centre-du-Québec; 05) Estrie; 06) Montréal; 07) Outaouais; 08) Abitibi-Témiscamingue; 13) Laval; 14) Lanaudière; 15) Laurentides; 16) Montérégie.

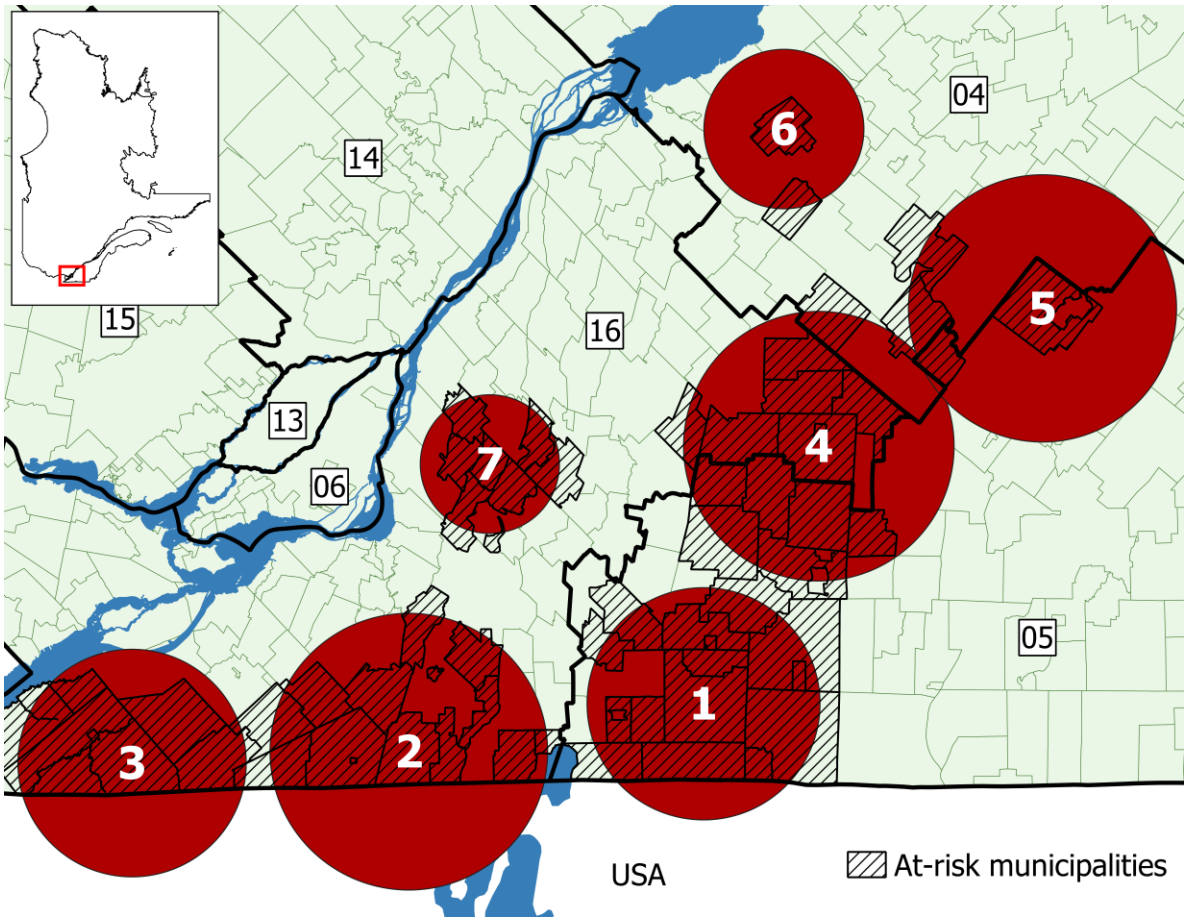


**Figure S6.** Spatiotemporal clusters of Lyme disease cases in Québec between 2006 and 2018 by date of symptom onset ($n$ = 524 cases). Clusters are shown in order of appearance. If clusters appeared in the same time period, they were numbered by decreasing count of at-risk municipalities. Each circle represents a cluster no larger than 50 km in diameter, capturing no more than 15% of the population at-risk (underlying population). Sociosanitary regions: 04) Mauricie et Centre-du-Québec; 05) Estrie; 06) Montréal; 13) Laval; 14) Lanaudière; 15) Laurentides; 16) Montérégie.

