BUREAU DE SANTÉ DE MIDDLESEX-LONDON HEALTH UNIT

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COVID-19 Healthcare Provider Briefing

Middlesex and London Region

May 3, 2022

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Welcome

Presenter:

Dr. Alex Summers

Medical Officer of Health

Middlesex-London Health Unit

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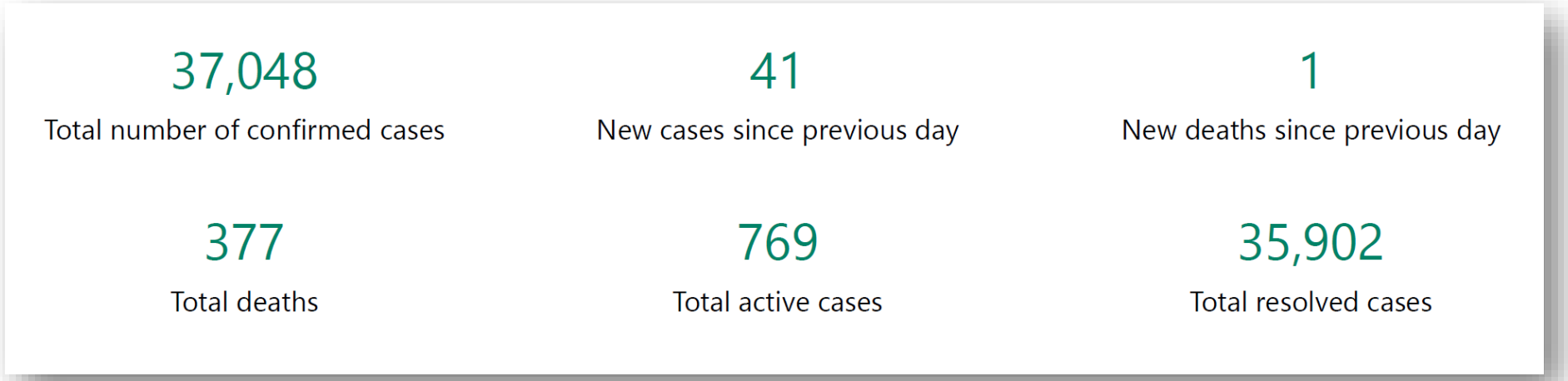
Surveillance Report

As of May 2nd:

- Worldwide:
  - Over 511 million COVID-19 cases and over 6.23 million deaths have been reported
  - Over 11.5 billion vaccine doses administered worldwide
- In Ontario:
  - 1.26 million cases of this illness confirmed, including 12,842 deaths
- Locally:



Data source: Ontario Ministry of Health (Ministry) *Public Health Case and Contact Management Solution* (CCM), extracted 2022-05-03. Data current as of the end of day 2022-05-02.

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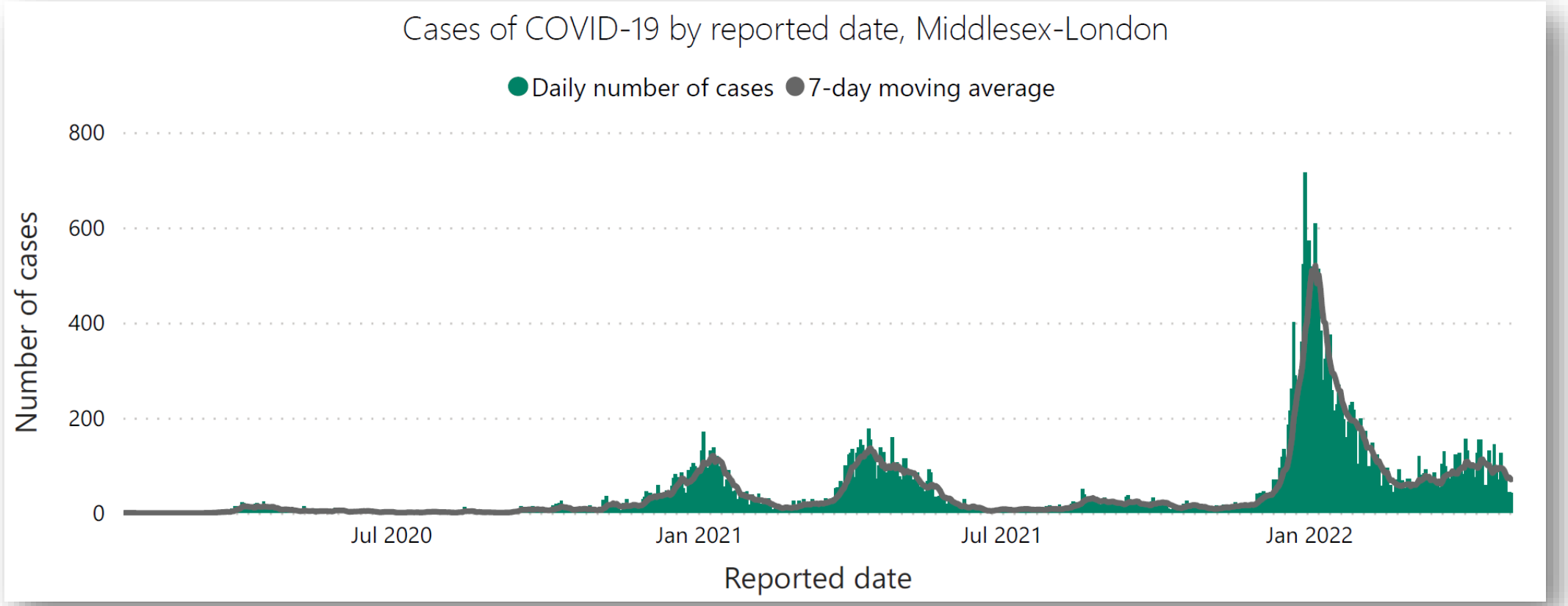
Cases by Reported Date



