

# Report Summary: The Role of Local Environmental Health Departments in Tick-Related Activities and Services

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**Editor's Note:** NEHA strives to provide up-to-date and relevant information on environmental health and to build partnerships in the profession. In pursuit of these goals, we feature this column on environmental health services from the Centers for Disease Control and Prevention (CDC) in every issue of the *Journal*.

In these columns, authors from CDC's Water, Food, and Environmental Health Services Branch, as well as guest authors, will share insights and information about environmental health programs, trends, issues, and resources. The conclusions in these columns are those of the author(s) and do not necessarily represent the official position of CDC.

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Cases of tickborne disease have more than doubled in the past 13 years and represent three quarters of all reported vectorborne disease cases in the U.S. Lyme disease alone accounted for over 80% of reported tickborne diseases (Rosenberg et al., 2018). Certain regions of the U.S. have been more greatly impacted than others. For example, reported cases of spotted fever rickettsiosis increased dramatically from 2016–2017, with New England, East North Central, and Middle Atlantic regions reporting a 215%, 78%, and 65% increase in cases, respectively. Similarly, reported cases of anaplasmosis increased by 39% (Heitman et al., 2019). Furthermore, tickborne diseases are emerging, including *Borrelia miyamotoi* disease, Bourbon virus

disease, and Heartland virus disease (Rosenberg et al., 2018). Causing further alarm, the number of counties in the northeastern U.S. at high risk for Lyme disease has increased by more than 320% since the late 1990s (Kugeler, Farley, Forrester, & Mead, 2015).

The steadily increasing numbers of reported tickborne diseases in the U.S. have become a vexing public health issue, placing strain on state and local health departments (Rosenberg et al., 2018). Slightly more than half of all local health departments (LHDs) provide vector control services and a recent survey of the environmental health (EH) workforce shows that 38% of EH professionals reported working in vector control (Gerding et al., 2019; National Association

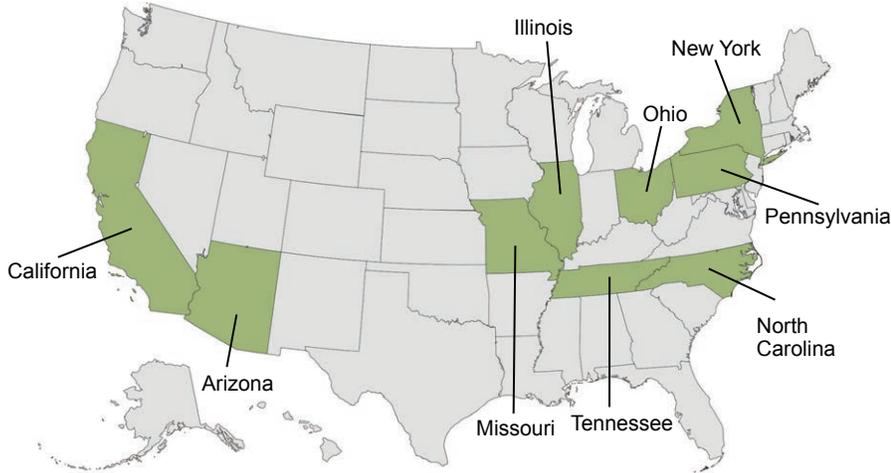
of County and City Health Officials [NACCHO], 2016). In addition, a web-based review of vector control programs suggested that 39% of programs offering tick services were LHD EH vector control programs (Ruiz, Vanover, Parale, & Gerding, 2018).

While many LHDs perform vector surveillance and control activities, the number and types of tick-related activities performed is poorly understood. To this end, the Centers for Disease Control and Prevention (CDC) and the National Association of County and City Health Officials (NACCHO) partnered on an effort to gain a better understanding of current LHD EH department tick-related activities and services offered and their needs for strengthening and enhancing those services. From March to May 2019, key informant interviews were conducted with eight local EH departments and one tribal EH department (Figure 1) with varying geographic locations, population size served, population densities, and levels of sophistication of tick and vector control services and activities (NACCHO, 2019). The key informant interviews sought to identify the level of involvement of EH professionals in various tick activities, including their practices and resources they use, as well as their technical assistance and resource needs.

