
Surveillance for Mosquito-Borne Disease Among Connecticut Residents

Mosquito-borne Disease Symposium

April 11, 2019

Connecticut Agricultural Experiment Station

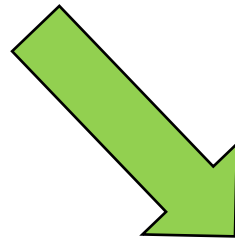
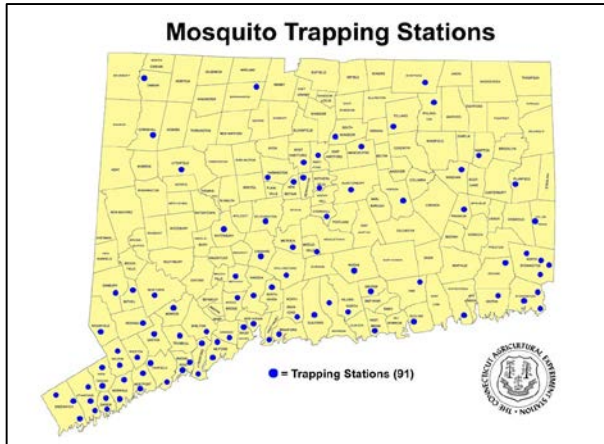
DPH Infectious Diseases Section

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Reportable mosquito-borne diseases in Connecticut

- West Nile Virus (WNV)
 - Equine Encephalitis Virus (EEE)
 - California Group Arboviruses
 - Jamestown Canyon
 - La Crosse
 - Venezuelan Encephalitis Virus
 - St. Louis Encephalitis Virus
 - Dengue
 - Zika
 - Chikungunya
 - Yellow Fever
 - Malaria
-

Arboviral Surveillance in CT



**Risk of Human
Disease**

Human Arboviral Surveillance in CT

- Reports received from providers or laboratories
 - Providers contacted for clinical and exposure information
 - Cases classified according to national case definitions
 - Confirmed and probable reported to CDC
 - Health directors contacted when WNV or EEE case classified as probable or confirmed
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WNV Diagnosis

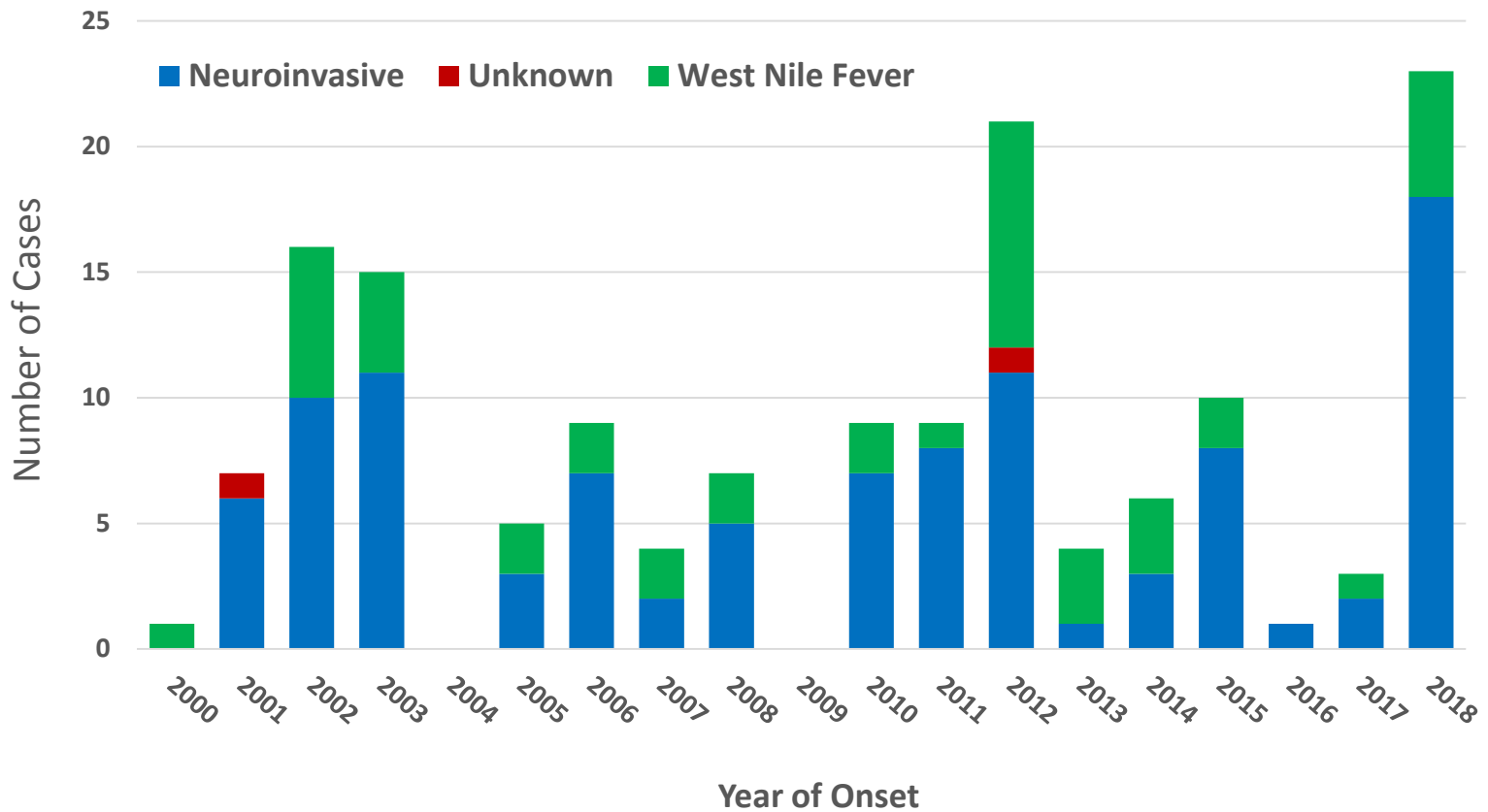
- Probable:
 - Meets clinical criteria and
 - Virus-specific IgM antibodies, no other testing

