EZID One Health Webinar Series

Vectorborne Disease Surveillance Update & New Rabies PEP Reporting Requirement

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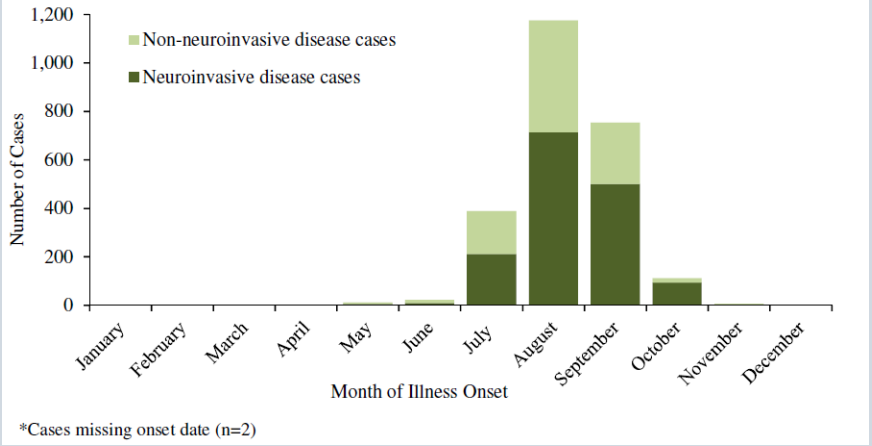
Monday, March 18, 2019

2019 Arbovirus Summary

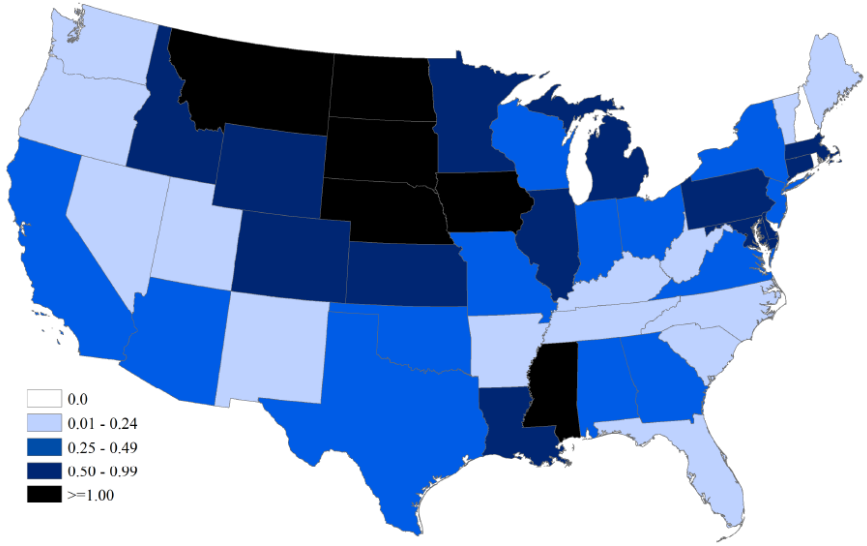
West Nile Virus – 2018 National Data*

Figure 2. West Nile virus disease cases reported to ArboNET, by month of onset* — United States, 2018 (as of December 11, 2018)



*Cases missing onset date (n=2)

Figure 3. West Nile virus (WNV) neuroinvasive disease incidence* reported to ArboNET, by state — United States, 2018 (as of December 11, 2018)



*Incidence per 100,000 population

~2,500 WNV cases
>120 fatalities

*provisional data as of 12/11/18

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Michigan Department of Health & Human Services

WNV- MI Epidemiology

Geographic Distribution - Statewide

Seasonal epidemic late summer into fall

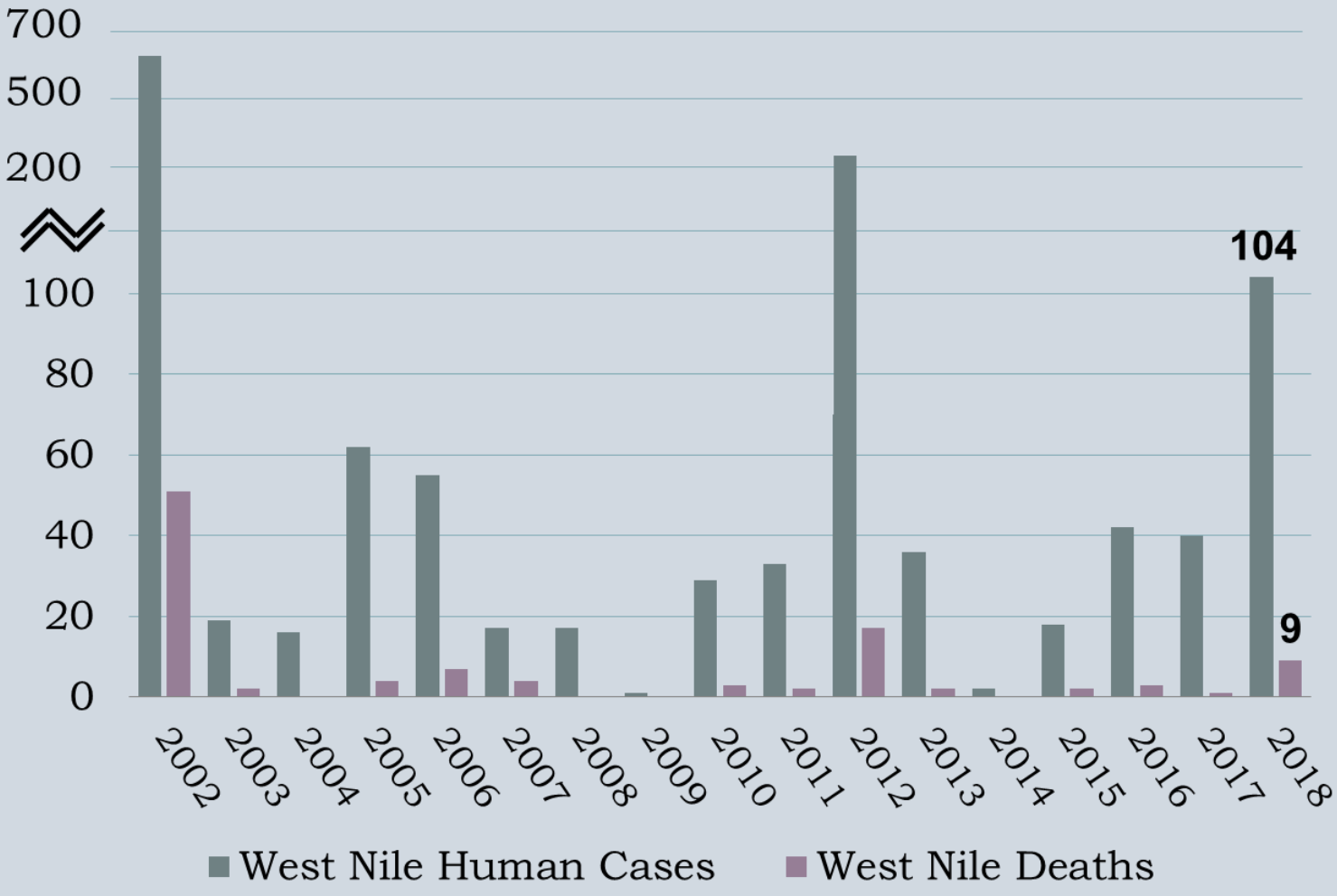
Habitat Distribution– primarily urban/suburban

Humans – 1 in 150 severe symptoms; up to 20% mild; and 80% no symptoms

- **Age Distribution** – all ages, primarily older (50+)

Key Factors – *Culex* species & birds, hot/ dry summers

Michigan: West Nile virus human cases, 2002-2018

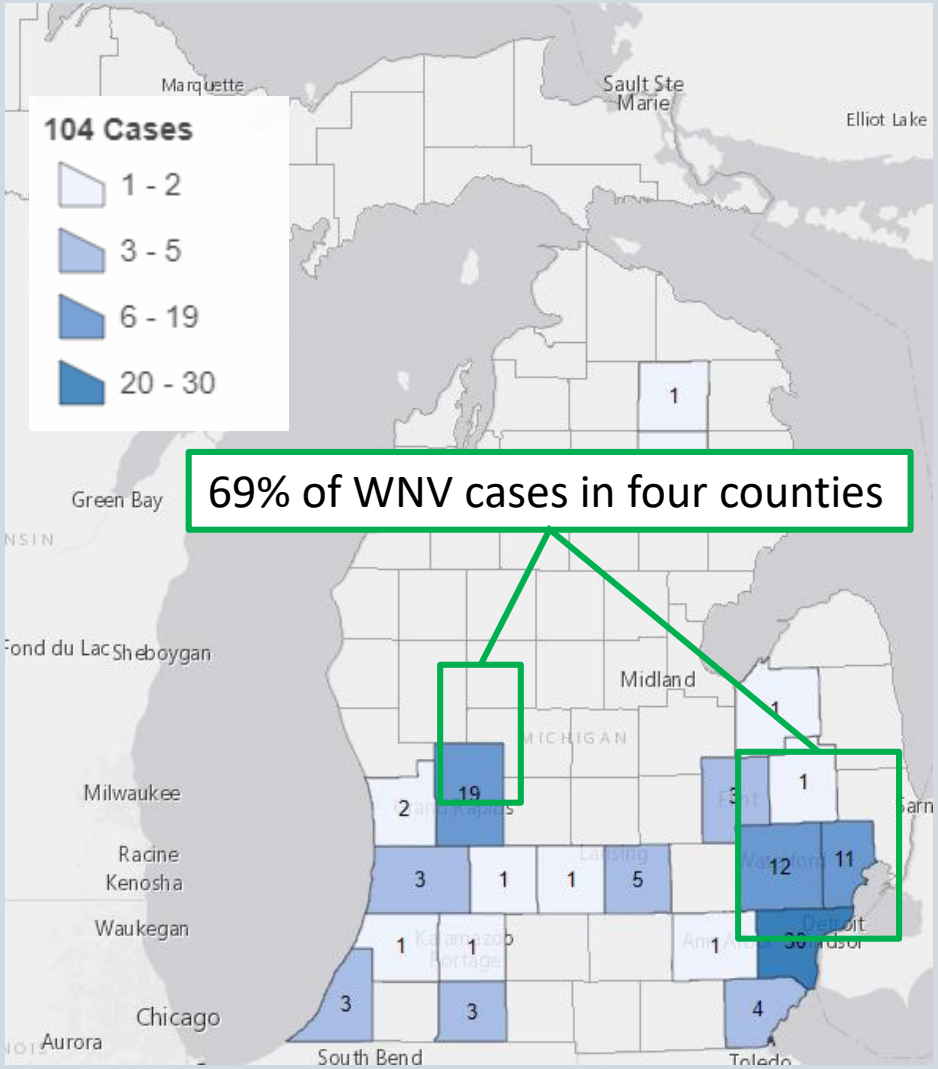


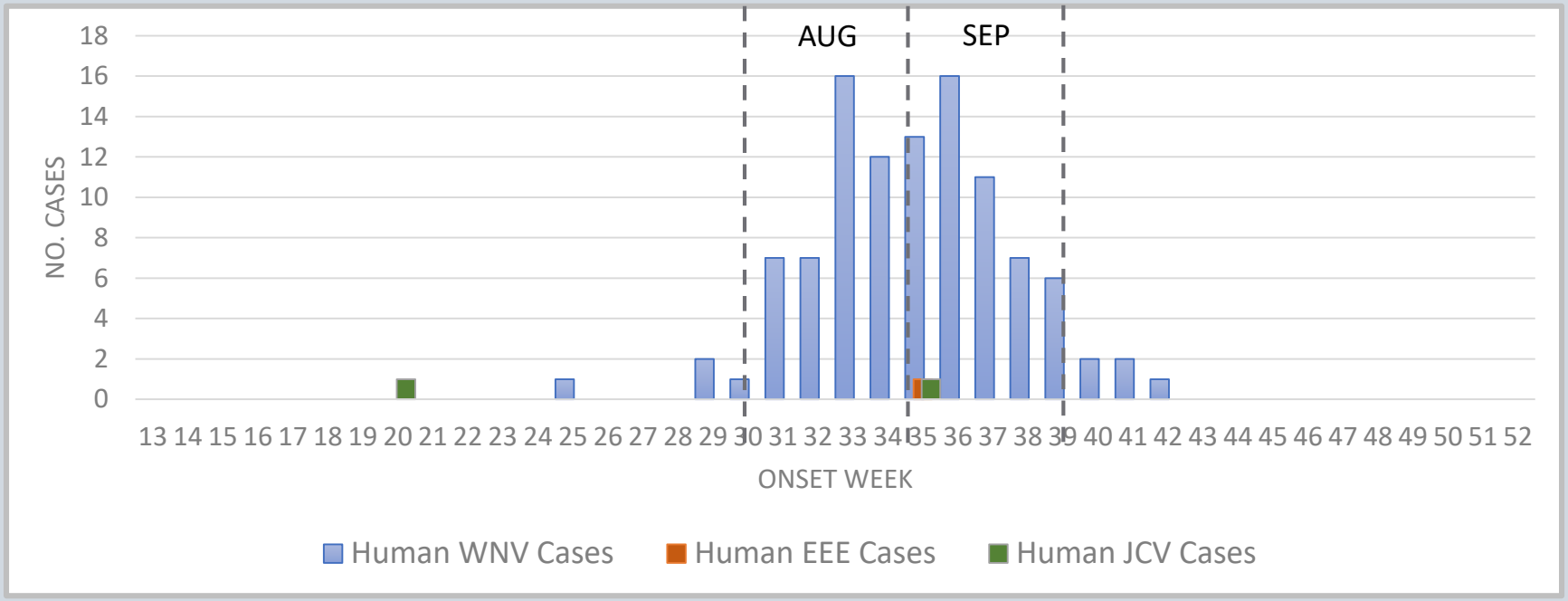
2018 WNV Epidemiology in Michigan

Cases: 104
Fatalities: 9
Asymptomatic Blood Donors: 12

Neuroinvasive: 79%
Fever: 21%

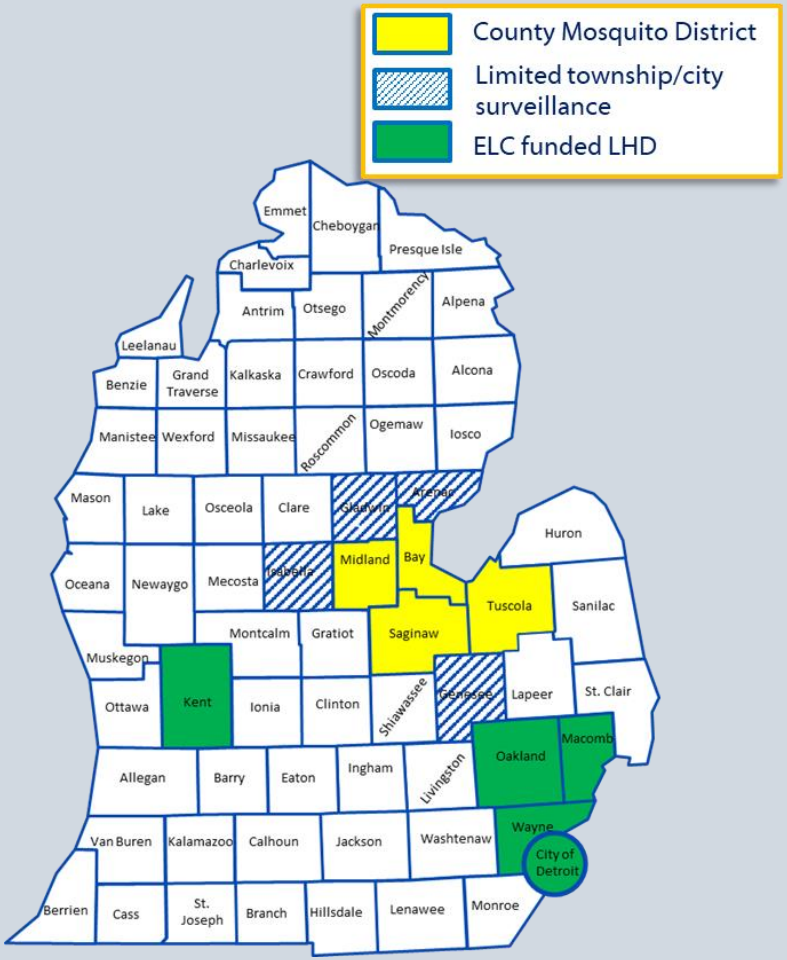
Onset Range: June 19 – Oct. 20
Age Range: 19 – 92
Median Age: 65
Male: 64%





