From Trenches to Tents: The Evolving Epidemiology of Louse-Borne *Bartonella quintana* in Canada

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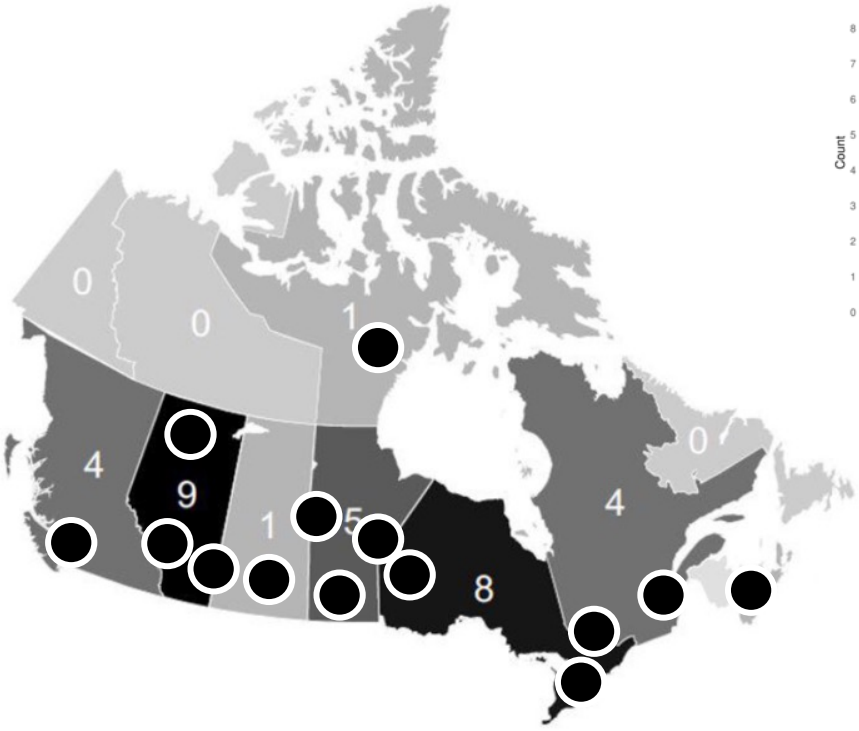
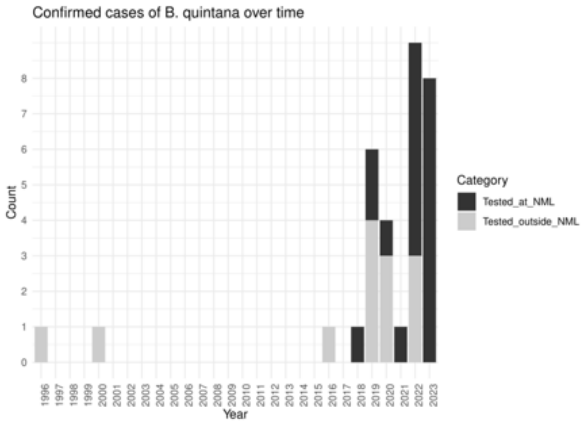
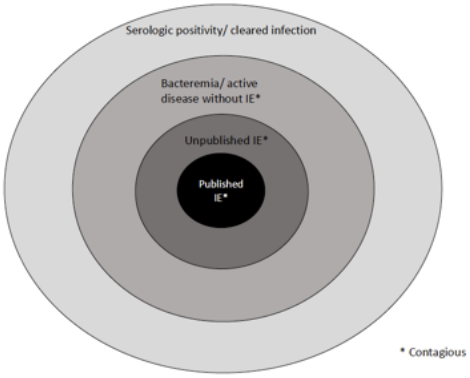
Background: *B. quintana*: louse-borne bacterial pathogen, culture-negative endocarditis
Homelessness, Indigenous communities (overcrowding, no running water)

Methodology: 1) retrospective lab study 2) prospective vector study 3) systematic review

Results:
1) 34 PCR-confirmed cases (26 endocarditis): 2 endocarditis Indigenous children
2) 7 provinces, 1 territory, 4+ time zones: 14 urban and rural foci of transmission
2) 4 documented fatalities (12% CFR): all endocarditis (survivors: surgery)
3) PCR-confirmed cases increased over time (p-value = 0.005)
4) PCR % positivity at National Lab increased over time (p-value = 0.036)
5) Media IFA titer (serology): sustained increase since 2017 (more endocarditis)
6) Solid organ transplant donor-derived: 6 recipients PCR-proven *B. quintana*
7) 218 body lice PCR+ (14%): follow-up underhoused host: *B. quintana* disease







● Foci of transmission (no animal reservoir)

Conclusions:
1) *B. quintana* increasingly diagnosed in Canada: novel routes and foci transmission
2) Increasing fatalities due to endocarditis
3) Pediatric *B. quintana* IE: first documented cases acquired in a high-income country
3) Louse analysis: non-invasive surveillance tool