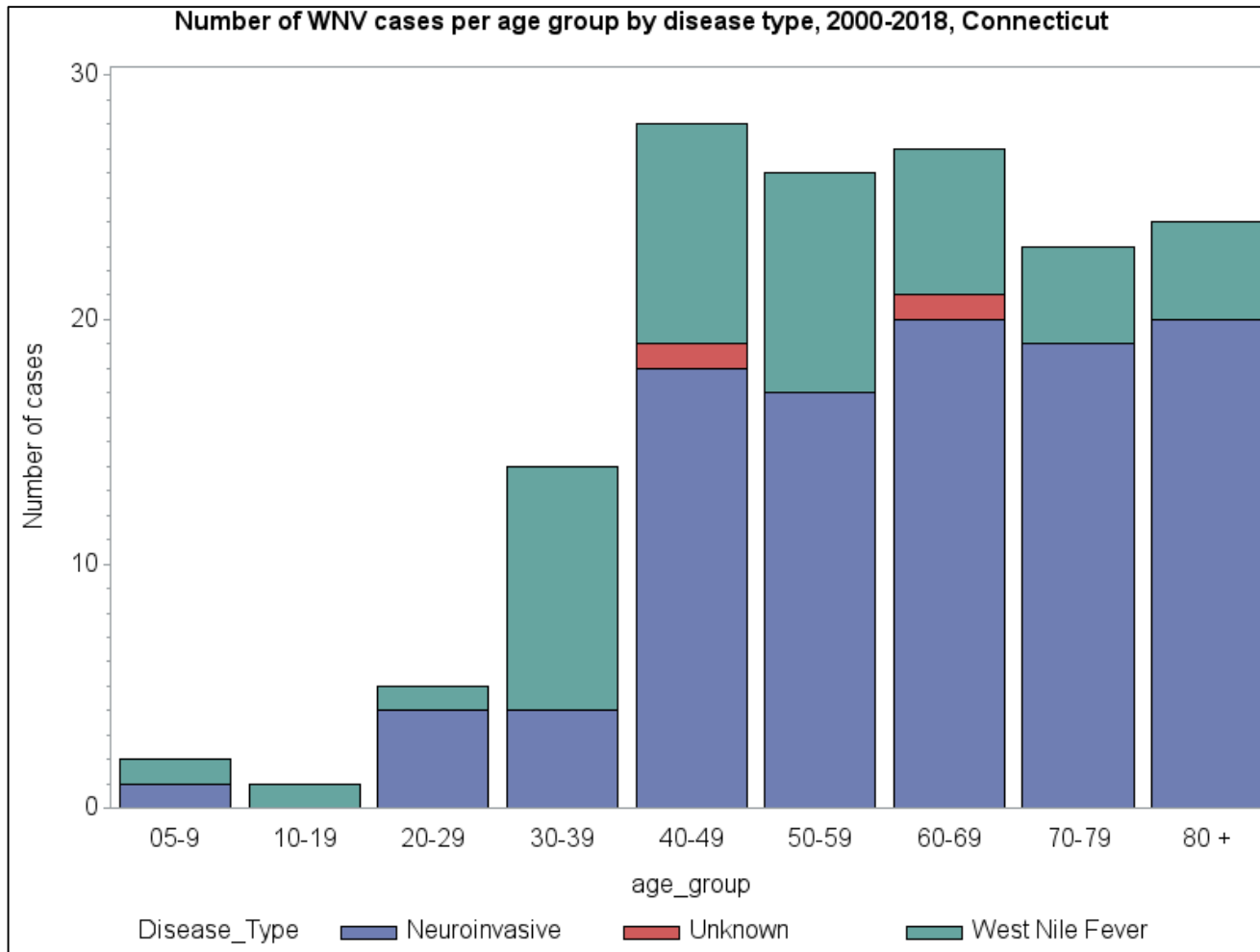
 - Confirmed;
 - Meets clinical criteria
 - 4-fold increase in virus-specific antibody OR
 - Confirmatory test (PRNT)
 - Virus-specific IgM antibodies in CSF
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Epidemiology of WNV in CT