2018 Arbovirus EPI Curve

Michigan Mosquito Surveillance Capacity



- Bay area county mosquito control districts (N=4)
- Commercial city and township mosquito control programs
- Federally funded local health department surveillance in WNV high-incidence jurisdictions (N=5)

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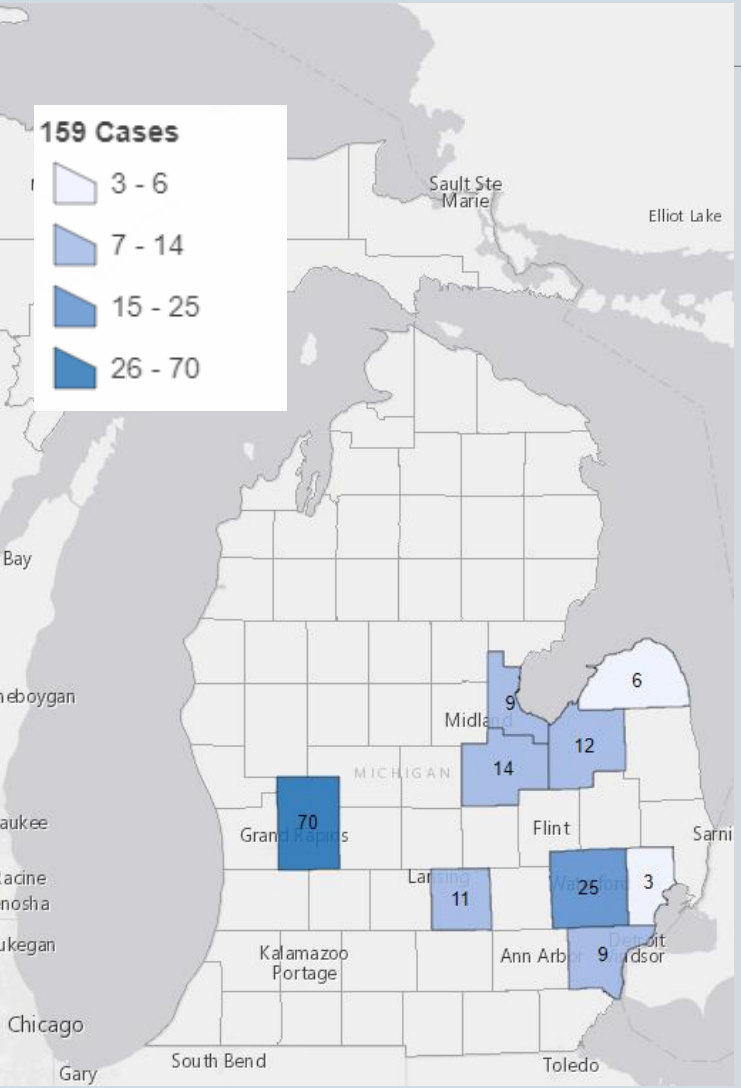
Local Health Department Mosquito Surveillance

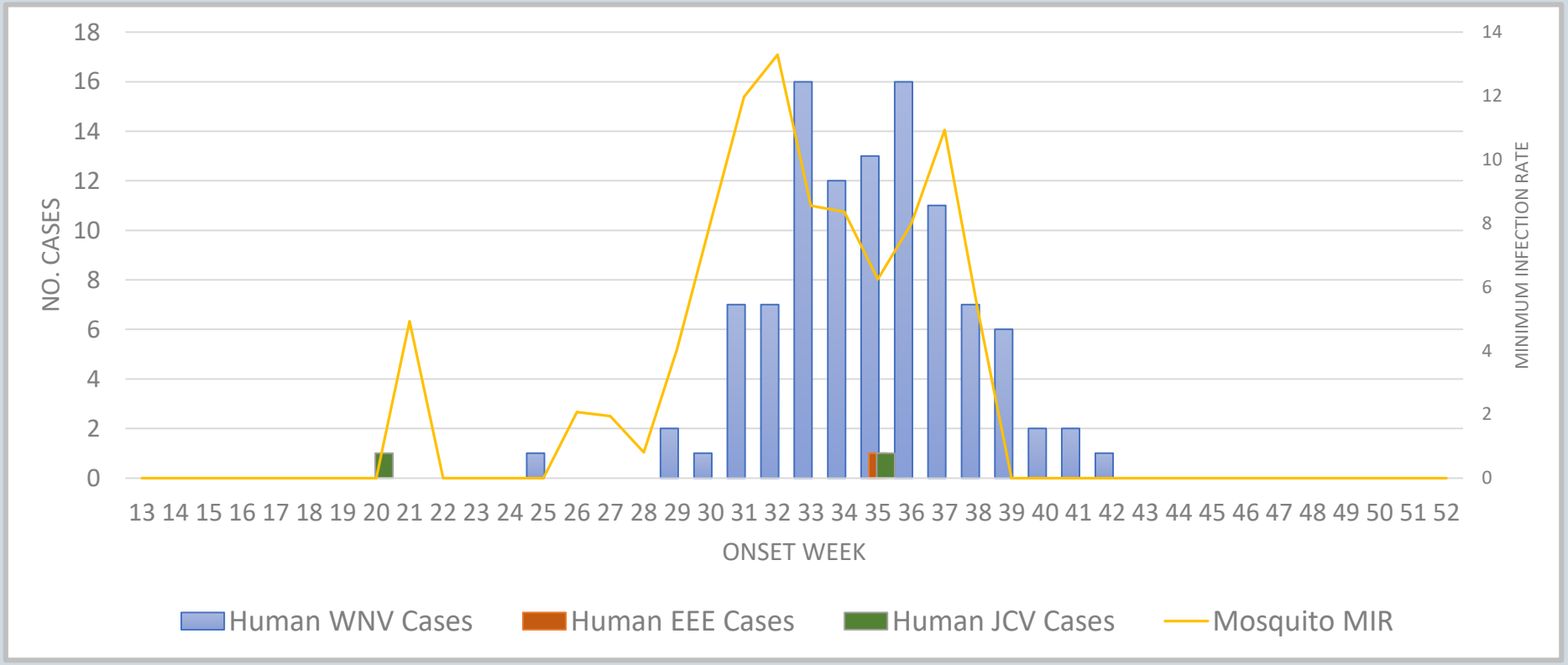
- CDC funded
- MDHHS provides training to LHDs in cooperation with MSU and MMCA
- Provide for timely, low-cost, non-labor intensive surveillance program to detect WNV activity at the community level
- Program to provide “actionable” information
- May provide training, expertise, and experience for future surveillance needs (emerging vector-borne diseases) and public health workforce

2018 Positive Mosquitoes



- 159 West Nile positive pools
- No other arboviruses identified in mosquito pools
- Most mosquito surveillance from Bay Area Mosquito Control Districts
- Michigan State University tests via PCR for EEE, LAC, SLE, and WNV
- Five local health jurisdictions test mosquito pools using VecTOR Test kits

Statewide Human & Mosquito EPI Curves



Mosquito MIR = #infected mosquitoes/1,000 mosquitoes

Arbovirus testing available at the MDHHS Bureau of Labs

Patients presenting with meningitis/encephalitis from May-Nov should be tested for all arboviruses potentially circulating in Michigan; WNV, SLE, EEE, California Group viruses (LaCrosse)

- ❑ Arbovirus serology (CSF is preferred specimen)
  - ❑ West Nile virus
  - ❑ Eastern Equine Encephalitis
  - ❑ St. Louis Encephalitis
  - ❑ LaCrosse Encephalitis

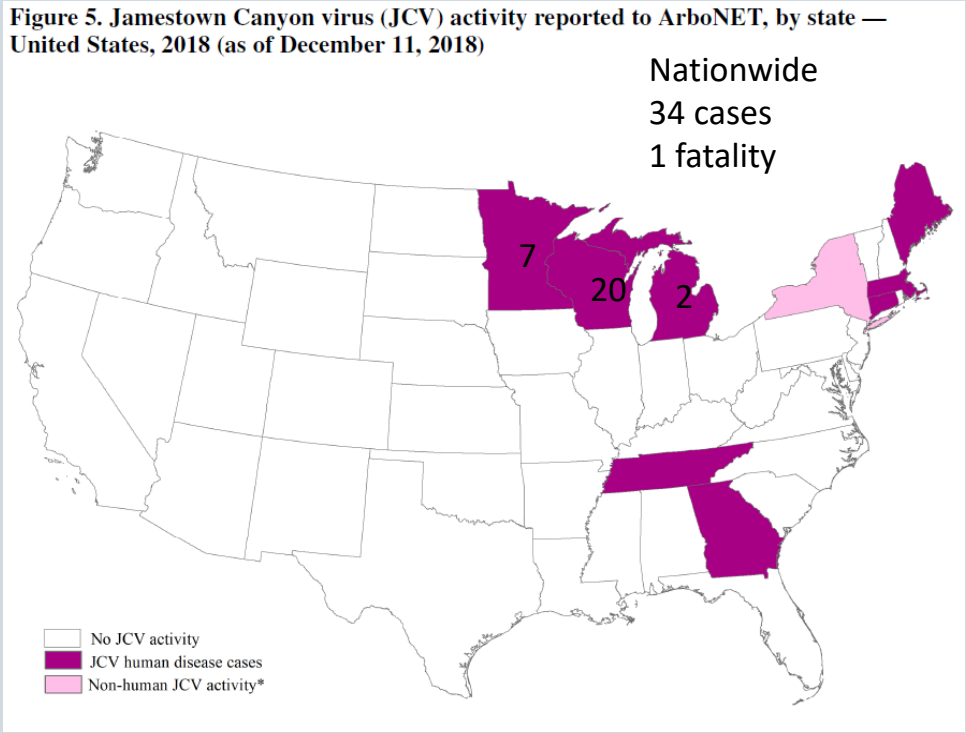
Travelers to endemic areas with clinically compatible illness:

- ❑ Arbovirus travel panel
  - ❑ Chikungunya
  - ❑ Dengue
  - ❑ Zika

Other arboviruses identified in Michigan: 2018*

Jamestown Canyon Virus

- Member of the California Group viruses
- Emerging arbovirus with focus in the Upper Midwest
- First human cases identified in Michigan in 2018
  - Two cases
  - Oakland and Menominee Counties



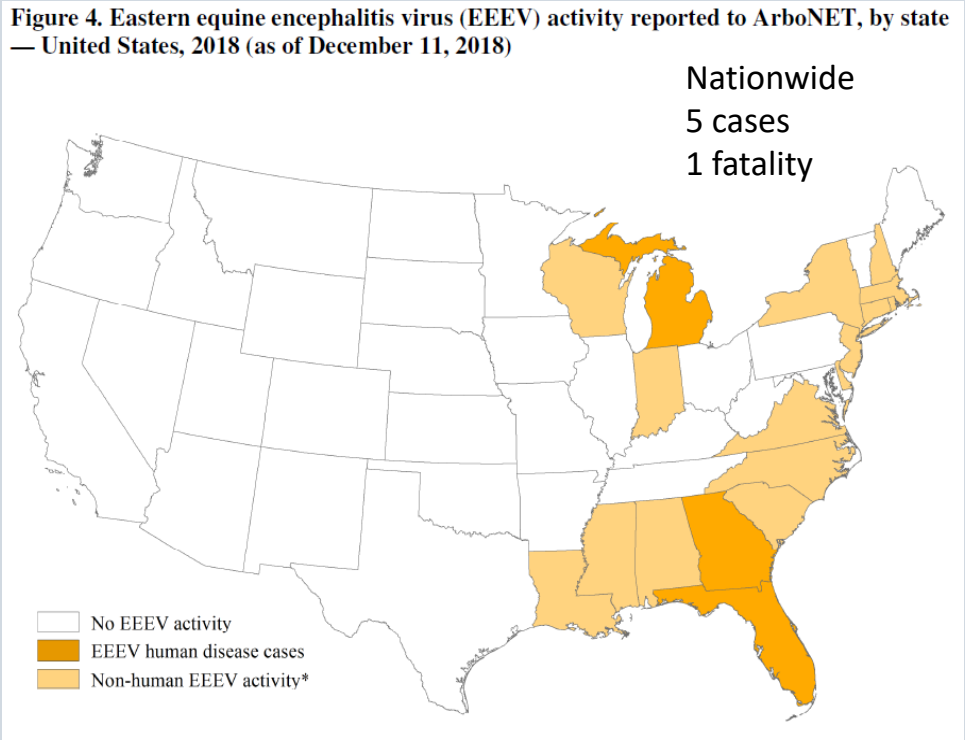
*provisional data as of 12/11/18

MDHHS Michigan Department of Health & Human Services

Other arboviruses identified in Michigan: 2018*

Eastern Equine Encephalitis

- Periodic outbreaks in horses in MI
  - Generally SW Lower MI, however recently identified further north
  - Last large outbreak 2010
- Sporadic cases identified in white-tailed deer
  - Two identified in MI 2018
  - Cass County (1), Barry County (1)
- Sporadic human cases and during outbreak years
  - One case identified in MI 2018
  - Allegan County



*provisional data as of 12/11/18

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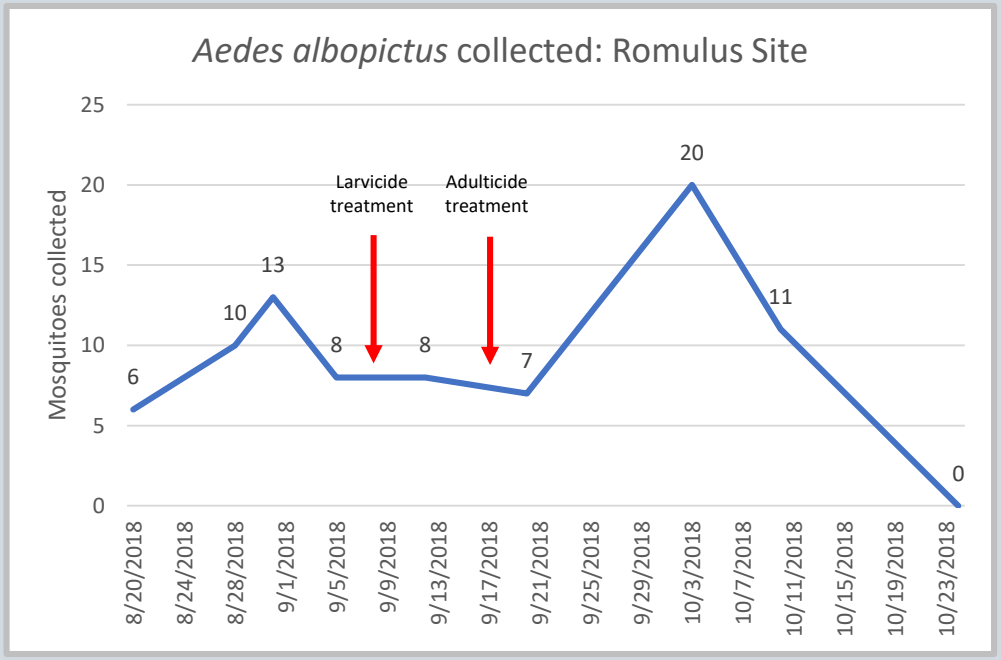
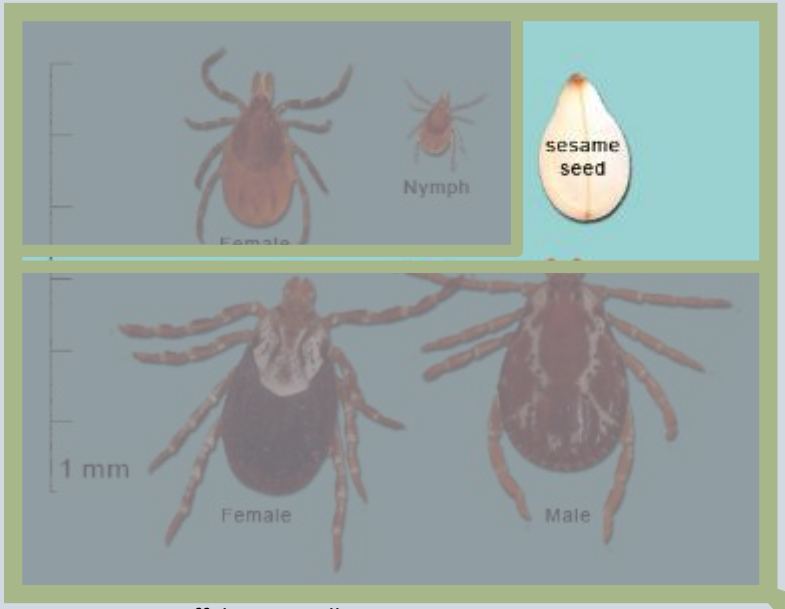
Aedes albopictus in Michigan