Among EH departments interviewed, EH professionals were commonly involved in passive tick surveillance and community education and outreach but they were less likely to be involved in tick control and management (Figure 2). EH professionals utilized resources from CDC's website, state health departments, and local universities to answer tick-related questions and they found it useful to partners both internally and externally for tick-related activities. Partner-

FIGURE 1

**Map of the Nine Key Informant Interview Participants**



**Example of a Challenge and Success in Securing Funding for Tick-Related Activities**

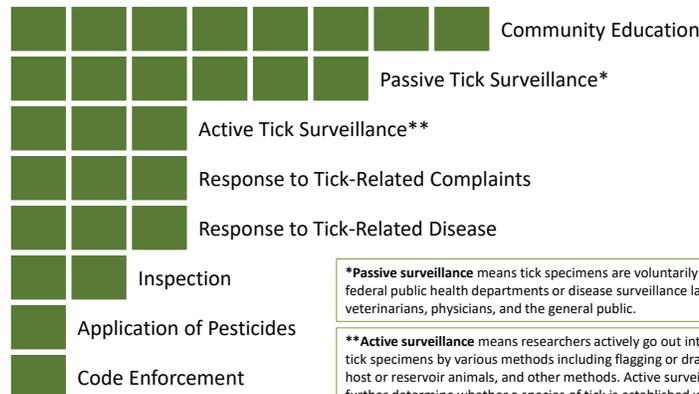
**Challenge:** One respondent hoped to focus on tick-related activities after being hired full-time in their department's vector program but has been too overwhelmed with mosquito and rat issues.

**Success:** One respondent reported working with their state department of environmental protection to conduct active surveillance on select sites in their jurisdiction. They have also been successful in securing limited funding to post signs with Lyme disease education and warnings in community parks.

FIGURE 2

**Tick-Related Activities Performed by Key Informant Interview Participant**

**Most of the environmental health professionals interviewed perform community education and passive tick surveillance.**



\*Passive surveillance means tick specimens are voluntarily submitted to state or federal public health departments or disease surveillance laboratories by veterinarians, physicians, and the general public.

\*\*Active surveillance means researchers actively go out into the field to collect tick specimens by various methods including flagging or dragging, collection from host or reservoir animals, and other methods. Active surveillance is used to further determine whether a species of tick is established within a certain area.

Source: The Role of Local Environmental Health Departments in Tick-Related Activities and Services (National Association of County and City Health Officials, 2019).

ships were leveraged for increased capacity to conduct tick-related activities such as public outreach, surveillance, control, and management. Additionally, EH professionals were

aware of current and emerging tick issues in their jurisdiction and cited Lyme disease as a top concern. In contrast, some respondents cited that the public, upper-level manage-

ment, including boards of health, and medical professionals were unaware that ticks are an issue in their communities.

EH professionals reported challenges that include a lack of direct funding and inadequate staffing for tick-related activities (see sidebar). While EH professionals face barriers to conducting tick-related activities, the respondents highlighted a few key opportunities for strengthening capacity or enhancing efforts:

- Conducting routine tick surveillance, even on a small scale, to establish baselines and provide insight into trends.
- Using a community health improvement plan to identify ticks as a priority for their communities and help justify resources for tick-related activities.
- Engaging constituents in the development of tick-related policy can provide understanding into community concerns and priorities.

The key informant interviews and subsequent report provide insight into the role of EH departments in tick activities and services, as well as the challenges they face. As tickborne diseases continue to grow and threaten the public's health, communities might look to their local EH departments to provide resources and solutions. EH professionals should seek opportunities to strengthen tick-related services in order to meet the needs of their communities and protect public health.

EH professionals are encouraged to use available resources to enhance their knowledge of vectors, especially ticks, as well as strengthen their vector control programs. CDC and partners including NACCHO continue to support EH programs and professionals through the development of vector control tools and resources. Vector control resources for EH professionals can be found at [www.cdc.gov/nceh/ehs/activities/vector-control.html](http://www.cdc.gov/nceh/ehs/activities/vector-control.html). Information on ticks and tickborne diseases can be found at [www.cdc.gov/ticks](http://www.cdc.gov/ticks). More information about the interview results and recommendations presented in this column can be found within the full report available at [www.naccho.org/uploads/downloadable-resources/Local\\_EH\\_Department\\_Tick\\_Activities\\_Final.pdf](http://www.naccho.org/uploads/downloadable-resources/Local_EH_Department_Tick_Activities_Final.pdf). 🐛

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