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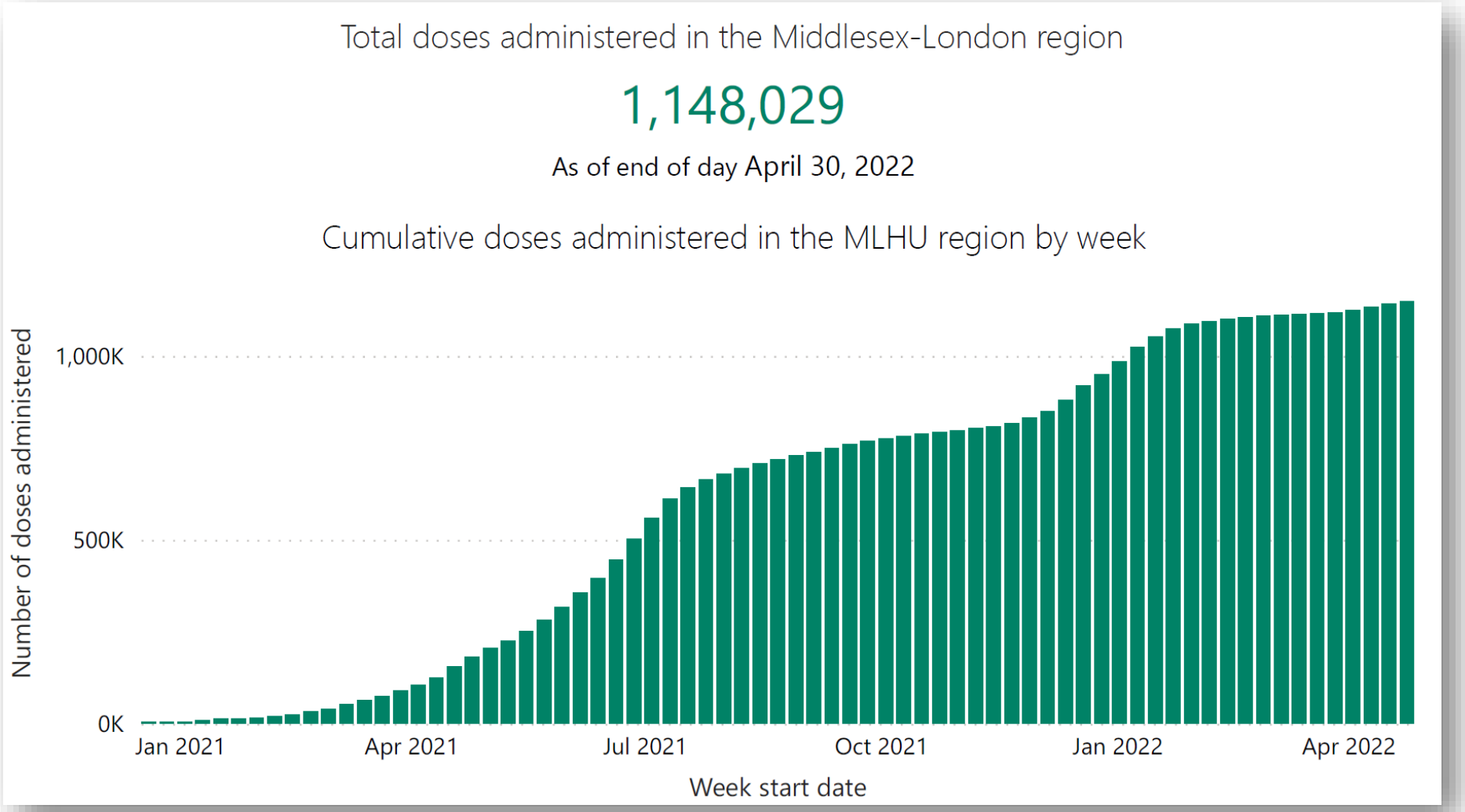
COVID-19 Vaccine Update



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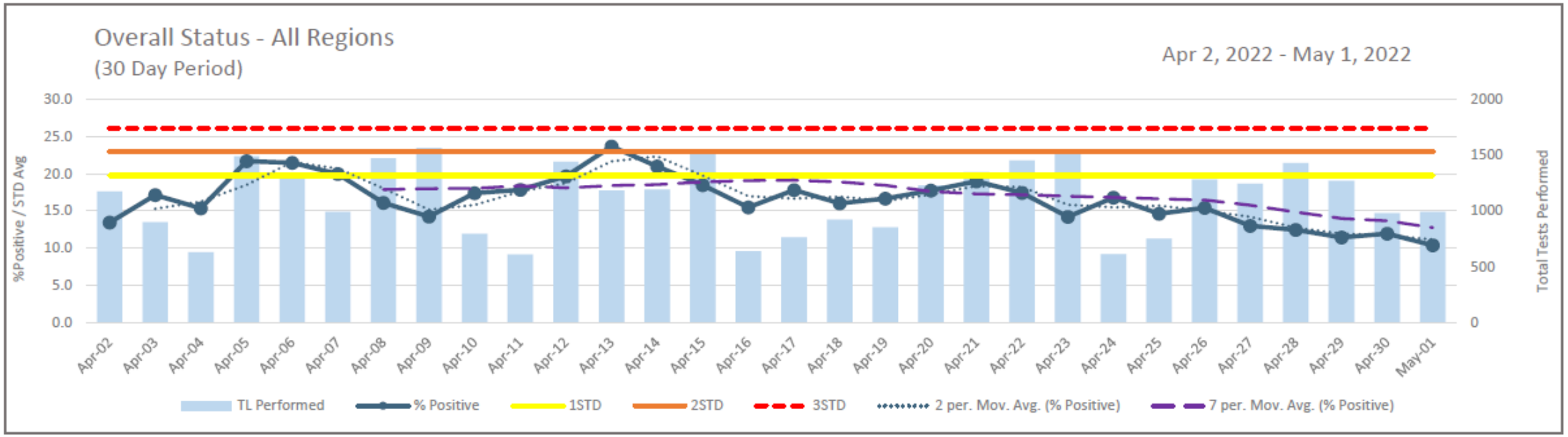
Percent positivity