- On August 20, 2018 the Asian tiger mosquito was identified in Wayne County for the second year in a row
- Focal introduction/infestation near a tire business
- Wayne County health department, MDHHS, MSU, and the City of Romulus coordinated surveillance and response to the identification
- Mosquito control was initiated early September
- Increase in population until late October



Ticks and Tick-Borne Disease Surveillance in Michigan

Ticks are common in Michigan



Images: Kent Loeffeler, Cornell University

Dermacentor variabilis

(American dog tick or wood tick)

- Found in wooded and brushy habitats
- Most common tick in Michigan
- Oval scutum with white markings, brown abdomen
- Adults commonly bite and are active from early-spring through the end of summer
- Vector: Rocky Mountain spotted fever

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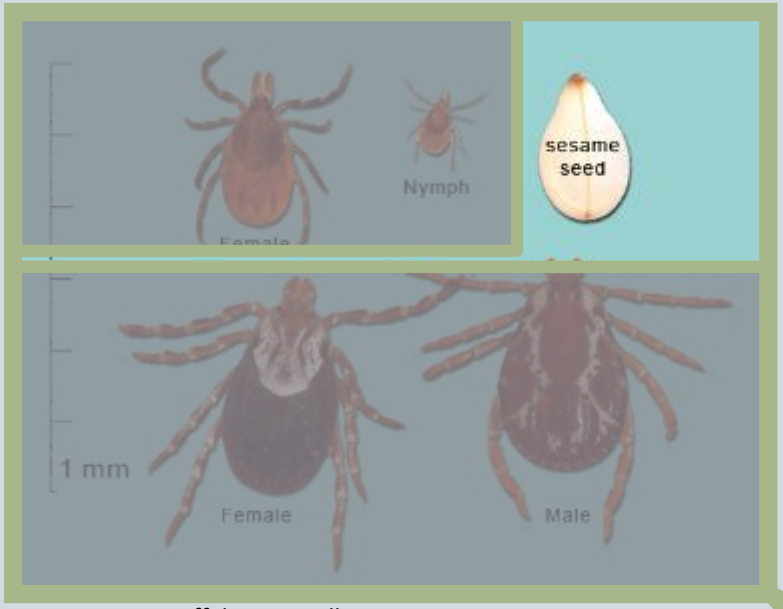
Ticks are common in Michigan

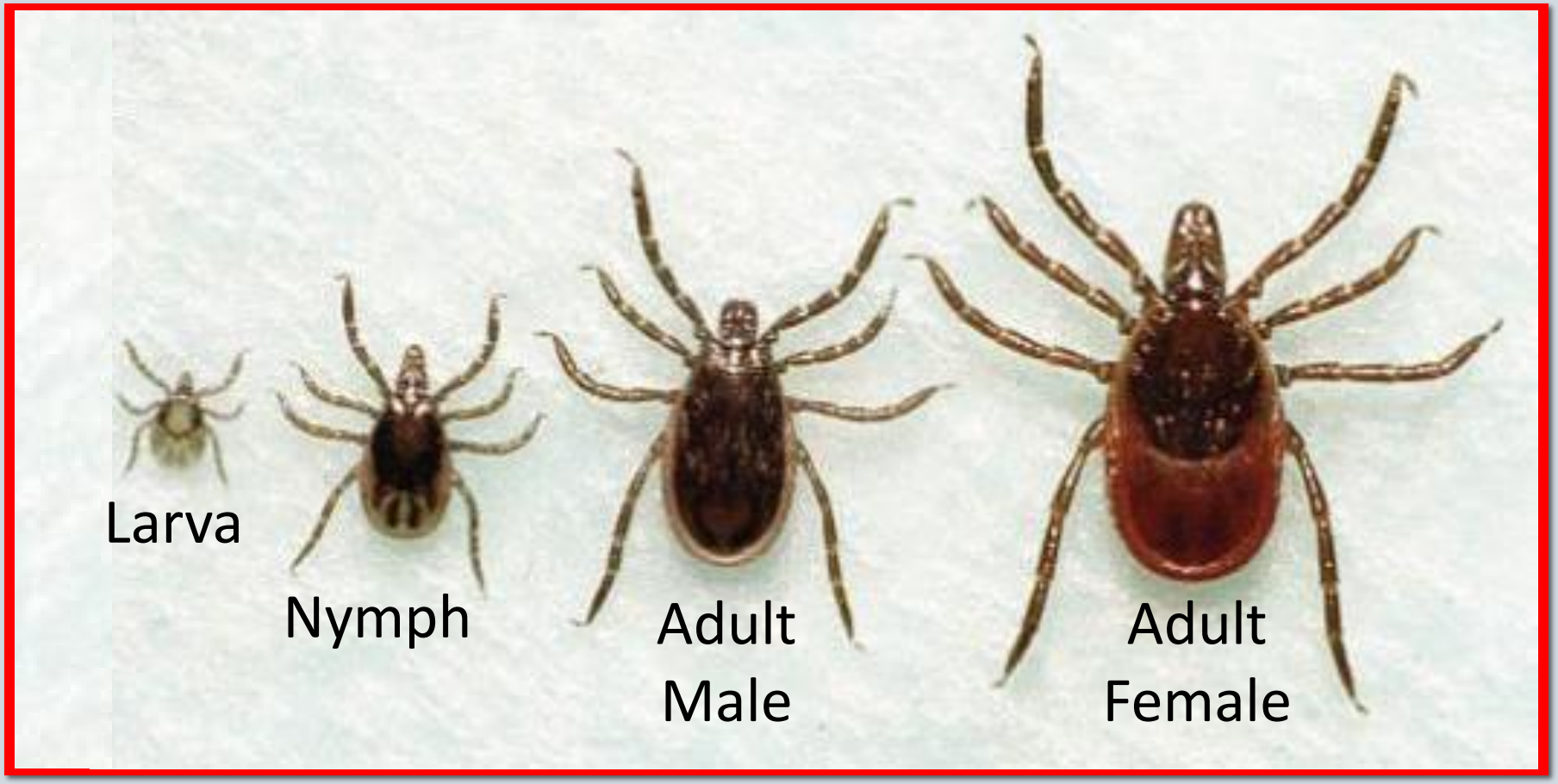


Images: Kent Loeffeler, Cornell University

***Ixodes scapularis* (blacklegged tick)**

- Common in wooded and brushy habitats
- Smaller size than *D. variabilis*
- Rounded, black scutum, red or gray abdomen
- Adults and nymphs will readily bite people.
  Adults: April – July, October – November
  Nymphs: May – August
- Vector: Lyme disease, anaplasmosis, babesiosis, deer tick virus, *Ehrlichia muris*-like

Blacklegged tick & *B. burgdorferi* biology



Nymphal stage: the epidemiologically most important stage for humans!

Responsible for the majority of Lyme disease illness in the U.S. This is due to:

Small size

First infectious stage

Active during peak outdoor recreation periods in the NE and Upper Midwest U.S.

Not all ticks are infected

- Only blacklegged ticks transmit Lyme disease
- Only two stages of blacklegged ticks transmit Lyme disease

Adult Female

36-40%

B. burgdorferi infection rate*

Nymph

9-15%

B. burgdorferi infection rate*

*Endemic Locations

Hamer *et al.*, 2010; Foster, 2004.

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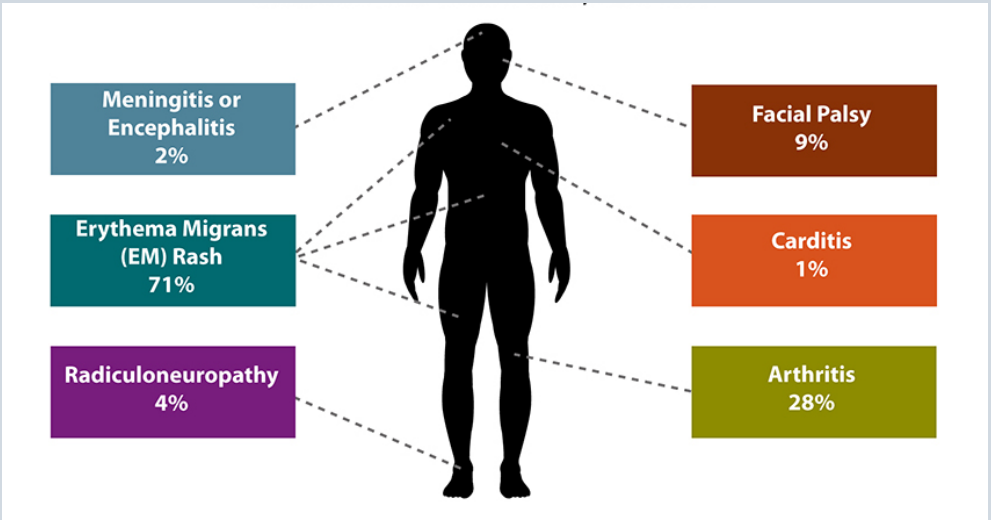
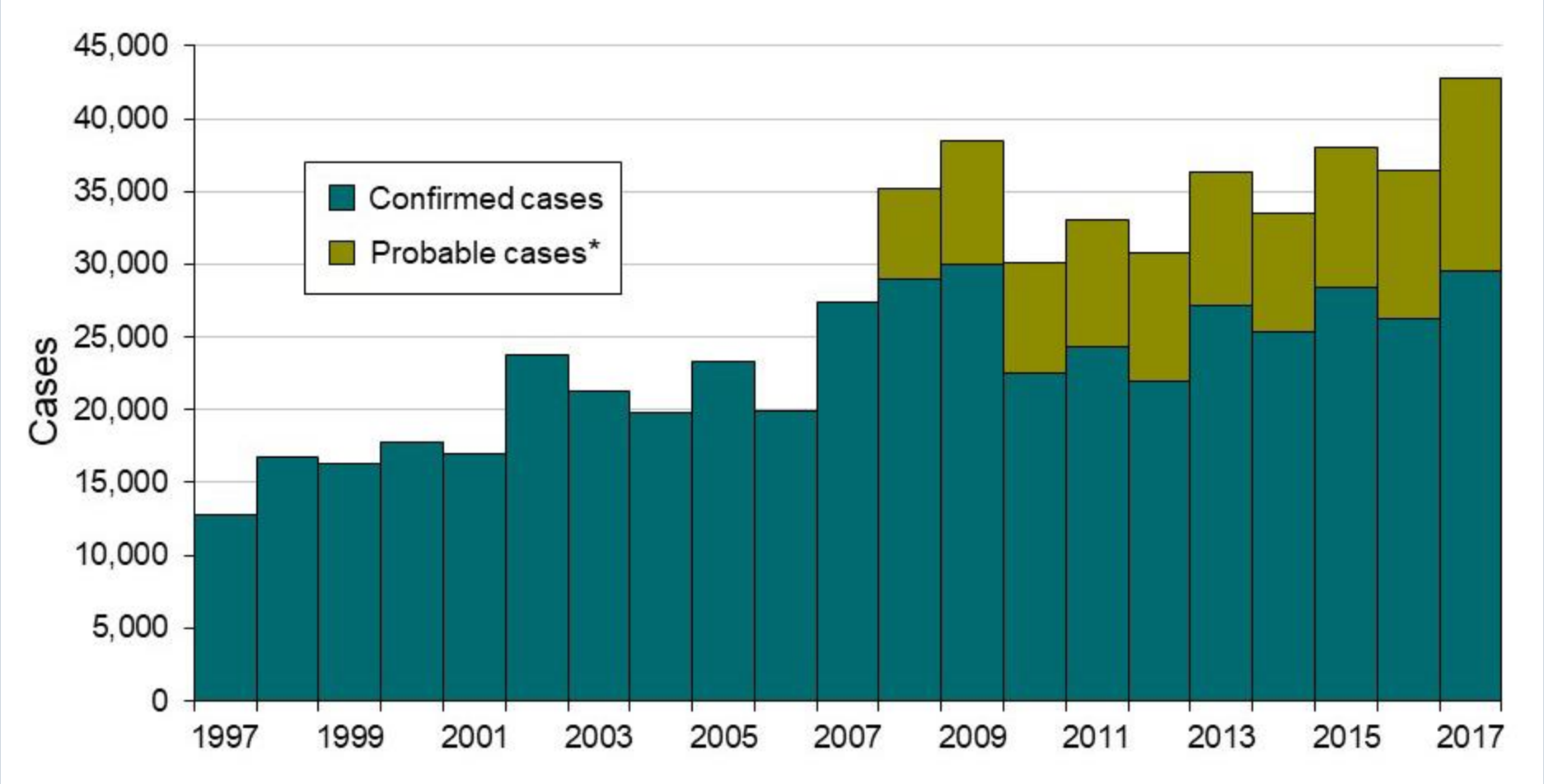
What are symptoms of Lyme disease?

