

Lecture Hall

Session Abstracts

National Environmental Health Association (NEHA)
72nd Annual Educational Conference & Exhibition

Vector Control and Zoonotic Diseases

Monday, June 23

1:00 – 1:50pm

Emergency Management of Mosquito-Borne Disease Outbreaks: Guidelines for Mosquito Control Programs

Dan Sinclair, Environmental Health Analyst, Association of State and Territorial Health Officials, VA

The Association of State and Territorial Health Officials (ASTHO) is currently in the process of devising national guidelines for the emergency management of mosquito-borne disease outbreaks. This innovative document covers a number of issues and potential solutions, including the role and importance of effective surveillance and the proper timing of response activities during and after natural disasters. Furthermore, we address the role of risk assessment and communication to the public, the proactive involvement of all stakeholders, and the selection of appropriate and effective mosquito control measures. We also focus on areas of particular interest to under-funded programs, such as resource sharing and access to the Emergency Management Assistance Compact (EMAC). In an era of unprecedented global travel, a changing climate and the potential for shifting vector patterns, it is our fervent hope that these guidelines will help the mosquito control and public health communities prepare now for the challenge of emergency management of mosquito-borne disease outbreaks.

2:00 – 2:50pm

Bedbug Infestation Re-Emergence: Tracking Epidemiological Events Through News Media Reports

Alice Anderson, MS, PhD, Assistant Professor of EH, East Carolina University, NC

Insect pest infestations such as the recent re-emergence of bedbugs are not always reported in a systematic way. Since bedbugs are not known to be a main vector of disease, their presence is considered a nuisance. They are a public health pest because of the nuisance and potential spread of infection and discomfort, however. Since they are not an invasive species, or a plant or animal disease, they are not tracked in any current federal tracking system. This paper presents a unique method of tracking the epidemiology of the re-emergence of bedbugs in the US through newspaper reports. Lexis-Nexis searches were used to trace the initial infestation center, and the timing and location of subsequent infestations. From 2001-2007 every state in the US had reported bedbug infestations.

3:00 – 3:50pm

Integrated Pest Management Response to an Outbreak of Rocky Mountain Spotted Fever in Eastern Arizona

Craig E. Levy, MS, Epidemiology Program Manager, Arizona Dept. of Health Services, AZ

Background: Prior to year 2002, cases of Rocky Mountain spotted fever (RMSF) were rare in Arizona. From 2002-2007, 53 cases of RMSF have been reported in communities in the White Mountains Region of Eastern Arizona. Six cases have been fatal. Field and laboratory studies conducted by CDC and other health officials in 2004-2005 identified Brown Dog ticks (*Rhipicephalus sanguineus*) as being the disease vectors. The apparent cause of this unusual RMSF outbreak was excessive numbers of ticks which resulted from too many stray dogs, lack of tick control on pets and strays, lack of/insufficient pest control around homes, and an abundance of tick habitat (yard clutter, tall grass, shade and moisture).

Method: In response, an integrated pest management (IPM) approach was implemented in 2005 by many cooperating agencies. The IPM response included (1) extensive prevention education, (2) tick control on dogs, (3) pest control around homes, (4) homesite clean-up campaigns, and (5) periodic tick trapping to monitor efficacy.

Results/Conclusions: Tick trapping results at several homesites demonstrated significant reductions in adult tick numbers, but also showed that there are new emerging populations of immature ticks. Results of the tick trapping highlight the need to maintain tick control efforts around homes and on pets. Ultimate goals of local programs is to foster enough community involvement so as to maintain IPM efforts and keep tick populations and RMSF risk at low levels.

4:00 – 4:50pm

Roaches, Rats, and Kids...Oh, My! Children, Pests, and Pesticides—Surveying Knowledge, Attitudes, Behaviors, and Skills in Low-Income Residents and Promoting Least-Toxic Interventions Through Integrated Pest Management Training

Dion L. Lerman, HHS, CP-FS, Environmental Health Program Specialist, Pennsylvania Integrated Pest Management Program, PA

Pest pressure, especially by cockroaches and rodents, in low-income communities is intense. Asthma rates have doubled in the last twenty years. Currently 20% of Philadelphia school children are asthmatic but in low-income neighborhoods, the asthma rate is as high as 37%. While negative health effects of pests and improper pesticide use are well documented, actual indoor pest control behaviors of residents is not. This study seeks to understand the Knowledge, Attitudes, Behaviors and Skills (KABS) of parents as they attempt to protect their families from pests. This presentation will summarize the emerging results of a three-stage survey is being conducted in Philadelphia, PA, and Camden, NJ, among 100 low-income households. Information about the KABS of families with children six or less years old is collected, with demographics, in the first in-home visit. A second visit provides each household with a kit of least-toxic pest control and 'green' cleaning materials, and training to use them properly. A follow-up visit is conducted 4-6 weeks later to measure changes in KABS. It also provides hands-on training and materials to encourage less toxic responses, and measures changes in KABS and actual pest experience. Maps showing combined risk factors, indicating high priority action areas, will be introduced. Since the study is set to conclude over the summer, this will be the first public presentation of preliminary results.