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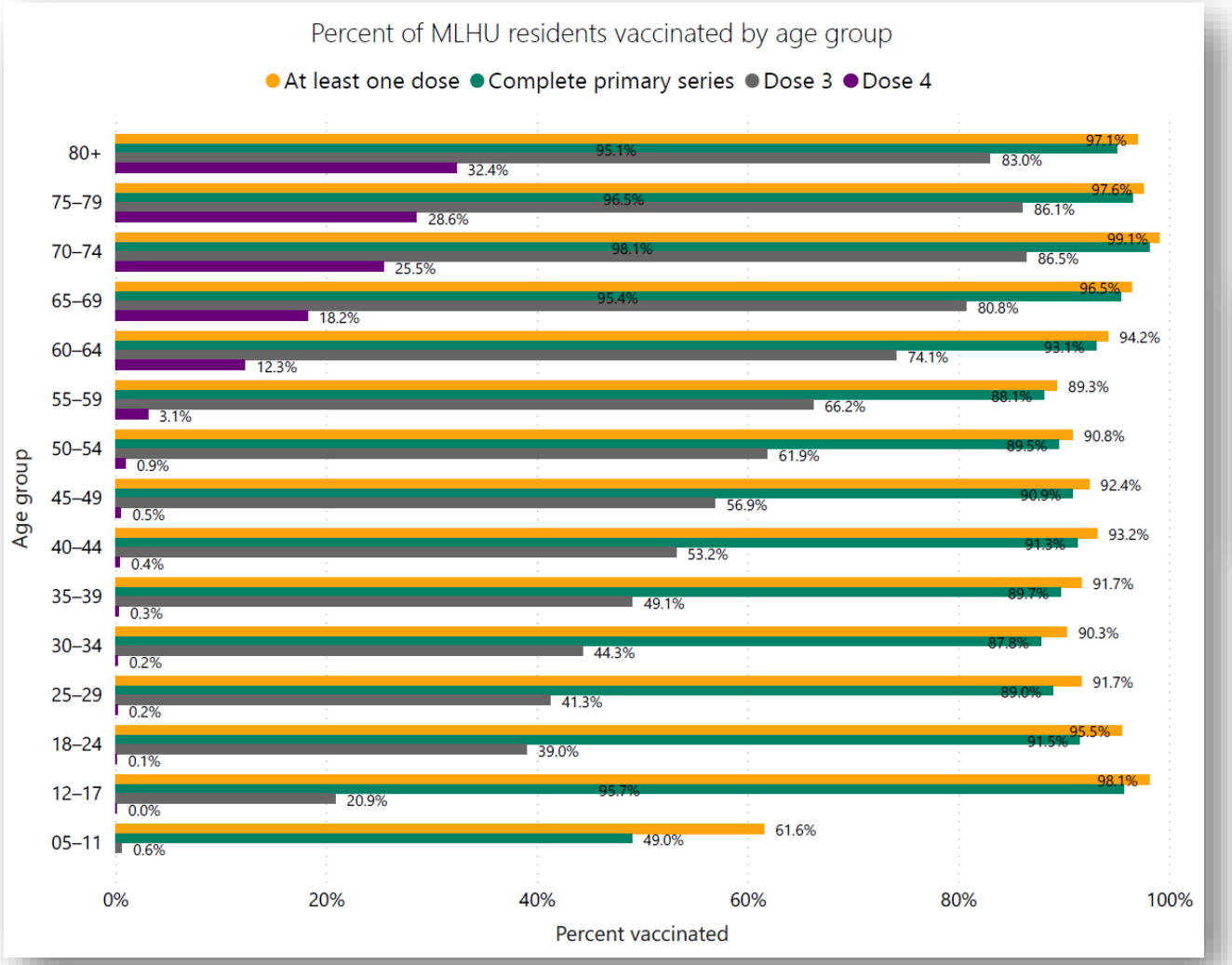
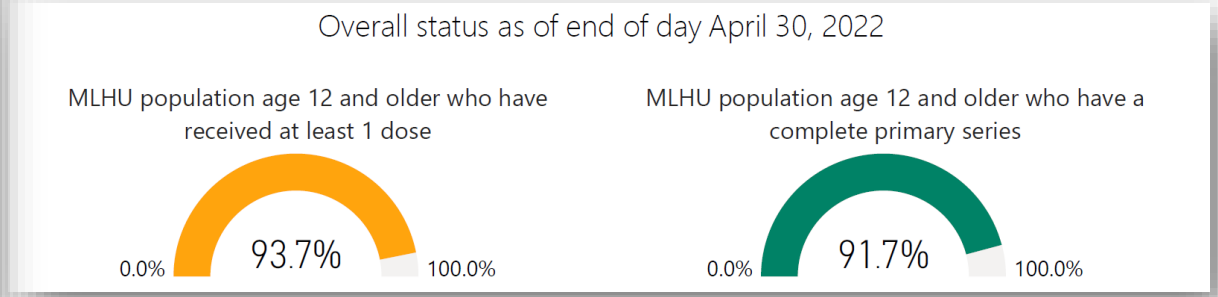
COVID-19 Vaccine Coverage by age group





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Lyme Disease

Dr. Summers & Jeremy Hogeveen

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Objectives

- Review presentation, diagnosis, and treatment of Lyme disease
- Review Post-Exposure Prophylaxis (PEP) criteria
- Discuss risk of ticks exposure in Middlesex-London
- Review ticks identification process

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What is Lyme disease?