- Fever
- Fatigue
- Muscle aches (myalgia)
- Joint aches (arthralgia)
- Headache
- Erythema migrans ("bull's-eye") rash (3-30 days post-tick bite)
- Lameness/arthritis



If untreated: may manifest as disease of the nervous system, the musculoskeletal system, or the heart

Leading vector-borne disease, with increasing incidence over time…



CDC

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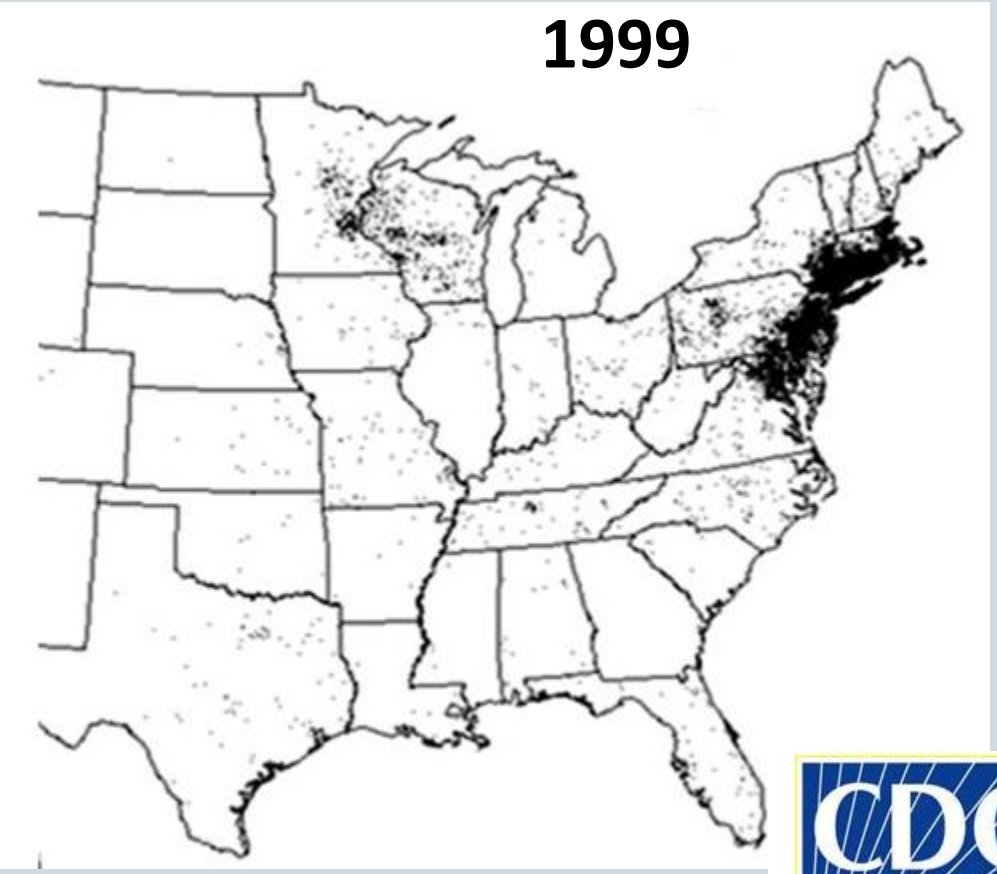
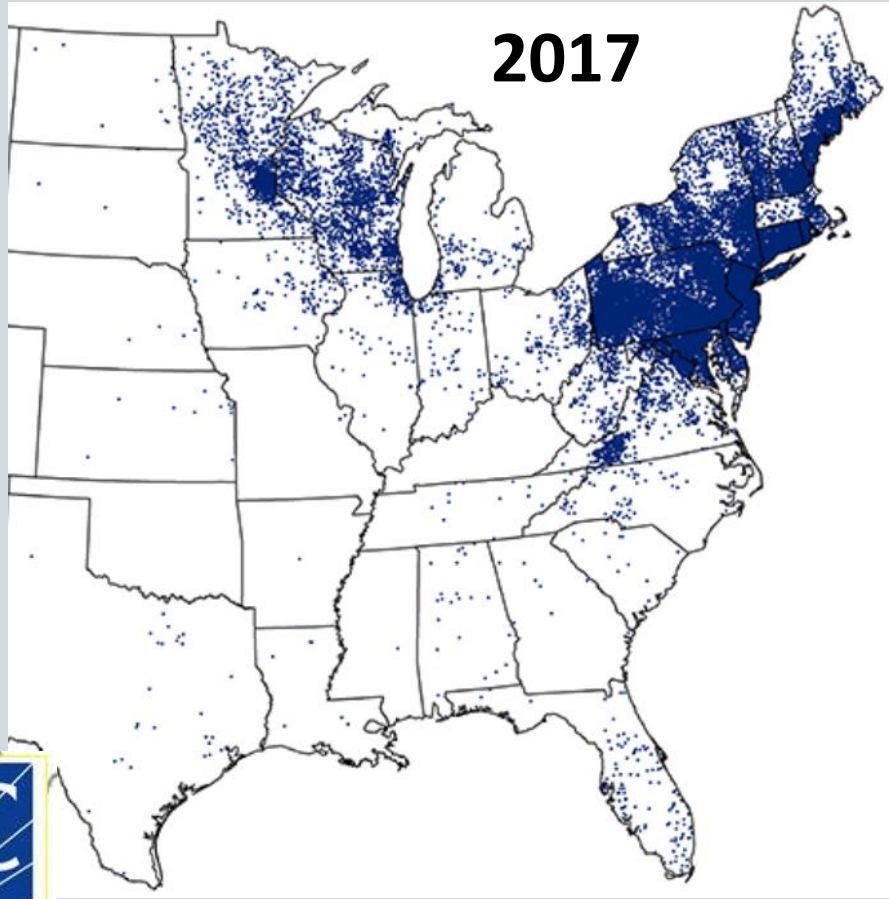
… and over space





CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

http://www.cdc.gov/lyme/stats/index.html

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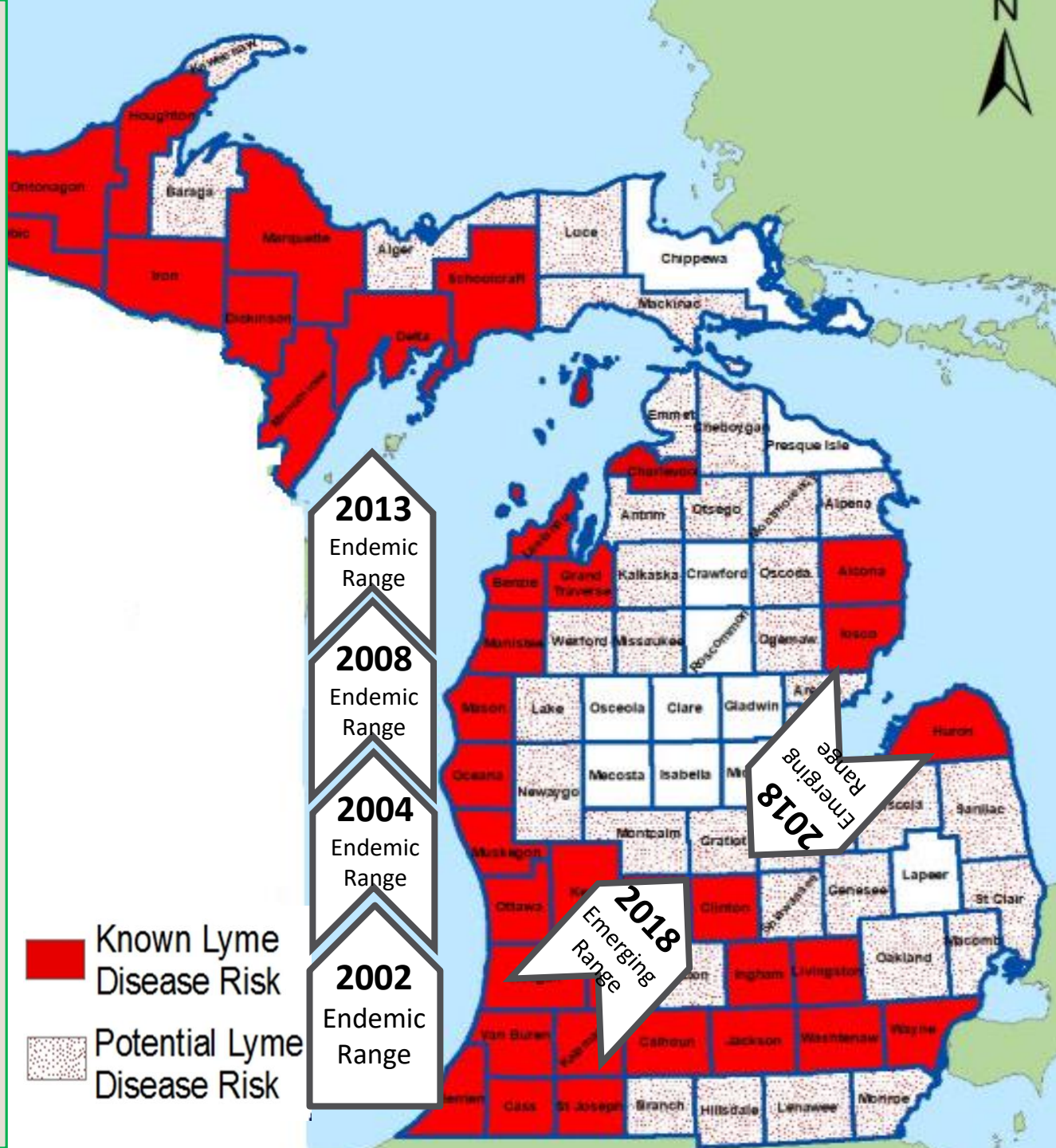
Brief History of Lyme Disease in Michigan

- Low-incidence, emerging Lyme disease state
- Michigan's Upper & Lower Peninsulas differ in case incidence
  - UP >10/100,000
  - LP approx. 1/100,000
- Currently tracking the invasion of infected blacklegged ticks into new areas in the state



MDHHS Surveillance Efforts

PASSIVE

Required reporting by healthcare providers and labs. Citizen tick submissions.

- **Human case surveillance**
- **Public tick submissions**

- Routine
- Required by public health code
- Broad picture of tick activity
- May lack specificity due to difficulty determining exposure location

Michigan Department of Health & Human Services

MDHHS Surveillance Efforts

- Targeted surveillance
- More specific geographic location of ticks & potential tick-borne disease risk
- Emerging tick and pathogen surveillance

ACTIVE

Follow-up investigations; One Health collaborations

- **Entomologic investigations**
- **Follow-up investigations of unique cases or emerging pathogens**

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Michigan Lyme Disease Cases by Year: 2002-2017

2016 EPI SNAPSHOT
1,295 investigations

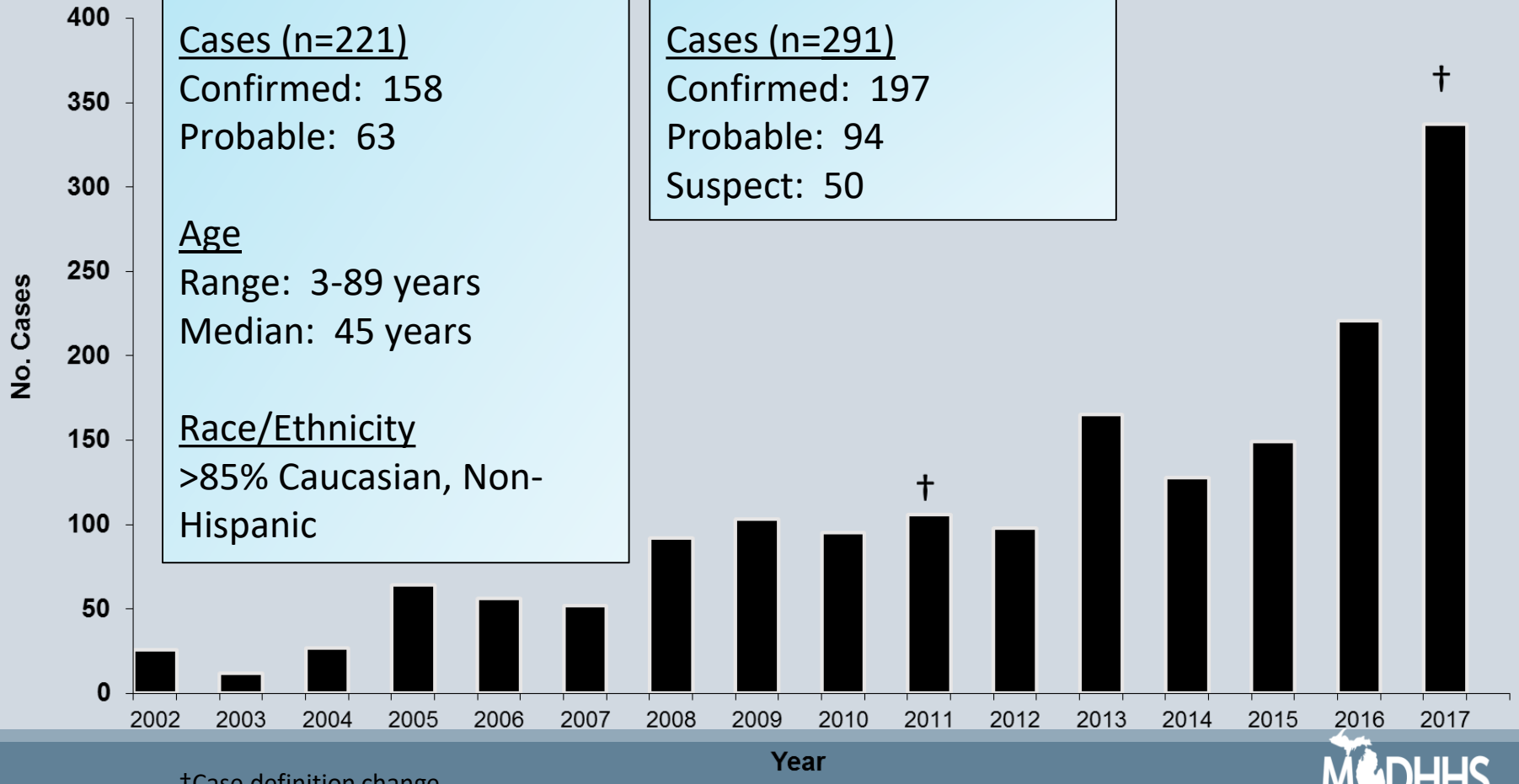
Cases (n=221)
Confirmed: 158
Probable: 63

Age
Range: 3-89 years
Median: 45 years

Race/Ethnicity
>85% Caucasian, Non-Hispanic

2017 EPI SNAPSHOT
1,777 investigations

Cases (n=291)
Confirmed: 197
Probable: 94
Suspect: 50



†Case definition change

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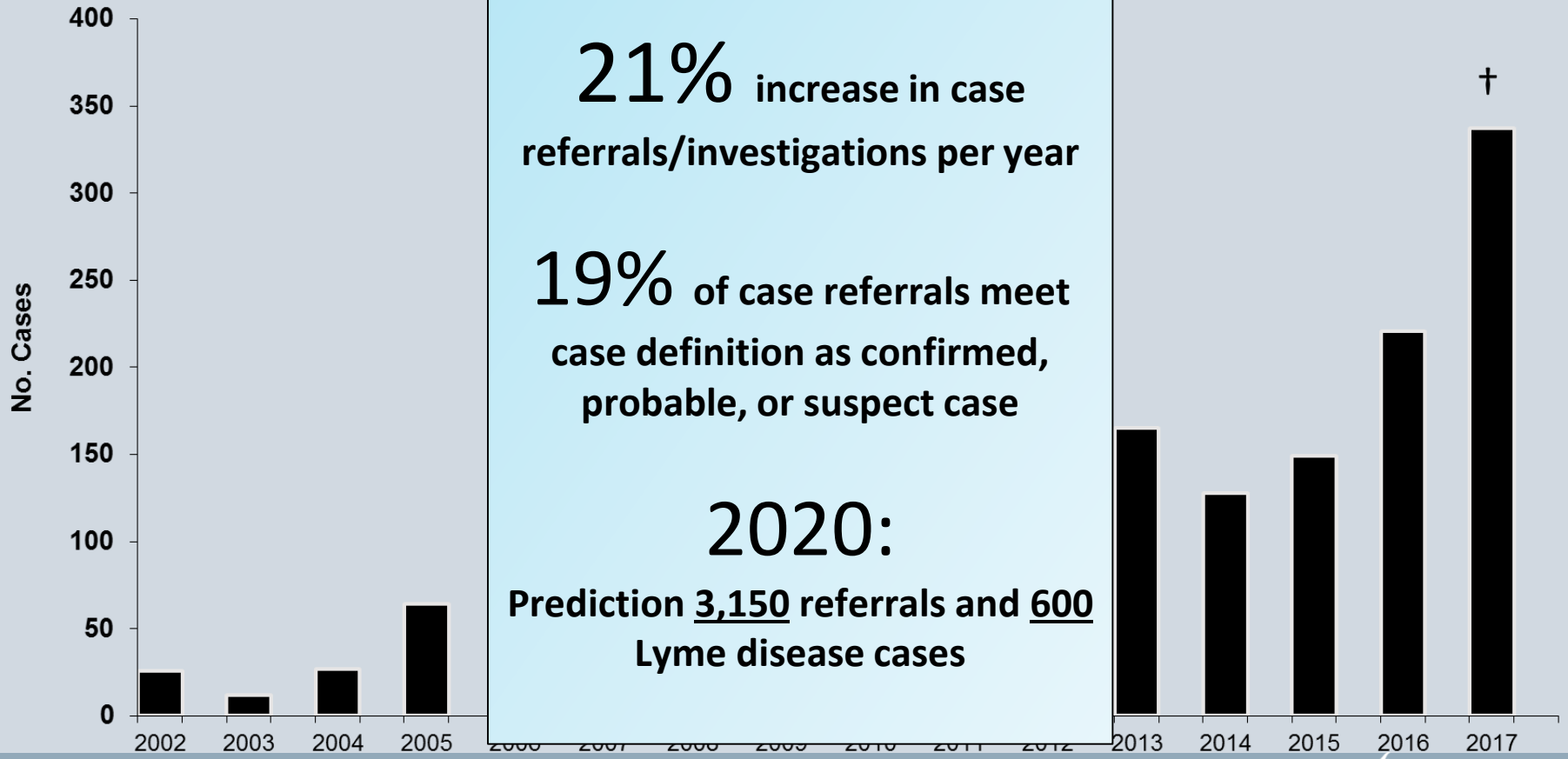
Michigan Lyme Disease Cases by Year: 2002-2017