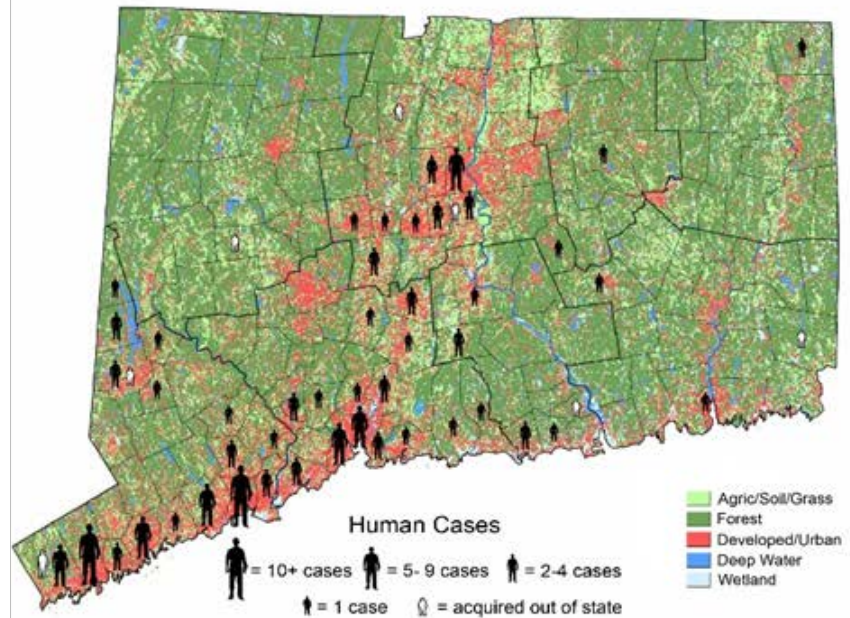
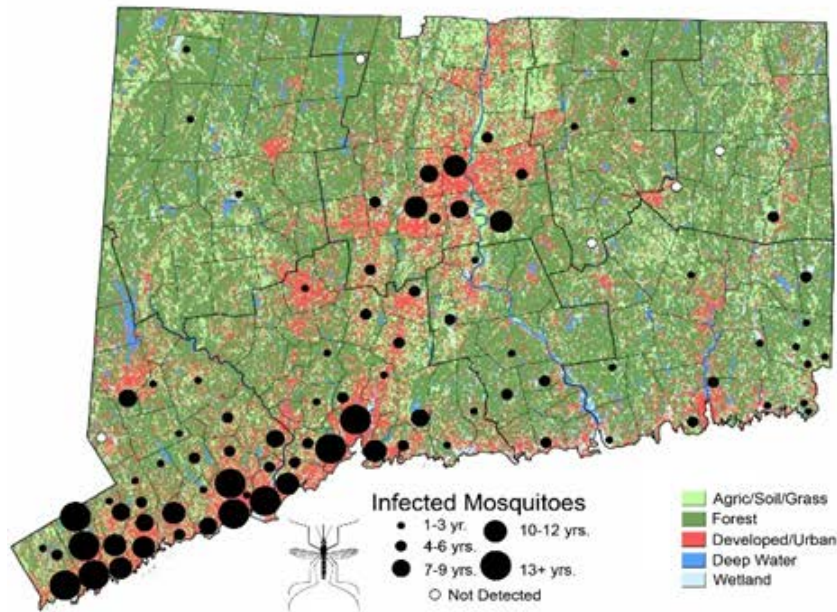
- Clinical Forms
 - West Nile Fever
 - Neuroinvasive (meningitis, encephalitis, meningoencephalitis)
 - Persons over 50, underlying conditions, at higher risk
 - Acquired in CT vs out of CT
 - Challenges – antibodies cross-react, take up to 8 days to develop, then persist months to years
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Cases of West Nile virus disease acquired in state by Clinical Syndrome, Connecticut, 2000-2018