- Tick-borne zoonotic disease caused by *Borrelia burgdorferi*
- First identified in North America in 1982
- First identified in Ontario in 1993, when a tick removed from a dog in Kenora tested positive for *B. burgdorferi*
- Confirmed/probable cases in Middlesex-London are on the rise (5 cases in 2021)

Lyme Disease Cases in Middlesex-London

Year	Number of Confirmed/Probable Human Lyme Disease Cases in Middlesex-London Residents
2022	0
2021	5
2020	2

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Transmission

- Primary vector is *Ixodes scapularis*
  - Also known as deer tick or blacklegged tick
- Deer and small mammals serve as a tick host and as well as reservoirs of the bacteria
- Tick feeds on host, acquires B. burgdorferi and becomes infective
- Once the infected tick feeds on human, it is possible the person contracts Lyme disease
- Infected tick must be attached for at least 24-36 hours
  - Bacteria must migrate from the gut to salivary glands before being injected

Early localized disease

- Erythema migrans (EM) or “bull’s eye” rash at the site of a recent tick bite
- Associated with fever, malaise, headache, myalgia, neck stiffness, fatigue, lymphadenopathy and arthralgia
- Present in 70-80% of positive cases

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Early disseminated disease

- Occurs several weeks after infective tick bite
- Multiple EM in approximately 15% of people
- Other symptoms include:
  - Cranial nerve palsies
  - Lymphocytic meningitis
  - Radiculitis
  - Conjunctivitis
  - Arthralgia
  - Myalgia
  - Headache
  - Fatigue
  - Heart block

Late disease

- May develop if early infection undetected or not adequately treated
- Symptoms may include:
  - Arrhythmias
  - Heart block
  - Recurrent arthritis affecting large joints
  - Peripheral neuropathy
  - Meningitis
  - Encephalopathy
  - Ophthalmic conditions
  - Fatigue

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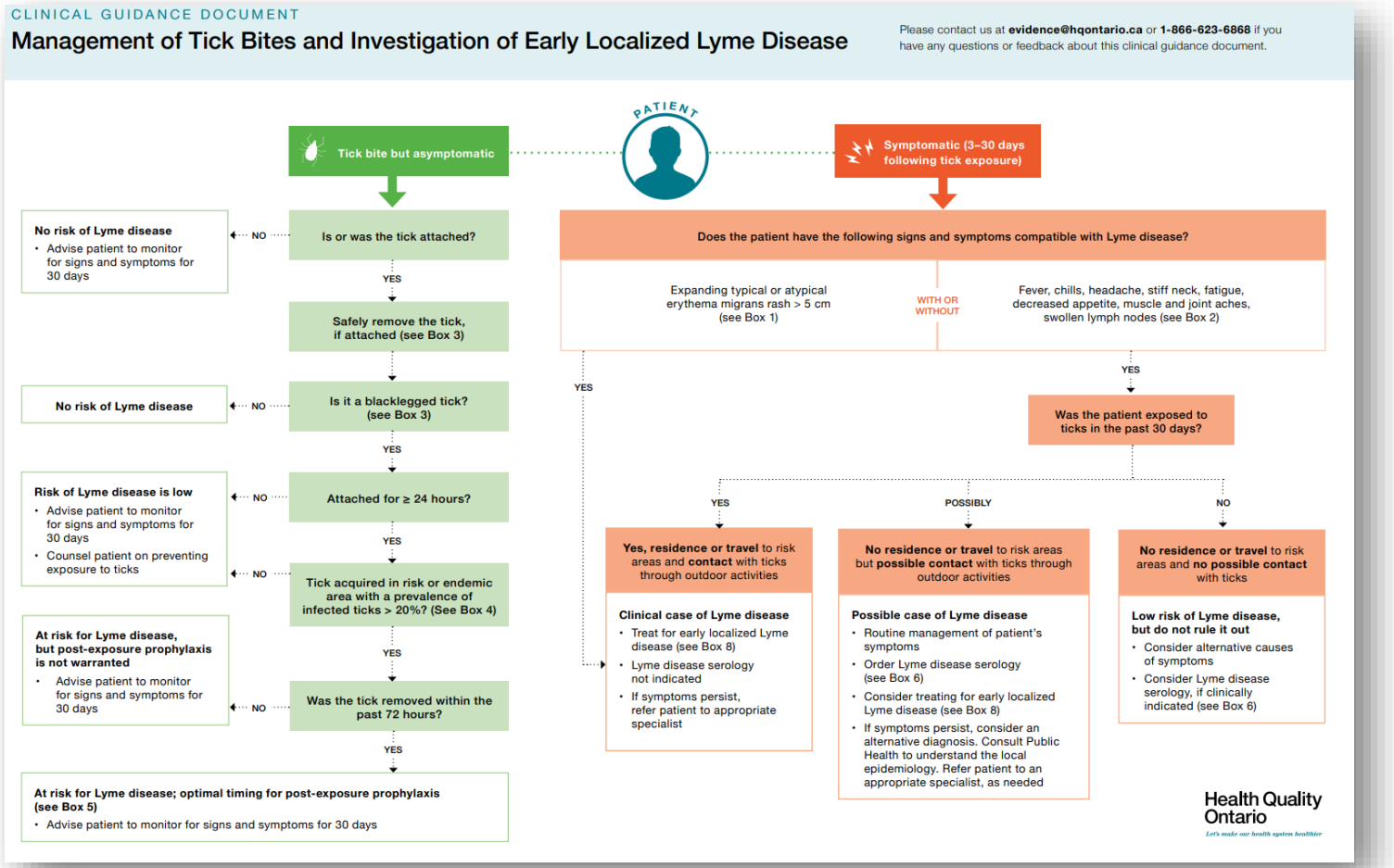
Helpful tool

- *Management of Tick Bites and Investigation of Early Localized Lyme Disease*- Clinical Guidance Document from Health Quality Ontario (hqontario.ca)



Diagnosis

- **Early localized disease**: Presence of an expanding typical or atypical erythema migrans rash > 5 cm is sufficient for the clinical diagnosis of Lyme disease
- Serology is not necessary
- **Early disseminated disease and late disease**: Diagnosis is guided by *symptoms, risk factors, and laboratory testing* (if indicated)

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Laboratory Tests

- In Canada, a blood sample is tested for *Borrelia* antibodies using a two-step process
  - First step: Enzyme-linked Immuno-sorbent Assay (**ELISA**)
  - Second step: If ELISA reactive, Western Blot completed for IgM and IgG antibodies
- Used alone, ELISA tests lack specificity