EPI PROJECTIONS

Based upon 2008-2017 averages

21% **increase in case referrals/investigations per year**

19% **of case referrals meet case definition as confirmed, probable, or suspect case**

2020:

Prediction 3,150 referrals and 600 Lyme disease cases

†Case definition change

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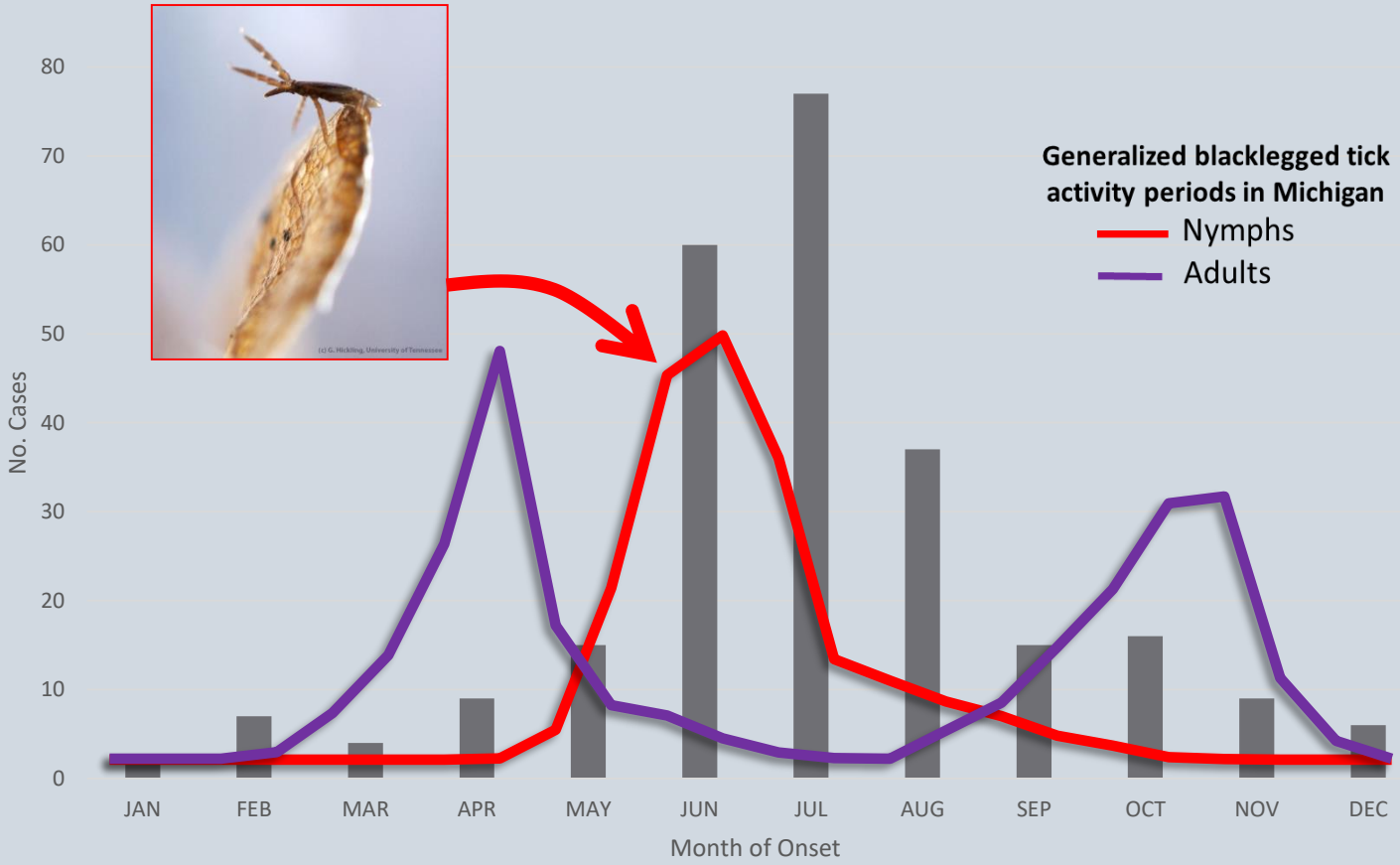
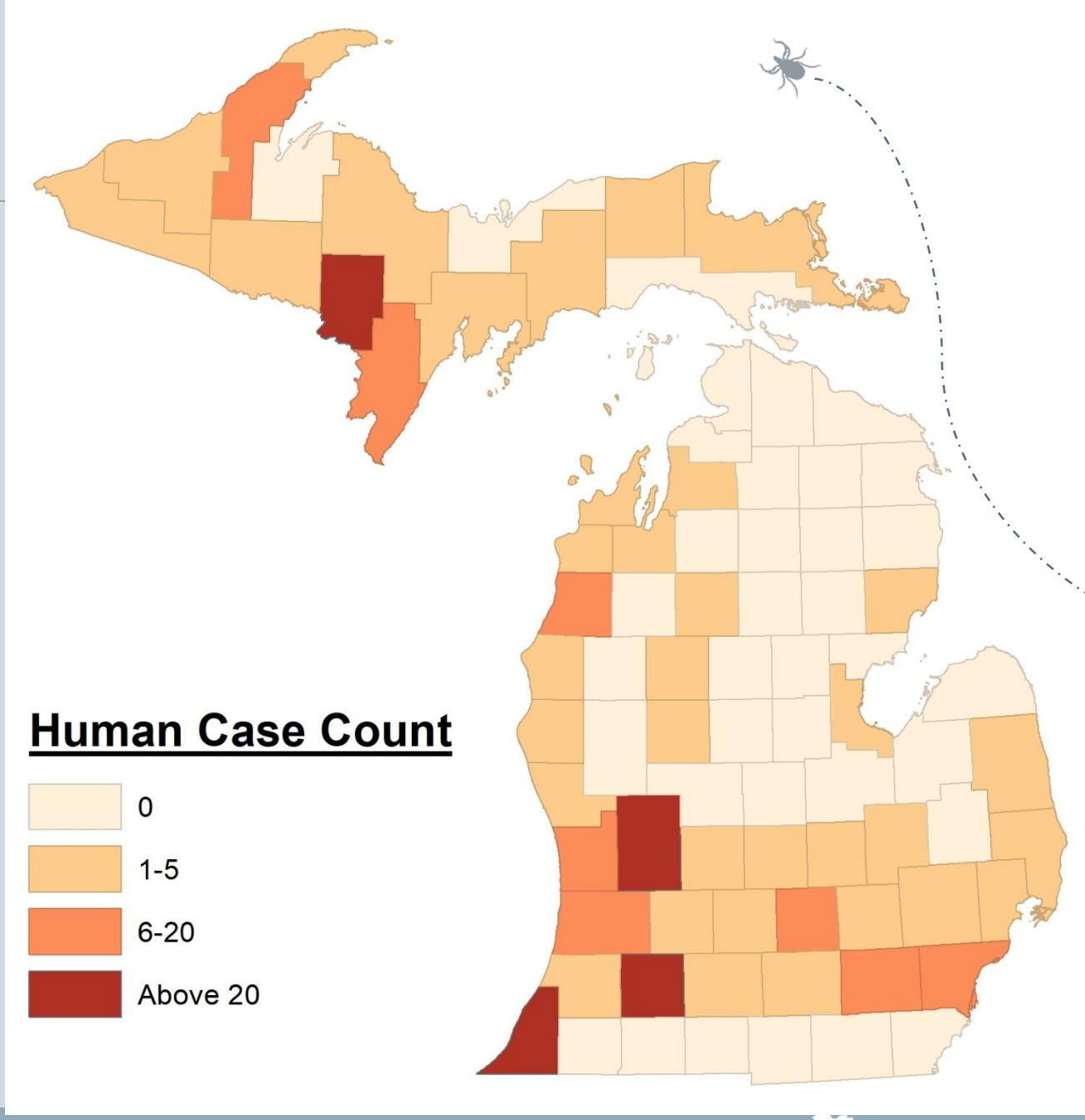
Reported Lyme disease cases in Michigan: 2017 EPI Curve



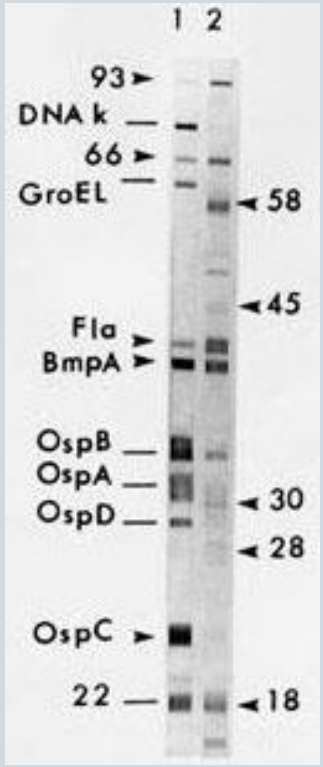
251/291 cases reporting onset date

2017 Human Lyme Disease Cases by County of Residence



Lyme disease testing available at the MDHHS Bureau of Labs

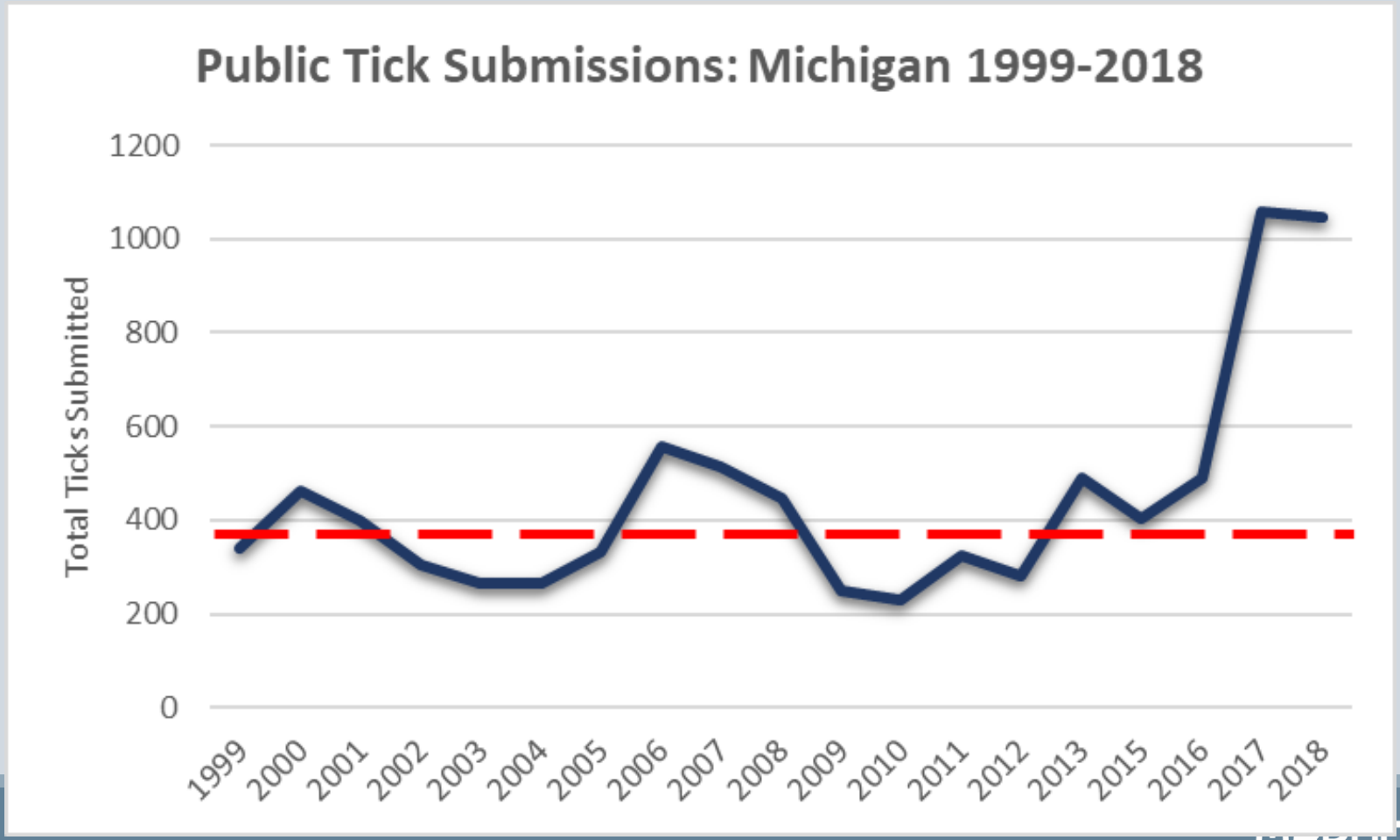
- When to consider?
- Nationally recognized two-step testing algorithm
  - Step 1. Enzyme Immunoassay screen (EIA)
    - Highly sensitive test
    - ***If Step 1 is equivocal or positive proceed to Step 2***
  - Step 2. IgM and IgG Immunoblot (IB/Western Blot)
    - Highly specific test
    - 2+ of 3 bands positive for IgM positive
    - 5+ of 10 bands positive for IgG positive



Positive western blot
Image: CDC

Passive Tick Surveillance: Public Tick Submission

From public, local health departments, human and animal healthcare providers

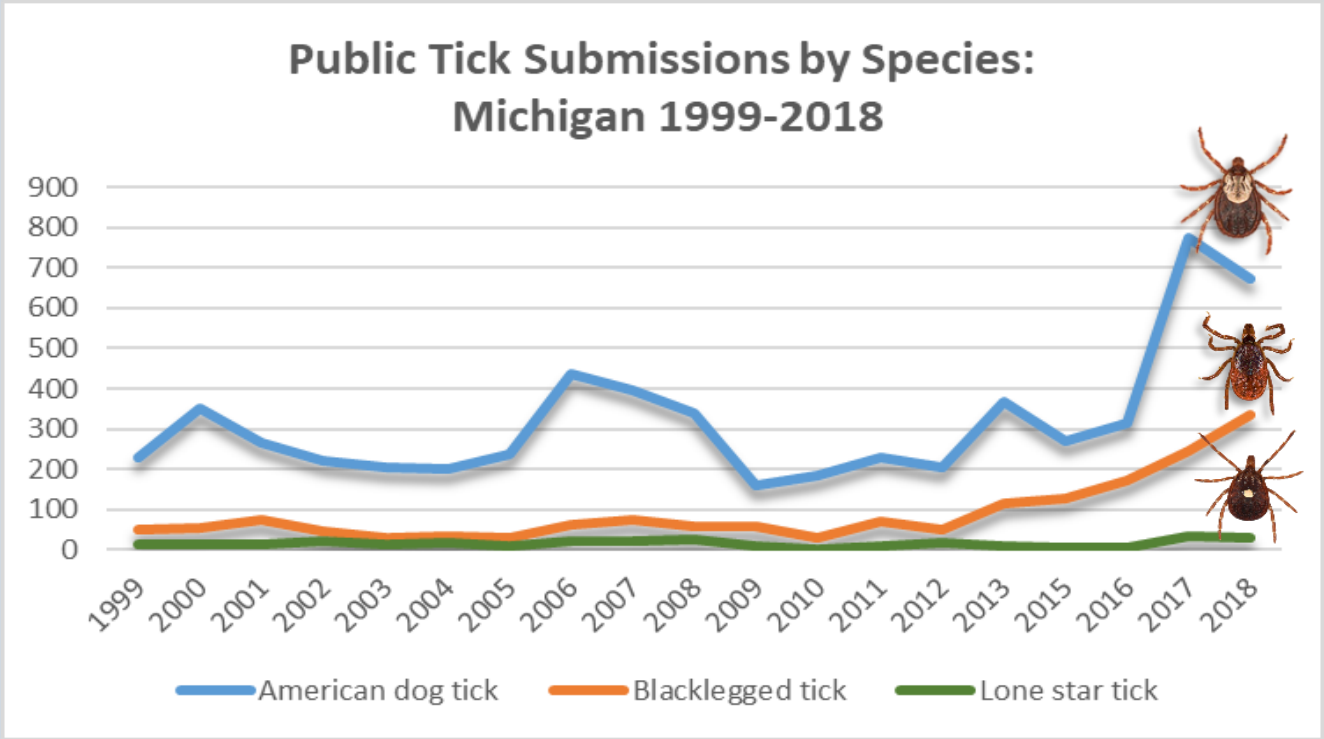


Passive Tick Surveillance: Public Tick Submission

Provides expert identification of tick species to guide:

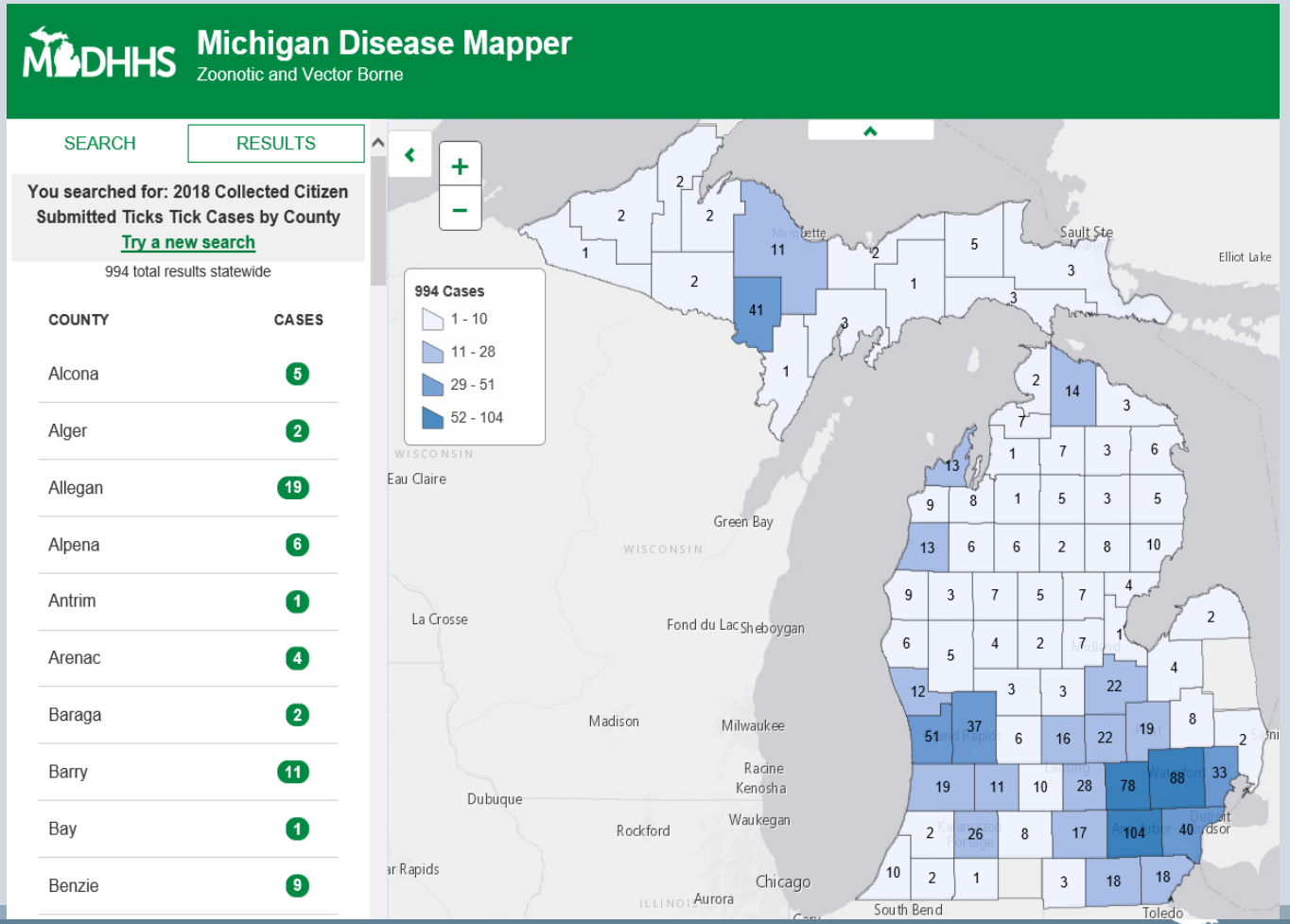
- Healthcare decisions
- Future prevention and control efforts

Test live blacklegged ticks for *B. burgdorferi*



Passive Tick Surveillance: Public Tick Submission

Information posted to Michigan Disease Mapper online application



Active Tick Surveillance: Focused Tick Drags

Primary Focus:

Counties where the blacklegged tick and/or *B. burgdorferi* have not been identified

Secondary Focus:

Lyme disease endemic counties for multi-pathogen surveillance

Active Tick Surveillance: Focused Tick Drags

Benefits:

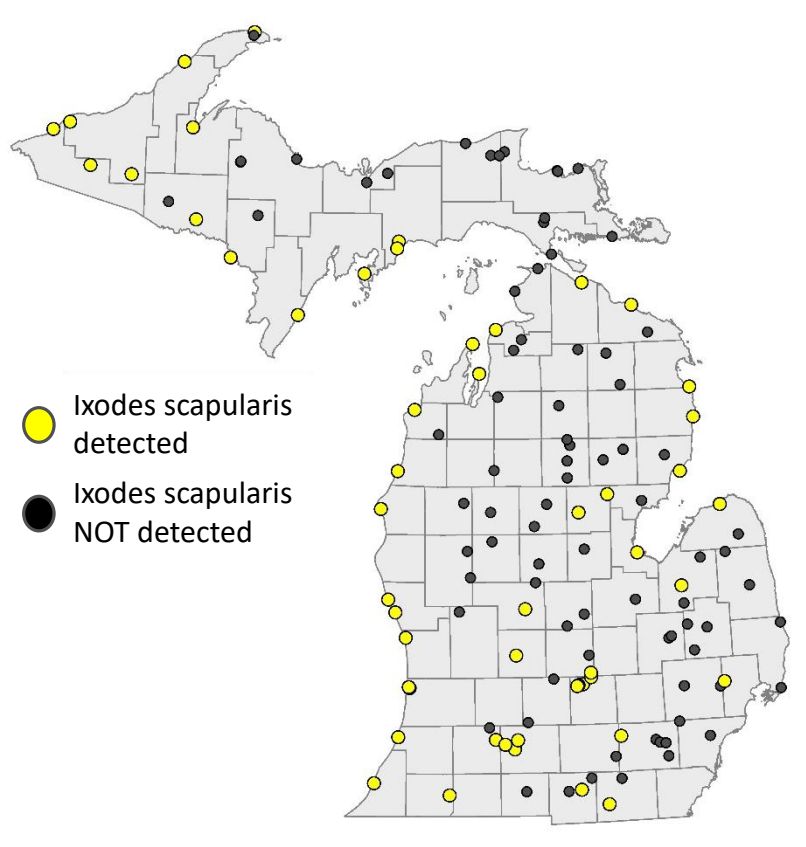
- Results can be verified
- Indicates high risk for human illness

Drawbacks:

- Personnel & time constraints
- Influenced by weather & location

Active Tick Surveillance: Focused Tick Drags

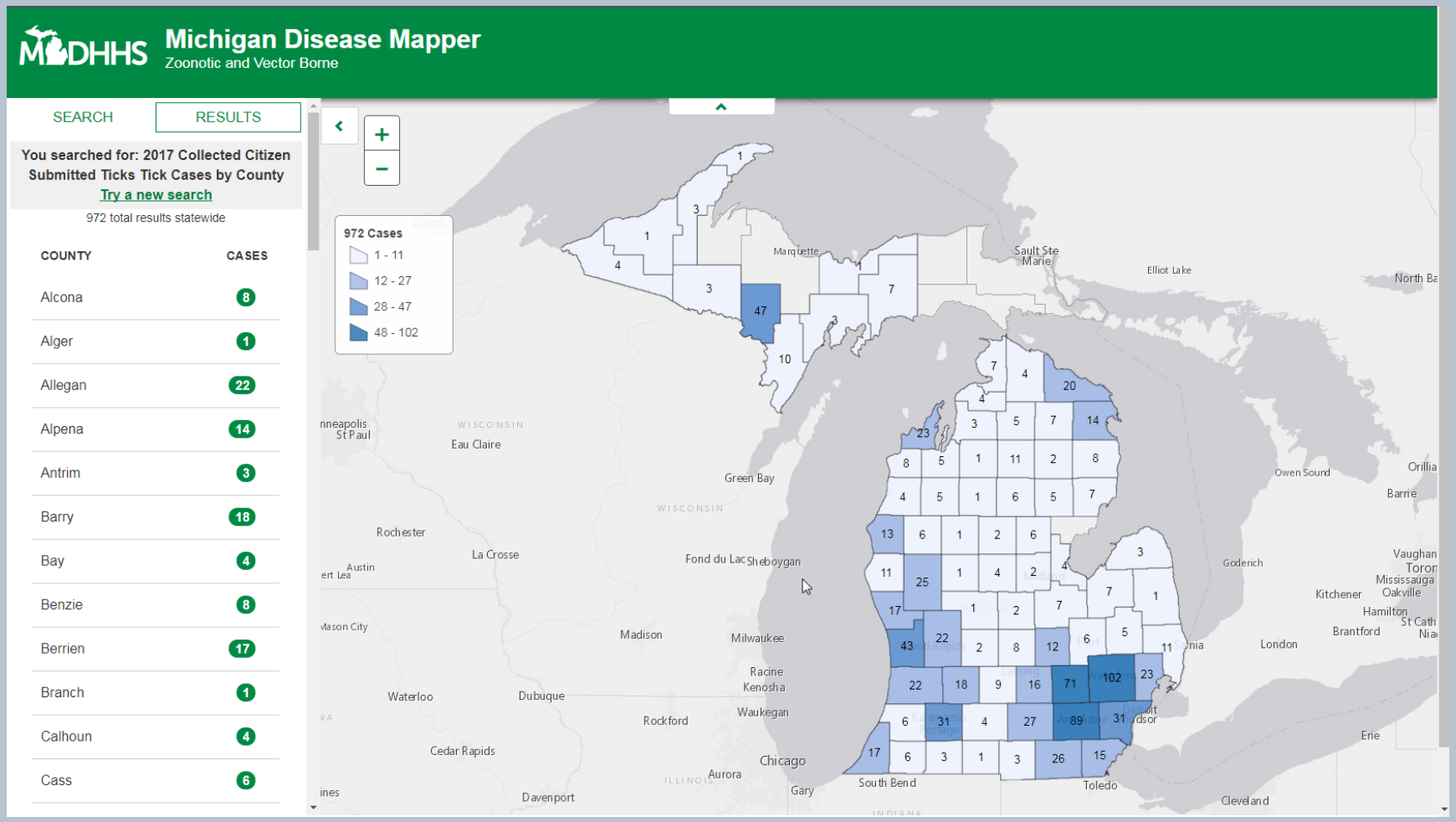
2018 Drag Field Sites



- Field surveillance coordinated with academic partners
- Locations directed by:
  - Public tick submissions
  - Veterinary submissions
  - Reported disease cases
- 2018 activities:
  - Over 220 total km sampled at 143 sites
  - 1,537 ticks collected April-November
  - Collaboration with CDC for emerging pathogen screening

Michigan Disease Mapper

www.michigan.gov/midiseasemapper



Agencies Online Services Directories Help Center Connect MI.gov

Michigan Emerging Disease Issues

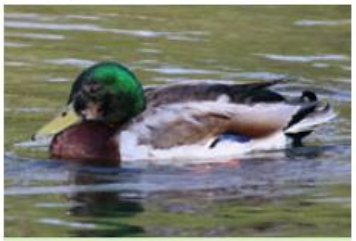
Diseases that may affect humans or animals.

Search

- MI Disease Mapper
- Ticks and Your Health
- Mosquitoes and Your Health
- Being Safe Around Animals
- Bed Bugs, Head Lice, and Scabies
- Diseases affecting wildlife

Agricultural Exhibits and Events

Anaplasmosis



Avian Influenza

Bab

losis

UPDATED!

*Mobile-friendly

*Great info. for the public

www.michigan.gov/emergingdiseases

Chikunguya

Chronic Wasting Disease (CWD)

Dengue

More resources available online

www.michigan.gov/lyme

www.cdc.gov/lyme

Hands on Training: Local Health Department staff will gain hands-on experience in standard methods for field collection and identification of medically important ticks and mosquitoes.

Vector Surveillance Program Essentials: The workshop curriculum covers the essentials of maintaining a vector surveillance program, including methods for data collection, equipment and personnel considerations.

Expert Instruction: Workshop instructors include experts from public health, vector-control agencies, and academia that have extensive experience in the fields of tick and mosquito surveillance, identification, and control.

Networking: Participants will have multiple opportunities to engage with colleagues and counterparts from across Michigan, as well as interact with our team of vector-borne disease expert instructors.

EMERGING &
ZOONOTIC
INFECTIOUS DISEASE
VECTOR-BORNE DISEASE TRAINING

MDHHS
Michigan Department of Health & Human Services

Workshop Specifics

Designed for environmental health professionals working at Michigan Local Health Departments (two staff per health jurisdiction)

At the end of the training, attendees will:

- Understand vector-borne disease epidemiology in Michigan
- Be able to conduct sampling for medically important mosquitoes and ticks
- Be able to arrange for diagnostic testing of specimens from their jurisdiction
- Be able to consult with stakeholders regarding vector control

Cost: FREE – meals and lodging provided

Workshop FAQs

Who are the vector-borne surveillance workshops meant for?

Generally LHD Environmental Health staff, however if other LHD programs areas or partner agencies are interested in participating in vector surveillance, they may also attend.

What costs are supported for the vector-borne surveillance workshops?

The workshops are free. Participant lodging (up to two nights) and meals will be provided for the duration of the workshop. The MDHHS will not reimburse mileage.

What should I bring to the training?

Materials for taking notes. Attendees will also participate in a field exercise, appropriate outdoor clothing and footwear are recommended.

Workshop FAQs

What will we take with us from the workshop?

Participants will gain an understanding of vector-borne disease epidemiology in Michigan, methods for surveillance of medically important ticks and mosquitoes, the ability to identify mosquitoes and ticks, and a basic understanding of vector control.

Participants will also take home some surveillance equipment necessities, including:

- *BG2 mosquito trap lures*
- *Tick drags (two per jurisdiction)*
- *Collection equipment for tick surveillance*
- *Flash drive with resources such as mosquito and tick keys, data sheets and reporting information, sample collection protocols, and a media tool kit.*

If you find a tick…
Don't get Ticked!
We can Help!

CITIZEN SUBMITTED TICK PROGRAM

- Identify the tick
- Test blacklegged ticks (if alive & off a human)

www.Michigan.gov/lyme

Got a Tick? Submit a Pic!

Identify the tick electronically

MDHHS-Bugs@Michigan.gov

FREE service available to MI residents!

