

# ELC funds vital for cooperative tick surveillance and public health action in Michigan



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## CATEGORY: Epidemiology and Laboratory Capacity (ELC)

The Michigan Department of Health and Human Services used funding to enhance tick-borne disease prevention activities through supporting vector-borne disease epidemiologists, establishing a citizen science tick collection program, and implementing a social media tick campaign.

### The “What”

For the past four decades, ticks and tick-borne diseases have been a growing public health concern throughout the state of Michigan. However, state funding available to Michigan local health departments (LHDs) to support local tick surveillance remains limited. Educating the public and healthcare providers in Michigan of tick-borne disease prevention is an ongoing area of need. Staff at the Michigan Department of Health and Human Services (MDHHS) have limited means to evaluate effective public health messaging concerning ticks and tick-borne diseases.

MDHHS utilizes Epidemiology and Laboratory Capacity for the Prevention and Control of Emerging Infectious Diseases (ELC) funding to support key staff who lead programs that expand tick-borne disease response capacity throughout the state. MDHHS established a statewide citizen science program for passive tick surveillance in 2017-2018. In this program, citizens may request tick identification via email photo submissions ("Got a Tick, Submit a Pic") or mail. MDHHS' Medical Entomologist and Vector-borne Disease Epidemiologist examine submissions and record any data provided (e.g., possible location and date of exposure, tick found on human or animal, etc.). The data from this program may then guide MDHHS staff in creating outreach materials (e.g., Lyme disease risk maps, tick-borne disease trend reports, maps of ticks reported in Michigan, etc.). Outreach materials are often created in-house by staff in partnership with internal and external agency partners.



Tick mailed to MDHHS.



Tick mailed to MDHHS.



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The information gathered addresses the challenge of understanding in **what contexts humans may encounter ticks and be at risk for tick-borne diseases** and has supported efforts to promote tick and tick-borne disease awareness amongst the public.

### The “So What”

The Medical Entomologist and Vector-borne Disease Epidemiologist’s expertise on ticks and tick-borne diseases yield immeasurable benefit to the state’s citizens and healthcare providers. In 2022, 989 photos of ticks were submitted to the “Got a Tick, Submit a Pic” program and 170 tick specimens were mailed in. The information gathered from the citizen science tick surveillance programs addresses the challenge of understanding in what contexts humans may encounter ticks and be at risk for tick-borne diseases.

### The “Now What”

MDHHS has grown its intra- and interagency collaborations to realize the One Health approach to public health. The Medical Entomologist and Vector-borne Disease Epidemiologist frequently work with partners at zoos, universities and colleges, LHDs, state and federal agencies, healthcare providers, and more on addressing tick and tick-borne disease concerns. Discussions on how we each may play a contributing role in addressing complex tick concerns equitably across different demographic groups are frequent and continuing. For example, at least two LHDs have started their own programs modeled after the citizen-submitted tick identification program. These are all bright signs of success in building local epidemiological and laboratory capacity for tick-borne disease response in Michigan.

In addition to the citizen-submitted tick identification program above, ELC funds have fully supported efforts to promote tick and tick-borne disease awareness amongst the public in Michigan. In 2018-2022, MDHHS contracted with a marketing agency on a targeted social media tick campaign. Each year, the campaign targeted outdoor enthusiasts; parents of children who play at parks or go to camp and daycare; and people who work outdoors. The campaign also informed the public of MDHHS’ tick identification resources, the MDHHS Lyme Disease website, and the Michigan Environmental Public Health Tracking portal. The social media campaign in 2022 featured tick and mosquito bite prevention messages as targeted paid search, mobile device, and Facebook/Instagram advertisements. With a budget of \$30,000, the campaign yielded nearly 8 million impressions and over 35,000 clicks. Eighty-three percent (83%) of the impressions came from mobile device advertisements; 51% of clicks were from the same category. Evaluation results gave MDHHS vital information on campaign performance, such as which communication avenues may be effective in reaching specific target populations. There was also great media interest on ticks and tick-borne disease because of the citizen-submitted tick identification program and social media campaigns.

Since there are limited state funds to support tick surveillance in Michigan, decreased ELC funding may result in programmatic cuts. In 2023, there will not be a social media campaign so that ELC funds may be prioritized towards other activities. MDHHS currently lacks the capacity to make media assessments in-house and must partner with extramural firms. If long-term sustainable funding is unavailable, MDHHS will have limited options to assess how outreach efforts impact adoption of tick bite prevention measures by citizens.

Additionally in 2023, the MDHHS vector-borne disease epidemiologists and MDHHS Bureau of Laboratories (BOL) staff have initiated discussions on tick-borne pathogen testing. Additional funding would likely be necessary for onboarding this testing at MDHHS BOL. Sustained funding would be required for maintaining long-term environmental tick-borne disease monitoring.

Key contributors to this project include Mary Grace Stobierski, Rachel Burkholder, and Rebecca Reik, Michigan Department of Health and Human Services.