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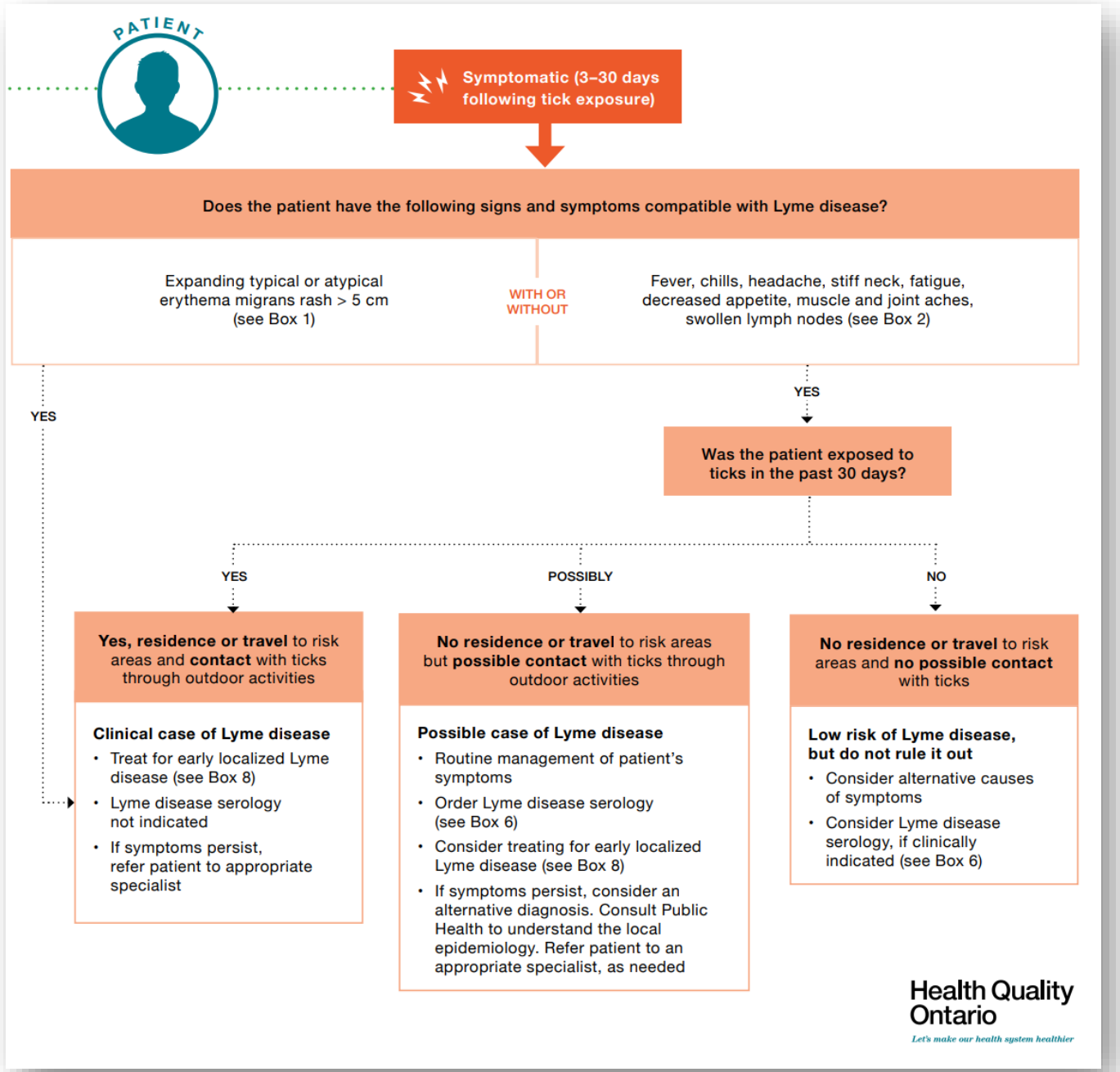

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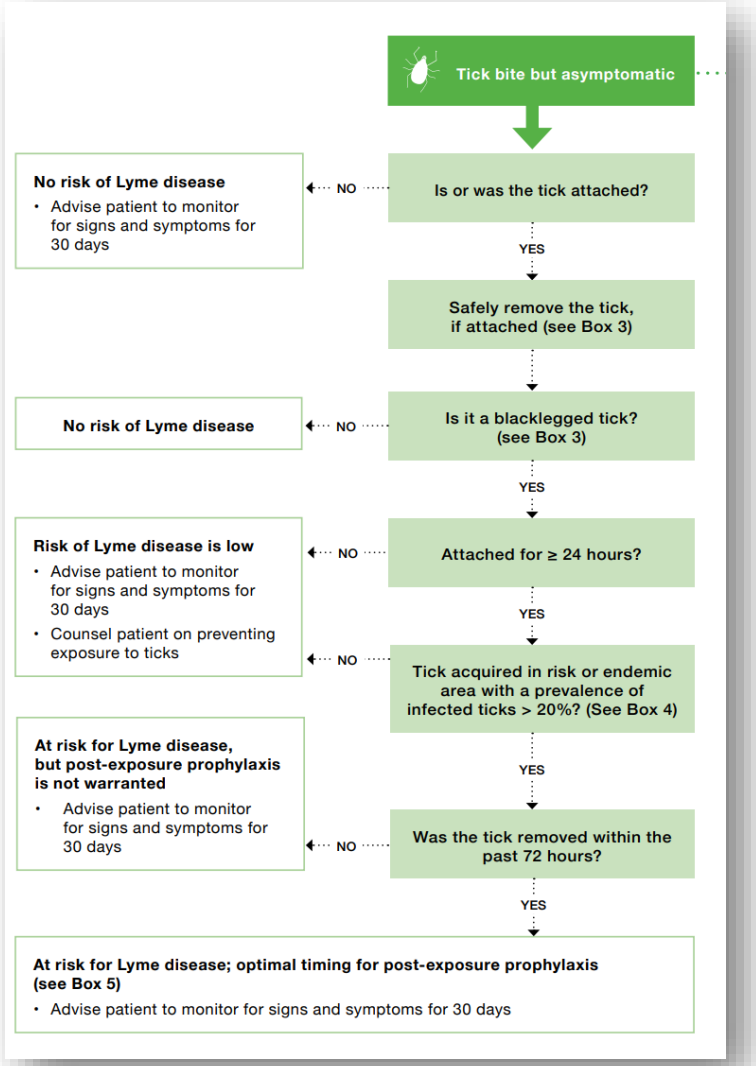
Post-Exposure Prophylaxis (PEP)