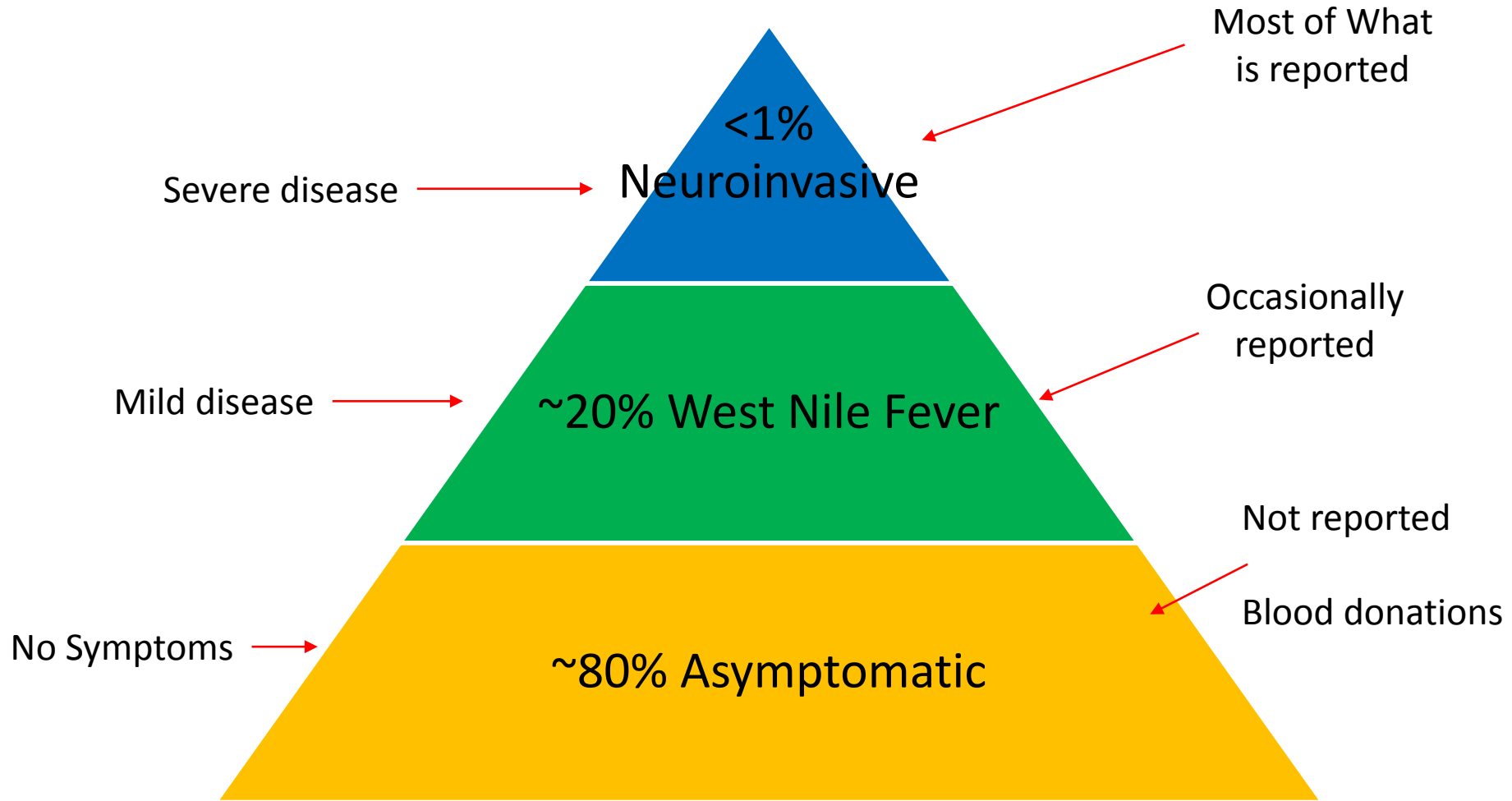




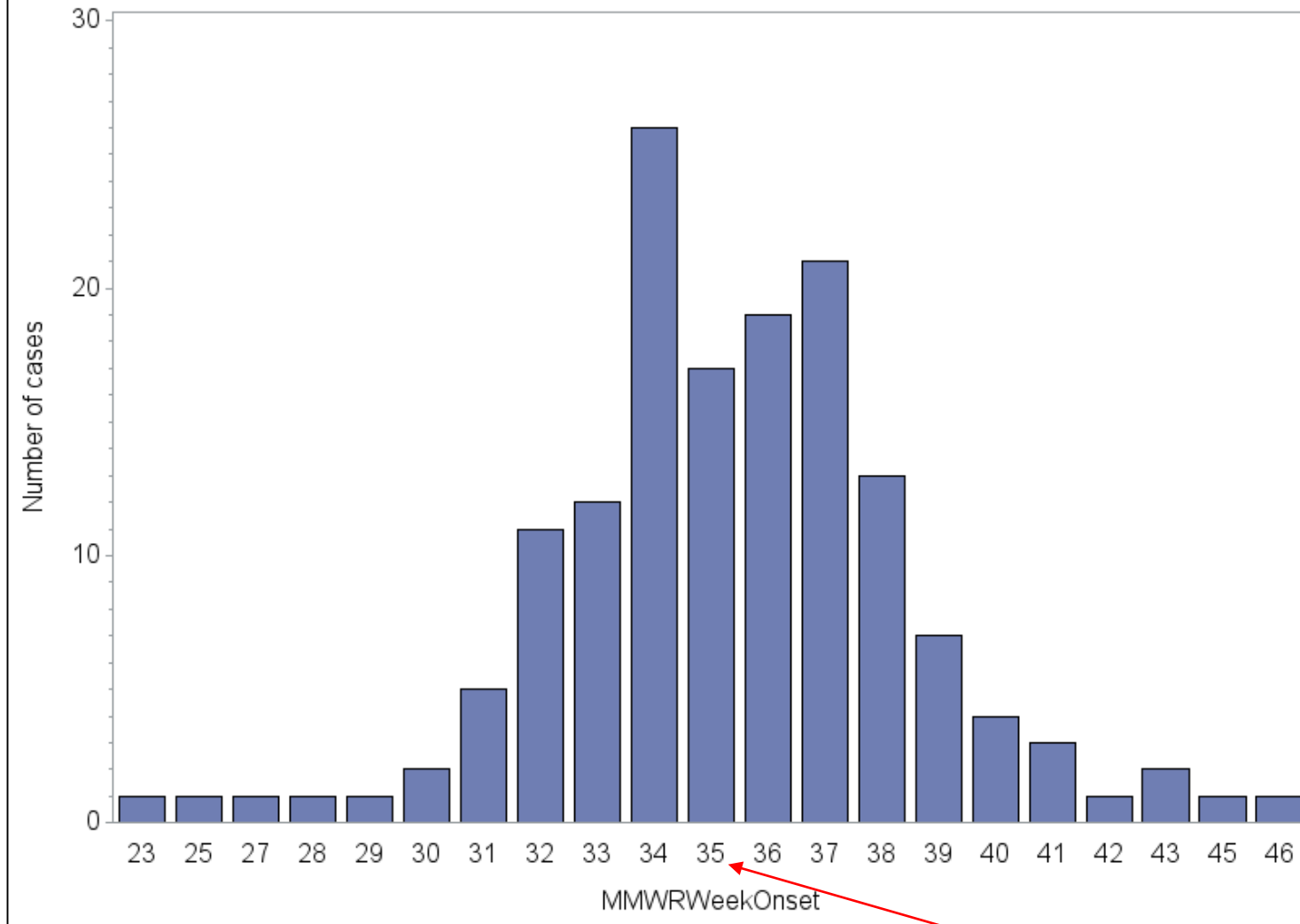
Distribution of WNV Disease



The WNV Infection “Iceberg”



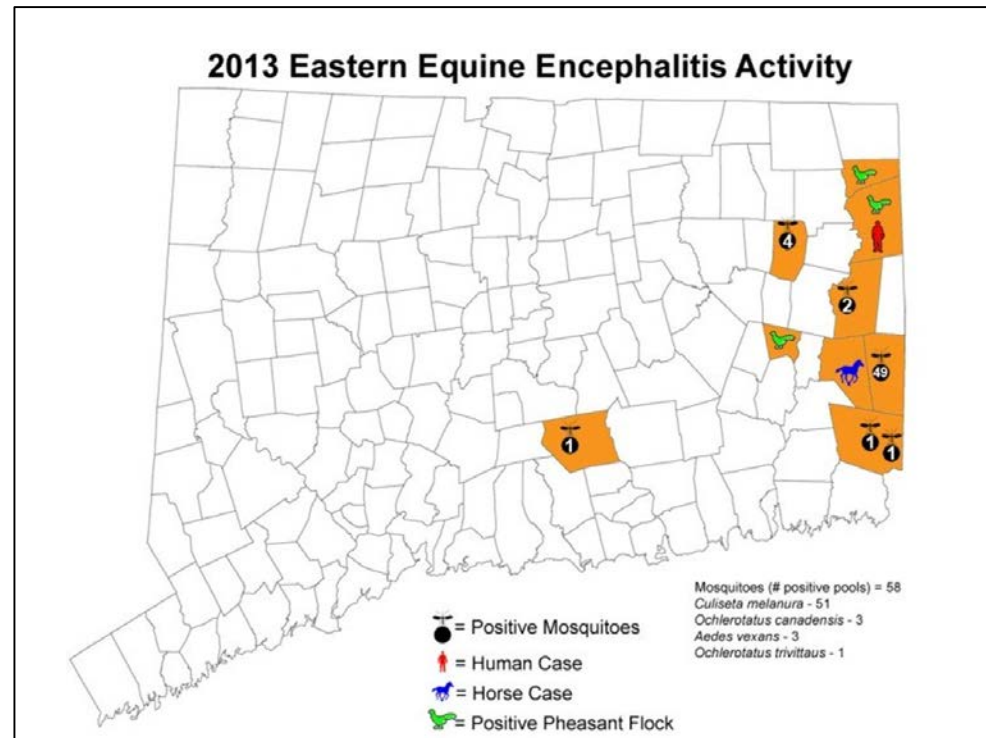
Number of cases per yMMWR week, Connecticut, 2000-2018



~ September 1

Other arbovirus infections acquired in CT

■ EEE – 2013



■ Jamestown canyon virus – sporadic

- Reported probable cases 2017, 2018

Imported Mosquito-borne diseases

Year	Dengue	Chikungunya	Zika	Yellow Fever
2011	1	0	0	0
2012	1	0	0	0
2013	18	0	0	0
2014	0	35	0	0
2015	6	16	0	0
2016	7	2	107	0
2017	6	6	12	0
2018*	3	0	0	0

*Preliminary

Testing available at DPH State Lab

- WNV antibody
 - Arboviral antibody panel – sent to CDC
 - Zika PCR and antibody
 - Denque PCR
 - Chikungunya PCR
-

Personal Prevention

- Perceptions of risk of mosquito bites correlate with prevention measures

- Perception of *safety* of repellents related to use

- Measures:

- EPA registered repellent

- Long sleeves, long pants, light colored, loose fitting clothing

- Dawn and dusk

- Reduce/eliminate breeding grounds in yard



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QUESTIONS?