**Table S1.** Spatiotemporal cluster variables of Lyme disease cases in Québec between 2006 and 2018 by date of symptom onset ($n$ = 524 cases).

| | **Clusters** | | | | | | |
|---|---|---|---|---|---|---|---|
| | **1** | **2** | **3** | **4** | **5** | **6** | **7** |
| Radius (km) | 20.80 | 24.81 | 20.41 | 23.97 | 23.67 | 14.05 | 12.33 |
| Time period | 2013-2018 | 2013-2018 | 2013-2018 | 2015-2018 | 2015-2018 | 2015-2018 | 2016-2018 |
| Municipalities at-risk | 15 | 14 | 8 | 14 | 4 | 2 | 7 |
| Population at-risk | 52 676 | 26 424 | 15 644 | 100 670 | 7 239 | 2 074 | 109 440 |
| Declared cases | 269 | 73 | 40 | 85 | 6 | 5 | 46 |
| Expected cases | 4.89 | 2.45 | 1.45 | 6.23 | 0.45 | 0.13 | 5.08 |
| Annual cases/100 000 | 85.1 | 46.0 | 42.6 | 21.1 | 20.7 | 60.3 | 14.0 |
| Relative risk | 89.27 | 33.13 | 29.17 | 15.41 | 13.50 | 49.22 | 9.62 |
| $p$-value | <0.001 | <0.001 | <0.01 | <0.001 | 0.032 | 0.0016 | <0.01 |

RR represents the relative risk of LD within the clusters relative to the risk outside the clusters.