MICHIGAN DEPARTMENT OF HEALTH & HUMAN SERVICES

Reporting Potential Rabies Exposures & Rabies Post Exposure Prophylaxis in Michigan

Changes to the Reportable Diseases List for 2019

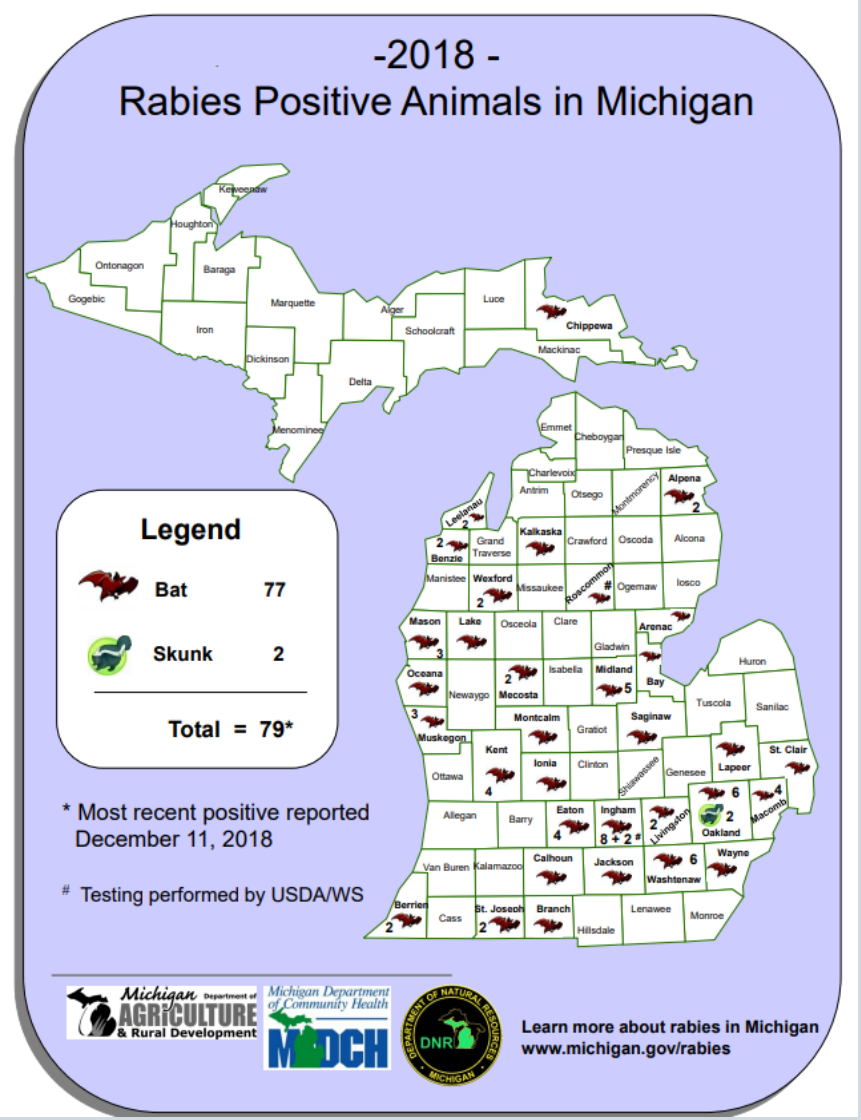
Disease Background: Rabies

Rabies is caused by an RNA virus in the *Lyssavirus* genus. The virus is transmitted by a bite of an infected animal or infected saliva coming into contact with open wounds or mucous membranes.

All mammals are susceptible to rabies infection and is almost 100% fatal once symptoms begin.

In 2018, 79 animals were positive for rabies, including 77 bats and 2 skunks.

Annually, about 3,500 animals are submitted to the MDHHS Bureau of Laboratories (BOL) for rabies testing.



Rabies PEP Reporting Pilot

In 2018, The Emerging and Zoonotic Infectious Diseases (EZID) Section at MDHHS was exploring the idea of making rabies PEP a reportable condition statewide.

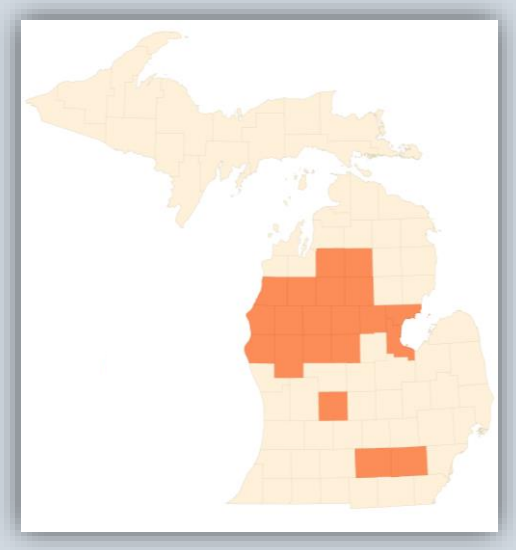
From **May 15-September 30**, we asked healthcare facilities within volunteering local health jurisdictions to report all doses of PEP to the local health department.

Participating health departments were provided guidelines for the project and a rabies PEP poster to distribute to their healthcare facilities.

MDHHS used the results of this project to make recommendations about statewide PEP.

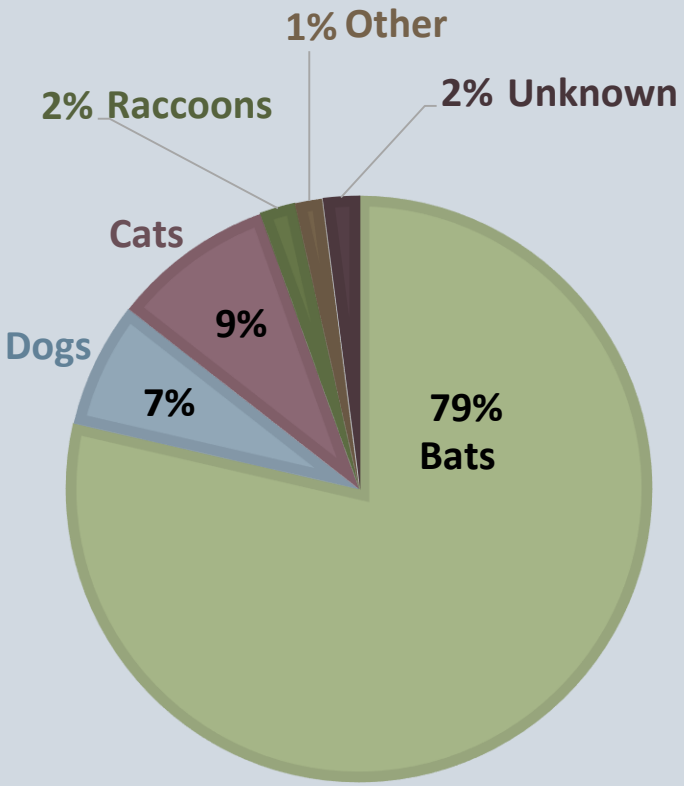
Participating local health jurisdictions included:

- Bay County
- District Health Department #10
- Central Michigan DHD
- Ionia County
- Jackson County
- Washtenaw County



Results: Rabies PEP Reporting Pilot

Animal Species Indicated for RPEP Courses During the RPEP Reporting Pilot (n=201)



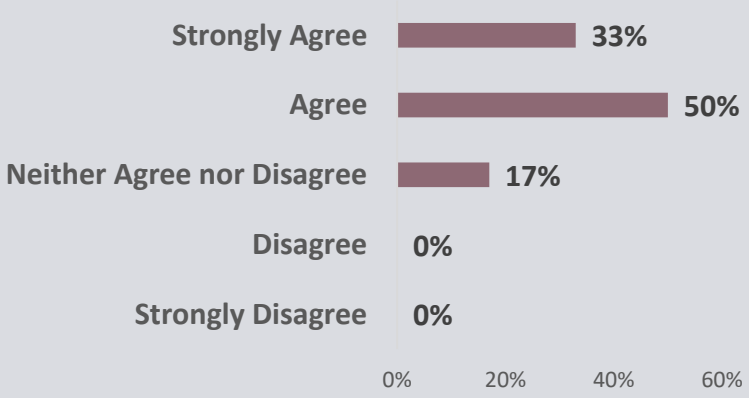
Issues Detected with RPEP Initiations and Follow-up

Conflicts with PEP	Total (n)
Patient did not receive last dose or were lost to follow-up	14
The human rabies immune globulin (HRIG) was not administered at first dose	4
Physician initiated PEP for a rodent bite	1
Physician initiated PEP when animal could have been observed for 10 days	5
Physician initiated PEP when animal could have been sent for rabies testing	9
Rabies vaccine dose was injected in wrong injection site, invalid dose	1
Animal tested positive, yet it was later determined that no human exposure occurred	1

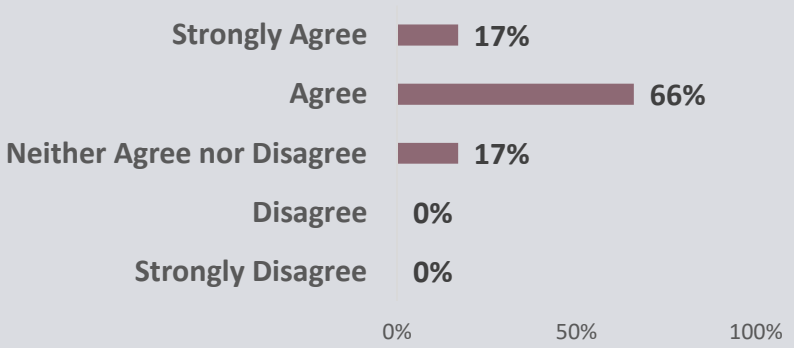
Results: Rabies PEP Reporting Pilot

Select Question for the Post-Pilot Survey (n=6)

How strongly do you agree/disagree with this statement, "Rabies PEP should be reportable in Michigan."



How strongly do you agree/disagree with this statement, "Requiring healthcare facilities to report RPEP to the LHD was helpful and useful."



LHDs were also asked to report any challenges that they experienced during the pilot. Participating LHDs reported:

- Difficulties entering case information in a timely manner.
- Not all animal bites were being reported to the LHD.
- Healthcare providers need more education about RPEP.

Conclusions: Rabies PEP Reporting Pilot

- Mistakes in RPEP treatments were identified including:
  - Failure to administer HRIG when indicated.
  - Initiating treatment when the animal was available for testing or observation.
  - A RPEP dose in the wrong injection site.
  - Starting treatment without relevant rabies exposure (i.e. bitten by a rodent).

- Challenges existed with patient follow-up & ensuring that exposed individuals complete the series.

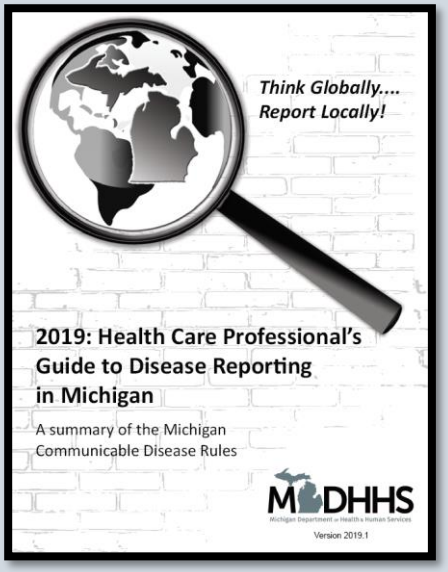
- LHDs experienced difficulties during the pilot due to challenges filing the reports in a timely manner along with lapses in communication between LHDs & healthcare facilities with receiving animal bite reports.

- 83% of piloting jurisdictions were supportive of making RPEP administration reportable

- Most RPEP treatments were initiated following an exposure to a bat emphasizing the continued need to enhance citizen awareness of bats and rabies risk.

As of 2019,

RPEP administrations following potential rabies exposures are reportable statewide.



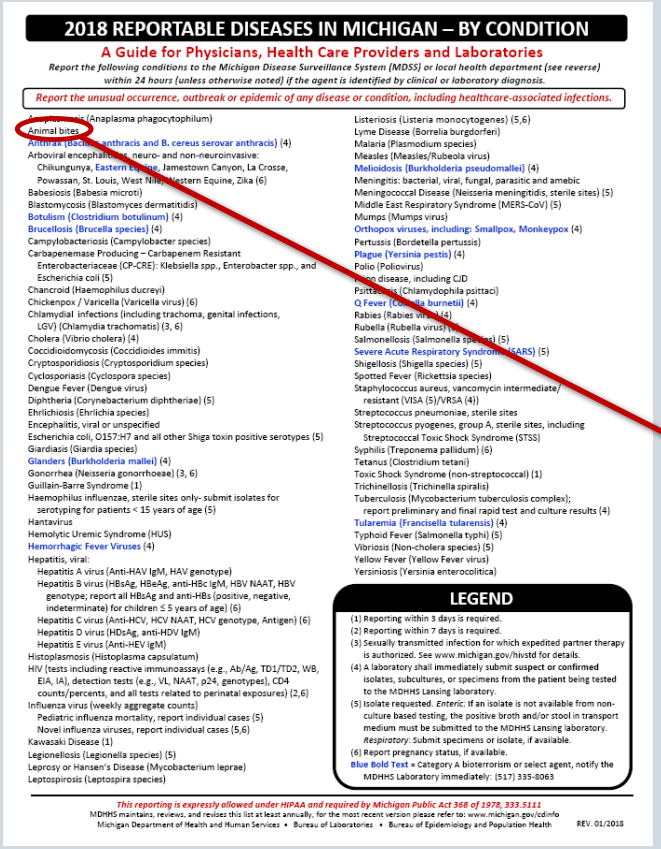
Modifications to the RD List:

Rabies: Potential Exposures

- ✓ "**Animal Bites**" has been omitted for the Michigan Reportable Diseases List.
- ✓ "Animal Bites" has been replaced with condition "**Rabies: potential exposure and post exposure prophylaxis**"
- ✓ This change was made to emphasize that **bite & non-bite exposures** (e.g. exposure to a bat without known bite) **should be reported** to the local health department (LHD).

MDSS Reporting

- Jurisdictions may utilize the "**Rabies: Exposure and Post-Exposure Treatment Investigation**"* form found under MDSS disease condition "**Rabies Potential Exposure and PEP**"†



2018 REPORTABLE DISEASES IN MICHIGAN – BY CONDITION

A Guide for Physicians, Health Care Providers and Laboratories

Report the following conditions to the Michigan Disease Surveillance System (MDSS) or local health department (see reverse) within 24 hours (unless otherwise noted) if the agent is identified by clinical or laboratory diagnosis.

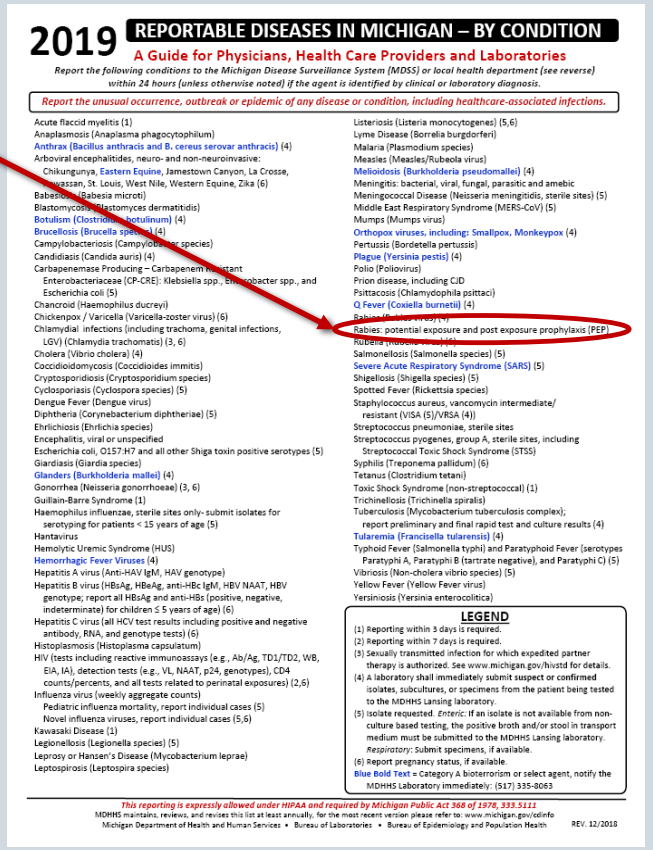
Report the unusual occurrence, outbreak or epidemic of any disease or condition, including healthcare-associated infections.