- Administration of antibiotics to a person who may have been recently exposed to *Borrelia*
- Decision to administer is based on an assessment of the potential exposure



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PEP Criteria

- The tick was attached > 24 hours
- The tick was removed within the past 72 hours
- The tick was acquired in an area with a prevalence of ticks infected with Borrelia burgdorferi > 20%
- Doxycycline is not contraindicated*
  - **Adults:** 1 dose of doxycycline 200 mg, by mouth
  - **Children ≥ 8 years:** 1 dose of doxycycline 4 mg/kg, up to a maximum dose of 200 mg, by mouth
- **Contraindicated for pregnant people & children < 8 years old*

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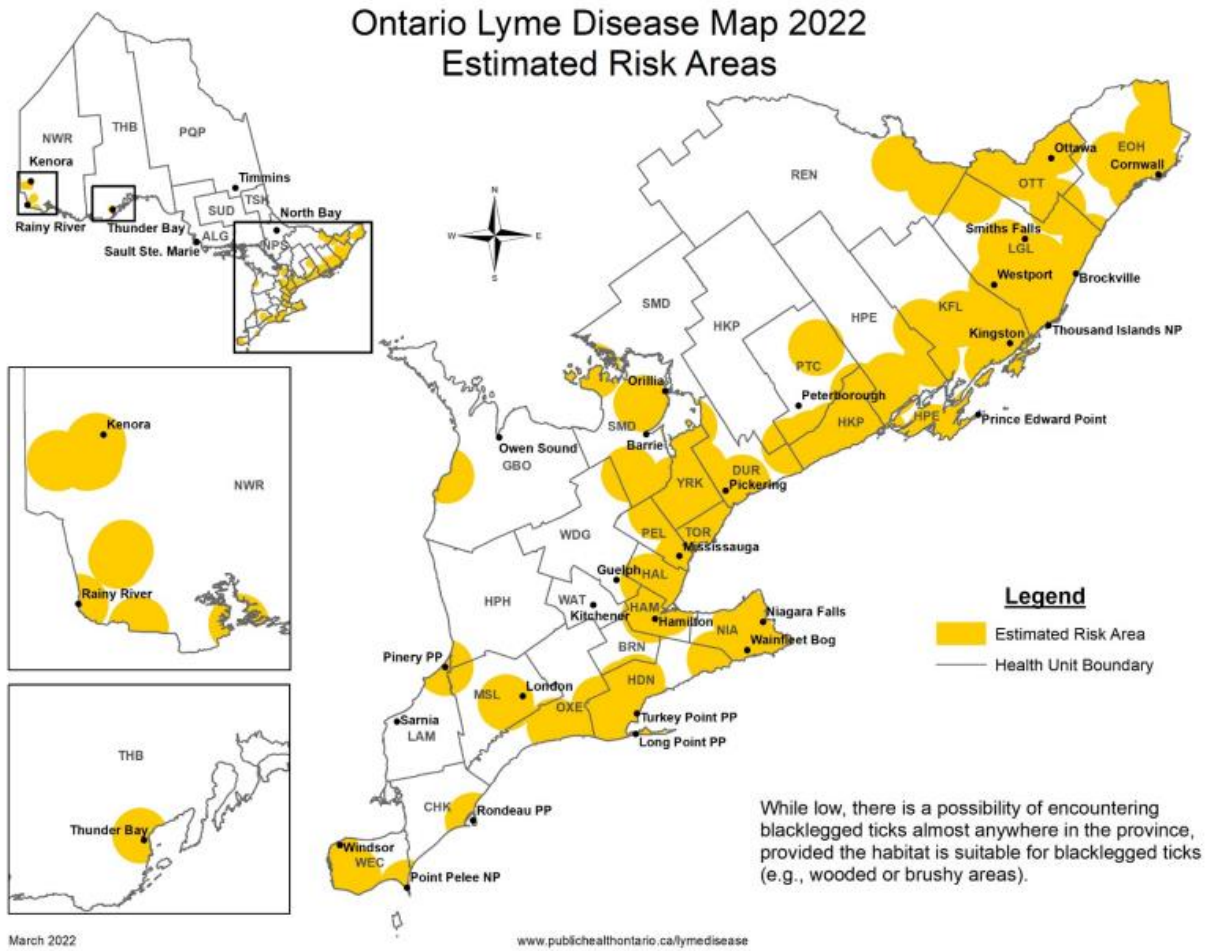
Treatment

- Doxycycline
  - 100 mg twice a day for 21 days
  - Contraindicated for pregnant or lactating people
- Amoxicillin
  - 1 g three times a day for 21 days
- Cefuroxime
  - 500 mg twice per day for 14–21 days

