Background. Lyme disease (LD) is an emerging infectious disease in Canada due to northward expansion of the geographic range of *Ixodes scapularis*, the principal tick vector for the LD agent *Borrelia burgdorferi*, into central and eastern Canada. This study aims to i) summarize the surveillance data for LD cases reported in Canada between 2009 and 2015, ii) identify potential environmental risk factors and iii) develop an acarological risk indicator from passive surveillance for occurrence of human cases.

Methods. We described the distribution, trends, demographic and clinical characteristics of cases of the disease. Logistic regression models were used to identify risk factors for the occurrence of LD: 1) demographic (age and sex), and 2) environmental (type of forest cover, temperature and abundance of ticks). Passive surveillance data were used to develop an acarological indicator of at-risk areas for LD.

Results. The number of reported LD cases increased more than six-fold overall, from 144 cases in 2009 to 917 cases in 2015, mainly due to locally acquired infections. LD incidence in Nova Scotia has risen sharply since 2013 and was the highest in Canada over the study period. Children below 15 years and adults of the 55–74 age groups reported highest incidence. Significantly more men than women were infected and men had significantly more symptoms of late disseminated LD than women. Variability in clinical manifestations is observed between provinces, years, for children below 15 years and between age groups. The majority of cases were reported between April and November and there was an increase in risk areas. The abundance of *Ixodes scapularis* ticks collected on humans and deciduous forest cover were significantly associated with the occurrence of LD cases at the municipality scale. Passive surveillance provides a cost-effective alert system for public health authorities to timely identify risk areas and target vulnerable populations and front-line health professionals by means of awareness campaigns.

Conclusion. These findings showed that LD continues to increase in Canada, both over time and geographically, underlining the need to implement better preventive strategies, early disease recognition and treatment and efficient surveillance systems.

Disclosures. All authors: No reported disclosures.

1121. Classical Fever of Unknown Origin: Retrospective Study in Infectious Clinical Hospital №2

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Background. Despite the recent advances in medicine, fever of unknown origin (FUO) remains a diagnostic and therapeutic challenge even to expert physicians. The etiological structure of FUO is determined by many factors, including the one where a patient was hospitalized and where he has been hospitalized. The aim of this study is to investigate the etiological structure of FUO in patients with FUO hospitalized at the Infectious Clinical Hospital №2 between October 2015 and October 2016 who meet the D.Durack criteria (1) An axillary temperature of >38.0 which corresponds oral temperature of >38.3; (2) Illness duration is more than 3 weeks; (3) there is no definite diagnosis after three outpatient visits or 3 days in the hospital with no treatment; (4) the fever is not related to FUO of other groups: nosocomial FUO, FUO in patients with AIDS, neutropenia were included.

Results. Of the 80 FUO cases, 76 were positively diagnosed with a diagnosis rate of 87.5%. Infectious diseases were still the primary causes of FUO 63% (n = 50). Among them the most frequent diagnoses were bacterial infection of unspecified site 12.5% (n = 10), infective endocarditis 11% (n = 9), as well as pneumonia 7.5% (n = 6) and viral infections of unspecified site 7.5% (n = 6). Connective tissue diseases and other viral infections of unspecified site 7.5% (n=6). Connective tissue diseases and other infectious inflammatory diseases accounted for 17.5% of the FUO cases among which SLF and autoimmune thyroiditis were the most common etiologies and made up 5% (n = 4) and 3.75% (n = 3), respectively. Neoplasms were 8% (n = 6) in our sample. Also ten patients (12.5%) could not be confirmed until they were discharged from hospital.

Conclusion. Infectious diseases are the major causes of FUO, and the most common cause is bacterial infection of unspecified site. To determine the etiology was difficult due to the limited conditions of the clinical hospital. Infectious endocarditis was found on the second place. The most common causative agents of infective endocarditis were MRSA (3/9) and streptococcus viridans (4/9). The frequency of undiagnosed cases was increasing, but in most FUO cases the causes can be diagnosed eventually after careful analysis of clinical data.

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1122. Responses to Fever Overnight: Do Residents Choose Wisely?

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Background. Residents at our institution rely heavily on the terminology “Full Fever Work Up” (FFWW) as a cognitive tool for cross-covering patients with a fever. Prior survey data revealed that residents vary considerably in how they respond to fevers and what FFWW means. We sought to determine what tests are included in the FFWW, how often the term is adhered to, and if it significantly changes clinical outcomes.

Methods. For 3 months, study investigators collected FFWW instructions for patients who experienced a fever at night. For each febrile episode, investigators reviewed chart data on patient factors, circumstances surrounding the fever, tests ordered, etiologies of the fever, and outcomes (immediately and 30-days after the fever). The UCLA Institutional Review Board approved this study.

Results. We reviewed 253 fever episodes. For 204 episodes, written sign-out by the primary team was available. 59% of the fevers were in male patients and the mean age was 59 years. 12% had an organ transplant and 45% qualified as highly immunocompromised. 79% met SIRS criteria, whereas only 3% met sepsis criteria and 2% required escalation of care.

The cross-covering physician wrote a note in 4% of the cases and evaluated the patient in-person in 12% of the cases per chart review. Residents most often ordered bacterial blood cultures (48%), followed by urinary tests (34%) and chest X-rays (30%). These tests, as well as fungal blood cultures, lactate and CBC, were significantly more likely to be ordered by the cross-covering resident if the sign-out instructed to perform a FFWW.

The mean number of diagnostic tests ordered was 2 and residents started or changed antibiotics in 14% of cases. 88% of the time patients were alive 30 days after their fever. 11% efficacious and cost effective alternative and 8% of good cultures drawn were positive.

Conclusion. Ordering practices overnight were significantly influenced by the FFWW sign-out instructions, yet evaluating the patient in-person was rare. We hypothesize that the FFWW standardization has replaced a more individualized evaluation overnight. Fortunately, poor outcomes including death, bacteremia, escalation of care, or antibiotic-related complications were low in this population.

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