Anaplasmosis (Anaplasma phagocytophilum)
Animal bites
Anthrax (Bacillus anthracis and B. cereus serovar anthracis) (4)
Arboviral encephalitides, neuro- and non-neuroinvasive:
Chikungunya, Eastern Equine, Jamestown Canyon, La Crosse, Powassan, St. Louis, West Nile, Western Equine, Zika (6)
Babesiosis (Babesia microti)
Blastomycosis (Blastomyces dermatitidis)
Botulism (Clostridium botulinum) (4)
Brucellosis (Brucella species) (4)
Campylobacteriosis (Campylobacter species)
Carbapenemase Producing – Carbapenem Resistant Enterobacteriaceae (CP-CRE): Klebsiella spp., Enterobacter spp., and Escherichia coli (5)
Chancroid (Haemophilus ducreyi)
Chickenpox / Varicella (Varicella virus) (6)
Chlamydial infections (including trachoma, genital infections, LGV) (Chlamydia trachomatis) (3, 6)
Cholera (Vibrio cholera) (4)
Coccidioidomycosis (Coccidioides immitis)
Cryptosporidiosis (Cryptosporidium species)
Cyclosporiasis (Cyclospora species)
Dengue Fever (Dengue virus)
Diphtheria (Corynebacterium diphtheriae) (5)
Ehrlichiosis (Ehrlichia species)
Encephalitis, viral or unspecified
Escherichia coli, O157:H7 and all other Shiga toxin positive serotypes (5)
Giardiasis (Giardia species)
Glanders (Burkholderia mallei) (4)
Gonorrhea (Neisseria gonorrhoeae) (3, 6)
Guillain-Barre Syndrome (1)
Haemophilus influenzae, sterile sites only- submit isolates for serotyping for patients < 15 years of age (5)
Hantavirus
Hemolytic Uremic Syndrome (HUS)
Hemorrhagic Fever Viruses (4)
Hepatitis, viral:
Hepatitis A virus (Anti-HAV IgM, HAV genotype)
Hepatitis B virus (HBsAg, HBeAg, anti-HBc IgM, HBV NAAT, HBV genotype; report all HBsAg and anti-HBs (positive, negative, indeterminate) for children ≤ 5 years of age) (6)
Hepatitis C virus (Anti-HCV, HCV NAAT, HCV genotype, Antigen) (6)
Hepatitis D virus (HDsAg, anti-HDV IgM)
Hepatitis E virus (Anti-HEV IgM)
Histoplasmosis (Histoplasma capsulatum)
HIV (tests including reactive immunoassays (e.g., Ab/Ag, TD1/TD2, WB, EIA, IA), detection tests (e.g., VL, NAAT, p24, genotypes), CD4 counts/percents, and all tests related to perinatal exposures) (2,6)
Influenza virus (weekly aggregate counts)
Pediatric influenza mortality, report individual cases (5)
Novel influenza viruses, report individual cases (5,6)
Kawasaki Disease (1)
Legionellosis (Legionella species) (5)
Leprosy or Hansen's Disease (Mycobacterium leprae)
Leptospirosis (Leptospira species)
Listeriosis (Listeria monocytogenes) (5,6)
Lyme Disease (Borrelia burgdorferi)
Malaria (Plasmodium species)
Measles (Measles/Rubeola virus)
Melioidosis (Burkholderia pseudomallei) (4)
Meningitis: bacterial, viral, fungal, parasitic and amebic
Meningococcal Disease (Neisseria meningitidis, sterile sites) (5)
Middle East Respiratory Syndrome (MERS-CoV) (5)
Mumps (Mumps virus)
Orthopox viruses, including: Smallpox, Monkeypox (4)
Pertussis (Bordetella pertussis)
Plague (Yersinia pestis) (4)
Polio (Poliovirus)
Prion disease, including CJD
Psittacosis (Chlamydophila psittaci)
Q Fever (Coxiella burnetii) (4)
Rabies (Rabies virus) (4)
Rubella (Rubella virus) (5)
Salmonellosis (Salmonella species) (5)
Severe Acute Respiratory Syndrome (SARS) (5)
Shigellosis (Shigella species) (5)
Spotted Fever (Rickettsia species)
Staphylococcus aureus, vancomycin intermediate/ resistant (VISA (5)/VRSA (4))
Streptococcus pneumoniae, sterile sites
Streptococcus pyogenes, group A, sterile sites, including Streptococcal Toxic Shock Syndrome (STSS)
Syphilis (Treponema pallidum) (6)
Tetanus (Clostridium tetani)
Toxic Shock Syndrome (non-streptococcal) (1)
Trichinellosis (Trichinella spiralis)
Tuberculosis (Mycobacterium tuberculosis complex); report preliminary and final rapid test and culture results (4)
Tularemia (Francisella tularensis) (4)
Typhoid Fever (Salmonella typhi) (5)
Vibriosis (Non-cholera species) (5)
Yellow Fever (Yellow Fever virus)
Yersiniosis (Yersinia enterocolitica)

LEGEND

(1) Reporting within 3 days is required.
(2) Reporting within 7 days is required.
(3) Sexually transmitted infection for which expedited partner therapy is authorized. See www.michigan.gov/hivstd for details.
(4) A laboratory shall immediately submit suspect or confirmed isolates, subcultures, or specimens from the patient being tested to the MDHHS Lansing laboratory.
(5) Isolate requested. *Enteric*: If an isolate is not available from non-culture based testing, the positive broth and/or stool in transport medium must be submitted to the MDHHS Lansing laboratory. *Respiratory*: Submit specimens or isolate, if available.
(6) Report pregnancy status, if available.
Blue Bold Text = Category A bioterrorism or select agent, notify the MDHHS Laboratory immediately: (517) 335-8063

This reporting is expressly allowed under HIPAA and required by Michigan Public Act 368 of 1978, 333.5111
MDHHS maintains, reviews, and revises this list at least annually, for the most recent version please refer to: www.michigan.gov/cdinfo
Michigan Department of Health and Human Services • Bureau of Laboratories • Bureau of Epidemiology and Population Health REV. 01/2018



2019 REPORTABLE DISEASES IN MICHIGAN – BY CONDITION

A Guide for Physicians, Health Care Providers and Laboratories

Report the following conditions to the Michigan Disease Surveillance System (MDSS) or local health department (see reverse) within 24 hours (unless otherwise noted) if the agent is identified by clinical or laboratory diagnosis.

Report the unusual occurrence, outbreak or epidemic of any disease or condition, including healthcare-associated infections.

Acute flaccid myelitis (1)
Anaplasmosis (Anaplasma phagocytophilum)
Anthrax (Bacillus anthracis and B. cereus serovar anthracis) (4)
Arboviral encephalitides, neuro- and non-neuroinvasive:
Chikungunya, Eastern Equine, Jamestown Canyon, La Crosse, Powassan, St. Louis, West Nile, Western Equine, Zika (6)
Babesiosis (Babesia microti)
Blastomycosis (Blastomyces dermatitidis)
Botulism (Clostridium botulinum) (4)
Brucellosis (Brucella species) (4)
Campylobacteriosis (Campylobacter species)
Candidiasis (Candida auris) (4)
Carbapenemase Producing – Carbapenem Resistant Enterobacteriaceae (CP-CRE): Klebsiella spp., Enterobacter spp., and Escherichia coli (5)
Chancroid (Haemophilus ducreyi)
Chickenpox / Varicella (Varicella-zoster virus) (6)
Chlamydial infections (including trachoma, genital infections, LGV) (Chlamydia trachomatis) (3, 6)
Cholera (Vibrio cholera) (4)
Coccidioidomycosis (Coccidioides immitis)
Cryptosporidiosis (Cryptosporidium species)
Cyclosporiasis (Cyclospora species) (5)
Dengue Fever (Dengue virus)
Diphtheria (Corynebacterium diphtheriae) (5)
Ehrlichiosis (Ehrlichia species)
Encephalitis, viral or unspecified
Escherichia coli, O157:H7 and all other Shiga toxin positive serotypes (5)
Giardiasis (Giardia species)
Glanders (Burkholderia mallei) (4)
Gonorrhea (Neisseria gonorrhoeae) (3, 6)
Guillain-Barre Syndrome (1)
Haemophilus influenzae, sterile sites only- submit isolates for serotyping for patients < 15 years of age (5)
Hantavirus
Hemolytic Uremic Syndrome (HUS)
Hemorrhagic Fever Viruses (4)
Hepatitis A virus (Anti-HAV IgM, HAV genotype)
Hepatitis B virus (HBsAg, HBeAg, anti-HBc IgM, HBV NAAT, HBV genotype; report all HBsAg and anti-HBs (positive, negative, indeterminate) for children ≤ 5 years of age) (6)
Hepatitis C virus (all HCV test results including positive and negative antibody, RNA, and genotype tests) (6)
Histoplasmosis (Histoplasma capsulatum)
HIV (tests including reactive immunoassays (e.g., Ab/Ag, TD1/TD2, WB, EIA, IA), detection tests (e.g., VL, NAAT, p24, genotypes), CD4 counts/percents, and all tests related to perinatal exposures) (2,6)
Influenza virus (weekly aggregate counts)
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Measles (Measles/Rubeola virus)
Melioidosis (Burkholderia pseudomallei) (4)
Meningitis: bacterial, viral, fungal, parasitic and amebic
Meningococcal Disease (Neisseria meningitidis, sterile sites) (5)
Middle East Respiratory Syndrome (MERS-CoV) (5)
Mumps (Mumps virus)
Orthopox viruses, including: Smallpox, Monkeypox (4)
Pertussis (Bordetella pertussis)
Plague (Yersinia pestis) (4)
Polio (Poliovirus)
Prion disease, including CJD
Psittacosis (Chlamydophila psittaci)
Q Fever (Coxiella burnetii) (4)
Rabies: potential exposure and post exposure prophylaxis (PEP)
Rubella (Rubella virus) (5)
Salmonellosis (Salmonella species) (5)
Severe Acute Respiratory Syndrome (SARS) (5)
Shigellosis (Shigella species) (5)
Spotted Fever (Rickettsia species)
Staphylococcus aureus, vancomycin intermediate/ resistant (VISA (5)/VRSA (4))
Streptococcus pneumoniae, sterile sites
Streptococcus pyogenes, group A, sterile sites, including Streptococcal Toxic Shock Syndrome (STSS)
Syphilis (Treponema pallidum) (6)
Tetanus (Clostridium tetani)
Toxic Shock Syndrome (non-streptococcal) (1)
Trichinellosis (Trichinella spiralis)
Tuberculosis (Mycobacterium tuberculosis complex); report preliminary and final rapid test and culture results (4)
Tularemia (Francisella tularensis) (4)
Typhoid Fever (Salmonella typhi) and Paratyphoid Fever (serotypes Paratyphi A, Paratyphi B (tartrate negative), and Paratyphi C) (5)
Vibriosis (Non-cholera vibrio species) (5)
Yellow Fever (Yellow Fever virus)
Yersiniosis (Yersinia enterocolitica)

LEGEND

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*The "Rabies: Exposure and Post-Exposure Treatment Investigation" form will be made available with the February 2019 release of MDSS.

†MDSS will also have disease condition "Rabies: Potential Exposure and PEP (Pre-2019)," which will enable users to search for cases prior to 2019. This condition should not be used to report new cases.

MDHHS
Michigan Department of Health & Human Services

Modifications to the RD List:

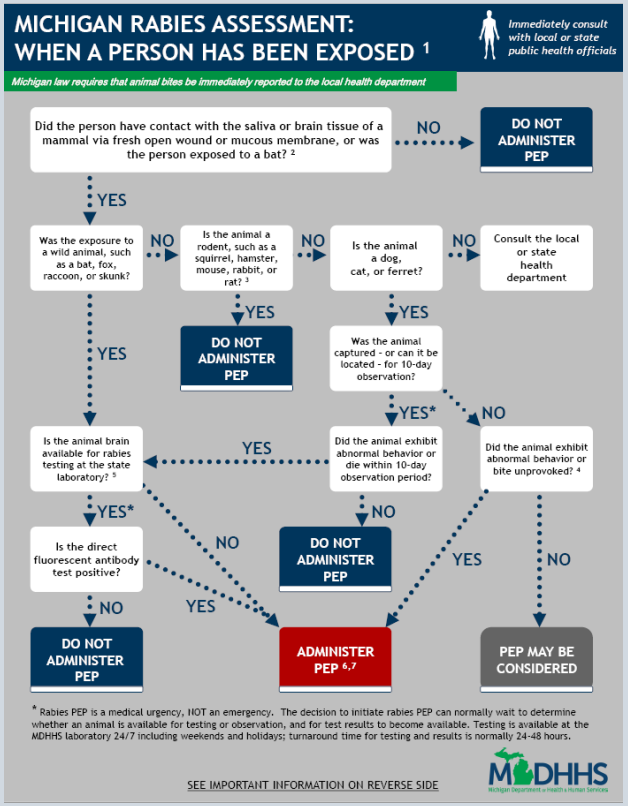
Rabies Post-Exposure Prophylaxis (RPEP)

- ✓ Healthcare providers are now required to report to LHDs **any initiation & subsequent doses of RPEP** given to patients who were potentially exposed to rabies.
- ✓ Potential exposure to rabies may be through an **animal bite** or **other type of exposure** (i.e. deeply sleeping person wakes to a bat in the room).
- ✓ Initiating RPEP is a **medical urgency, not an emergency.** Find out if exposing animal might be available for observation or testing.

MDSS Reporting

- To report RPEP in MDSS, use the "**Rabies: Exposure and Post-Exposure Treatment Investigation**"* form found under MDSS disease condition "**Rabies Potential Exposure and PEP**"†

Michigan Rabies Assessment: When A Person Has Been Exposed



Printable .pdf

Rabies Post-Exposure Prophylaxis (PEP) Poster

Printable .pdf (11'' x 17'')

*The "Rabies: Exposure and Post-Exposure Treatment Investigation" form will be made available with the February 2019 release of MDSS.

†MDSS will also have disease condition "Rabies: Potential Exposure and PEP (Pre-2019)," which will enable users to search for cases prior to 2019. This condition should not be used to report new cases.

To order these documents, please fill out a publication order form and fax or mail to the MDHHS CD Division

MDHHS Michigan Department of Health & Human Services

Disease Reporting: Potential Rabies Exposures & RPEP

	Potential Rabies Exposures	Rabies Post-Exposure Prophylaxis Treatments
Reporting Requirement to LHDs from HCFs	Any animal bite where rabies is suspected should be reported to the LHD within 24 hours of the incident.	Any RPEP administrations (including the human rabies immunoglobulin) following a potential rabies exposure shall be reported to the LHD within 24 hours of the patient receiving each dose.
Reporting Requirement to MDHHS from LHDs	There is no requirement to report these incidents to MDHHS.	LHDs are now required to report RPEP administrations following a potential rabies exposure.
MDSS Disease Condition	Rabies: Potential Exposure & PEP*	Rabies: Potential Exposure & PEP*
MDSS Report Form	Rabies: Exposure and Post Exposure Treatment Investigation Report	Rabies: Exposure and Post Exposure Treatment Investigation Report

*MDSS also has a disease condition "Rabies: Potential Exposure and PEP (Pre-2019)" for any report prior to February 14, 2019. These reports utilized the "Animal Bite Case Investigation Report" form.

Questions?

Feel free to contact us at:

517-335-8165