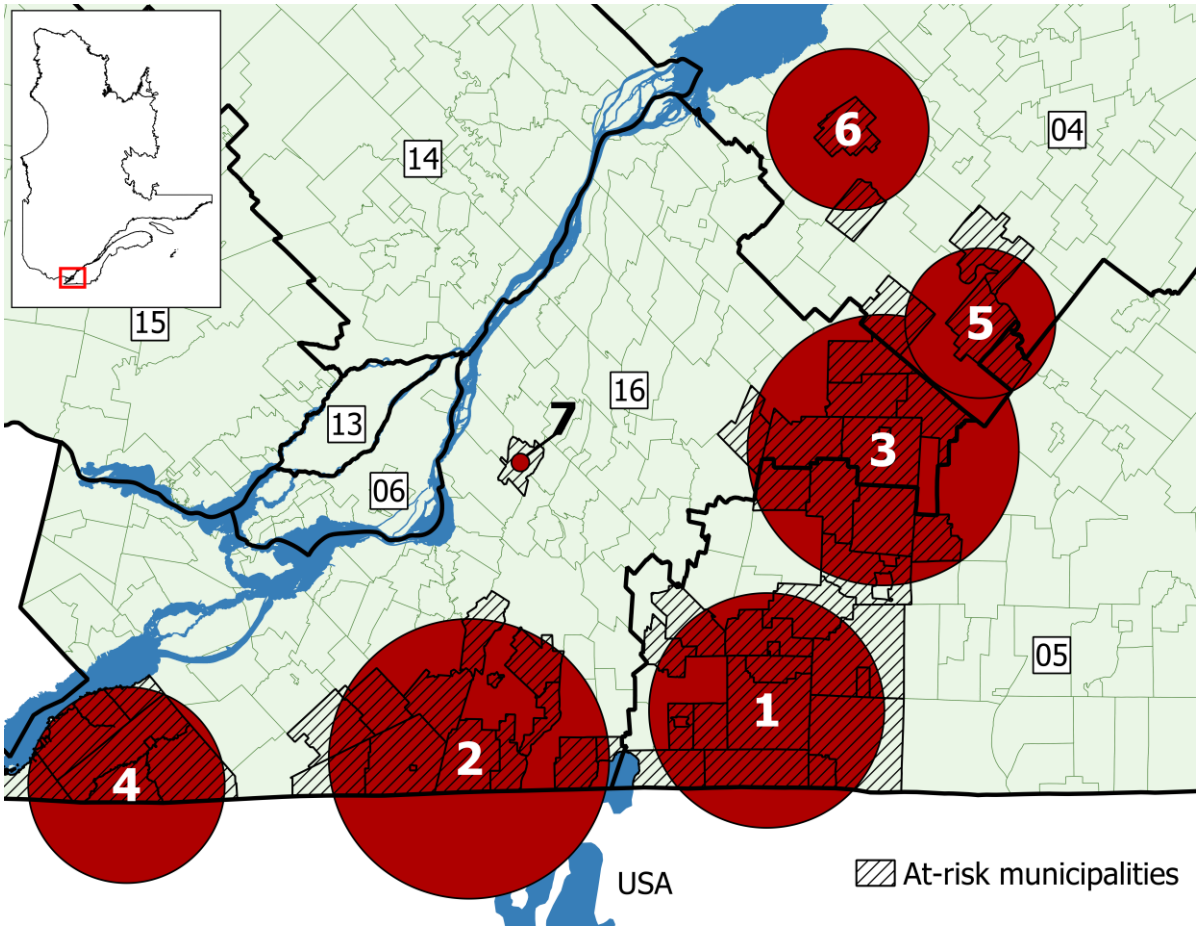


**Figure S7.** Spatial clusters of Lyme disease cases in Québec between 2006 and 2018 by date of symptom onset ($n$ = 490 cases). Clusters are shown in order of number of municipalities at risk. Each circle represents a cluster no larger than 50 km in diameter, capturing no more than 15% of the population at-risk (underlying population). Sociosanitary regions: 04) Mauricie et Centre-du-Québec; 05) Estrie; 06) Montréal; 13) Laval; 14) Lanaudière; 15) Laurentides; 16) Montérégie.

**Table S2.** Spatial cluster variables of Lyme disease cases in Québec between 2006 and 2018 by date of symptom onset ($n$ = 490 cases).

| | **Clusters** | | | | | | |
|---|---|---|---|---|---|---|---|
| | **1** | **2** | **3** | **4** | **5** | **6** | **7** |
| Radius (km) | 20.80 | 24.81 | 23.80 | 17.40 | 13.14 | 14.05 | 0.00 |
| Municipalities at-risk | 15 | 14 | 13 | 7 | 3 | 2 | 1 |
| Population at-risk | 52 676 | 26 434 | 34 222 | 10 738 | 3 420 | 2 074 | 26 453 |
| Declared cases | 277 | 79 | 60 | 37 | 6 | 5 | 31 |
| Expected cases | 10.60 | 5.32 | 6.89 | 2.16 | 0.69 | 0.42 | 5.32 |
| Annual cases/100 000 | 40.5 | 23.0 | 13.5 | 26.5 | 13.5 | 18.5 | 9.0 |
| Relative risk | 42.88 | 16.64 | 9.45 | 18.4 | 8.79 | 12.06 | 6.05 |
| $p$ value | <0.001 | <0.001 | <0.001 | <0.001 | 0.011 | 0.0095 | <0.001 |

RR represents the relative risk of LD within the clusters relative to the risk outside the clusters.