Public Health Ontario | Santé publique Ontario



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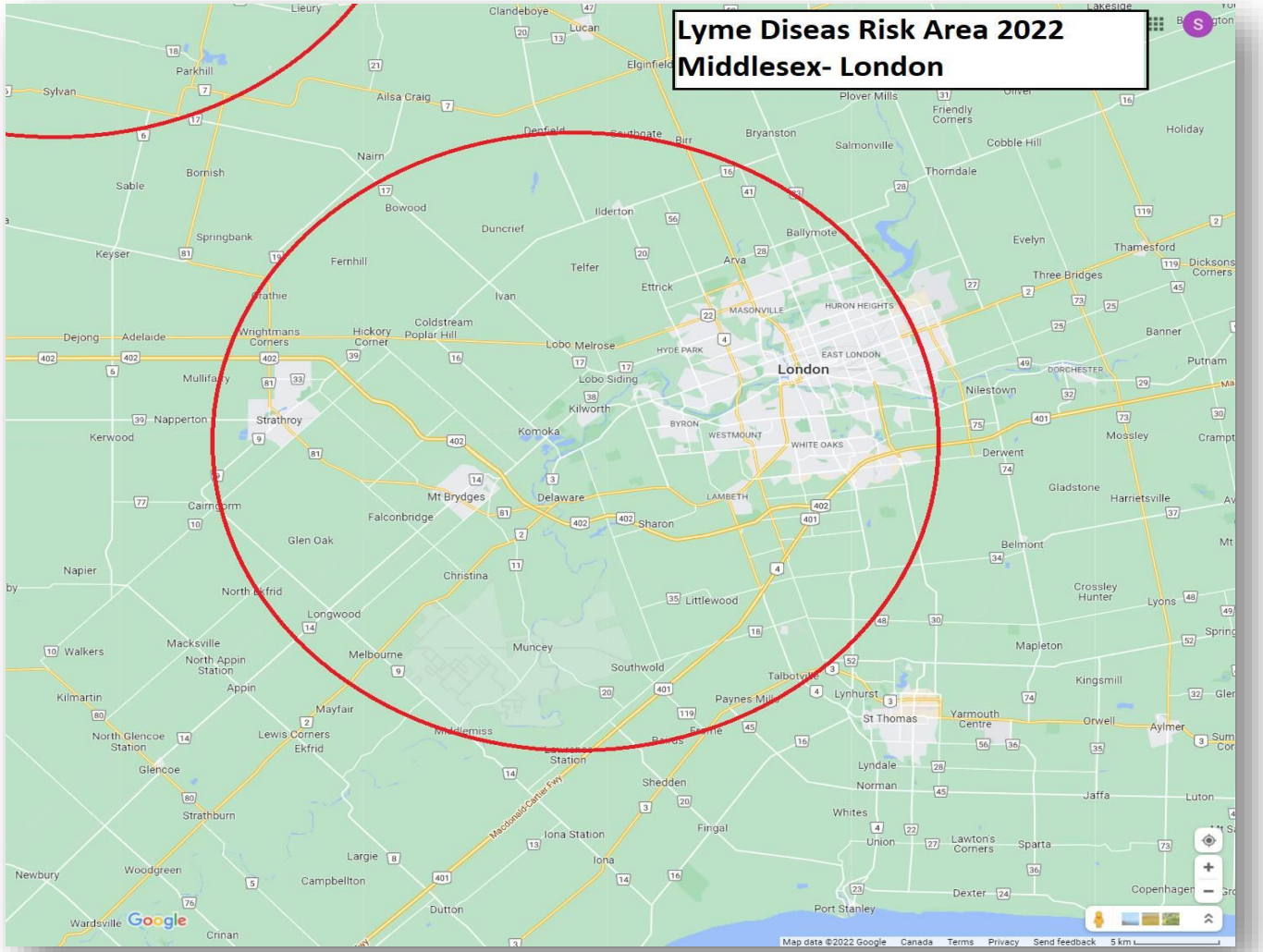
Ticks in Middlesex-London
Local LD Risk Area



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More about ticks found at https://www.healthunit.com/ticks

Male Blacklegged Tick

- Is black down entire back
- Has 8 legs
- Can be the size of a sesame seed
- Is not a risk for Lyme Disease*

Female Blacklegged Tick

- Has the same black colour still present on her back
- Is engorged (has fed)
- Has black and orange/red on her back
- Has 8 legs
- Is not engorged (has not fed)
- Can be the size of a sesame seed
- Can transmit Lyme Disease

Female Blacklegged Tick - Semi Engorged

- Has the same black colour still present on her back
- Is engorged (has fed)
- Can be the size of a peppercorn
- Can transmit Lyme Disease

Female Blacklegged Tick - Fully Engorged

- Has the same black colour still present on her back
- Is engorged (has fed)
- Can be the size of an apple seed
- Can transmit Lyme Disease

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Submission Process

- Residents are encouraged to use **etick.ca** for identification
- Identification typically takes 2 business days
- Clients are contacted with identification results via phone or email
- NOTE: blacklegged ticks are no longer accepted at the National Microbiology Laboratory for testing
- If client cannot use **etick.ca** ticks can still be submitted for identification at the MLHU's Citi Plaza London or 51 Front St. E Strathroy locations

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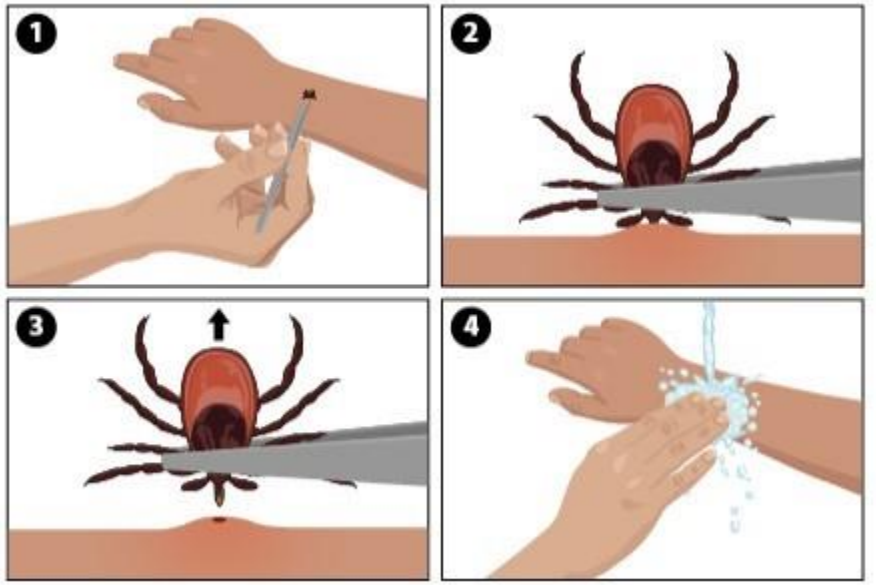
How can identification help?