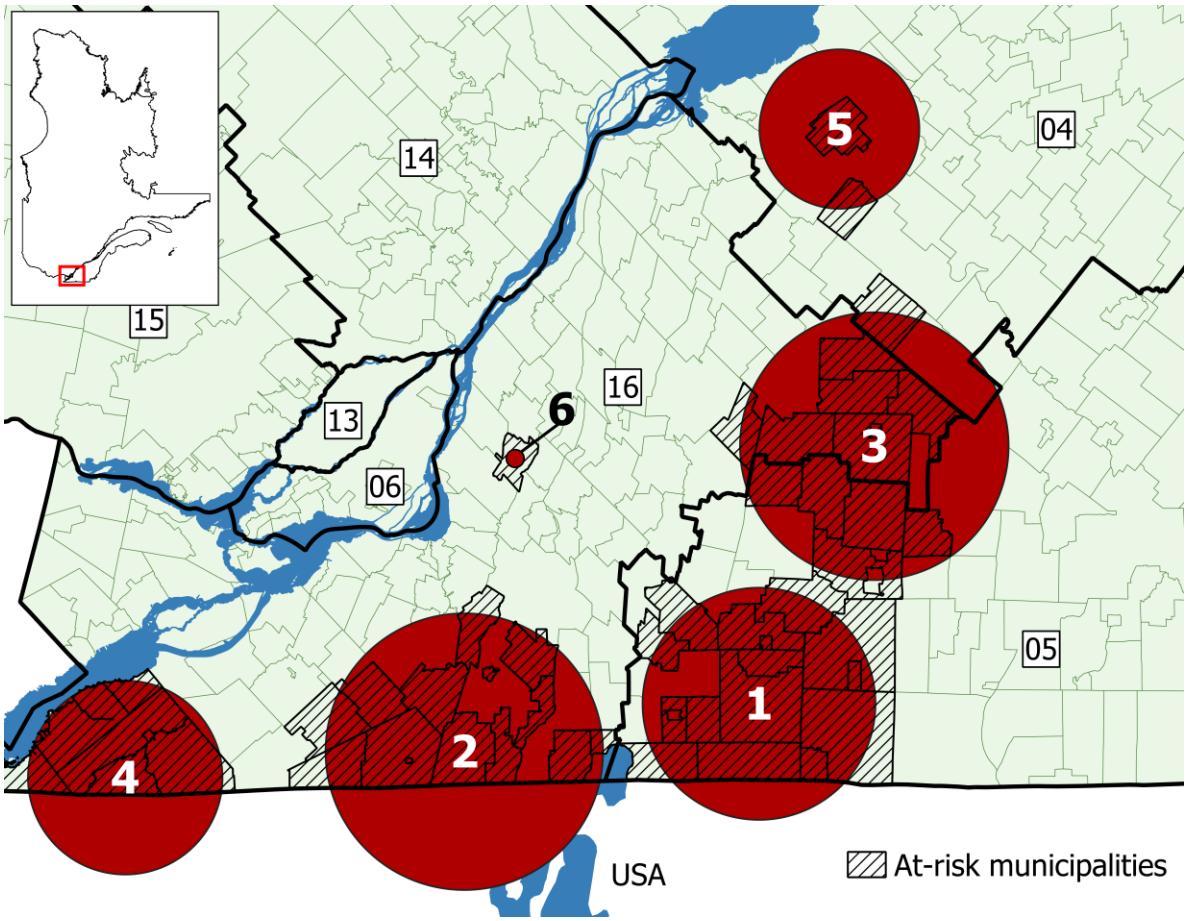


**Figure S8.** Spatial clusters of Lyme disease cases in Québec between 2006 and 2018 by date of notification *(n* = 506*)*. Clusters are shown in order of number of municipalities at risk. Each circle represents a cluster no larger than 50 km in diameter, capturing no more than 15% of the population at-risk (underlying population). Sociosanitary regions: 04) Mauricie et Centre-du-Québec; 05) Estrie; 06) Montréal; 13) Laval; 14) Lanaudière; 15) Laurentides; 16) Montérégie.

**Table S3.** Spatial cluster variables of Lyme disease cases in Québec between 2006 and 2018 by date of notification ($n$ = 506 cases).

| | **Clusters** | | | | | |
|---|---|---|---|---|---|---|
| | **1** | **2** | **3** | **4** | **5** | **6** |
| Radius (km) | 20.80 | 24.81 | 23.80 | 17.40 | 14.05 | 0.00 |
| Municipalities at-risk | 15 | 14 | 13 | 7 | 2 | 1 |
| Population at-risk | 52 675 | 26 423 | 34 222 | 10 739 | 2 074 | 26 453 |
| Declared cases | 290 | 81 | 62 | 37 | 5 | 31 |
| Expected cases | 10.14 | 5.09 | 6.59 | 2.07 | 0.40 | 5.09 |
| Annual cases/100 000 | 42.4 | 23.6 | 13.9 | 26.5 | 18.5 | 9.0 |
| Relative risk | 46.90 | 17.79 | 10.19 | 18.80 | 12.60 | 6.31 |
| $p$ value | <0.001 | <0.001 | <0.001 | <0.001 | 0.011 | <0.001 |

RR represents the relative risk of LD within the clusters relative to the risk outside the clusters.