- If a tick was safely removed within the past 72 hours Lyme disease Post Exposure Prophylaxis (PEP) can be considered
- Patients can be treated more efficiently as identification results are returned faster than the public health laboratory
- If a non-vector tick is identified then no antibiotics are necessary
- Patient anxieties are lessened with a timely identification



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Local Tick Species and High-Risk Habitat

Blacklegged Tick Habitat

LD vector

Dog Tick Habitat

LD non-vector

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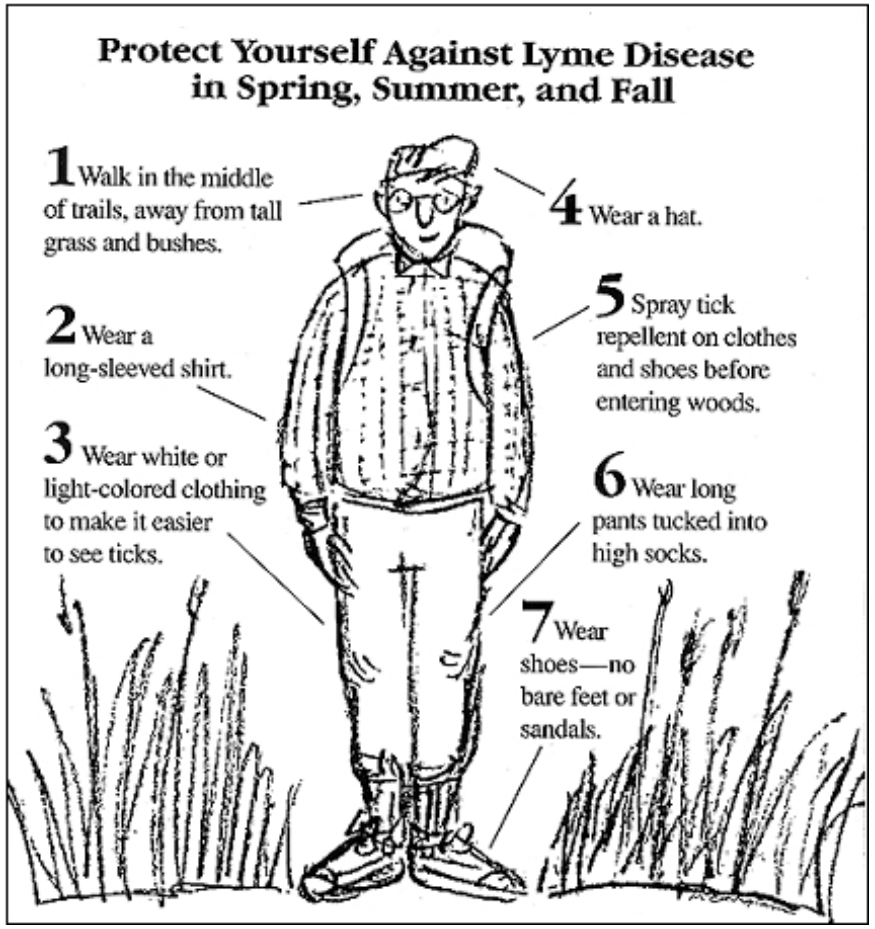
Ticks & Lyme Disease Prevention

- Be conscious potential tick habitats (long grass and wooded areas)
- Check yourself and family members for ticks
- Wear insect repellant with DEET
- Wear light coloured clothing
- Keep yard tidy, add a woodchip barrier to property
- Use tweezers to remove the tick and use etick.ca to identify the tick.
- Contact HCP if you have concerns with tick bite.



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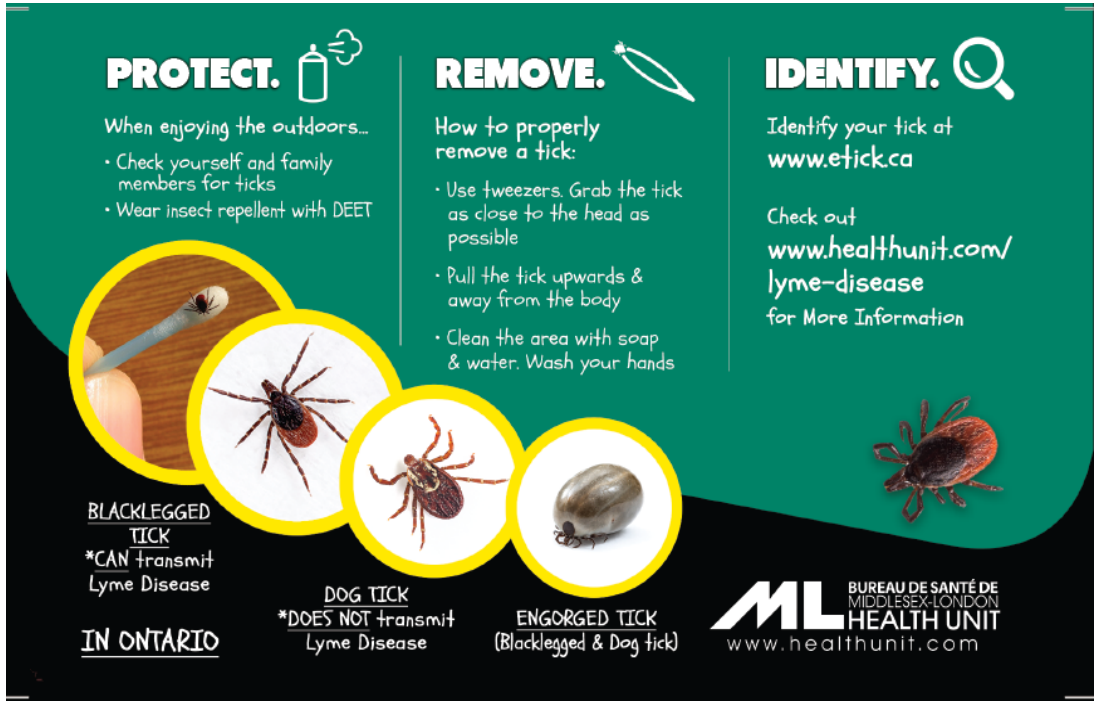
MLHU Resource



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Questions?

- Ask using chat function now, or after the webinar at: healthcareproviders@mlhu.on.ca
- For urgent matters please call the Health Unit's main line at 519-663-5317
- For more information www.healthunit.com/healthcare-providers