

Bed Bug Outreach Efforts for 2013

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Abstract:

Bed bugs are small blood-feeding insects that invade human habitats, specifically homes, and thrive in places where people sleep. Over a span of about 15 years, bed bugs have become endemic in the United States. They affect people throughout the country, regardless of income or housing type, but disproportionately affect those who cannot afford adequate treatments and those who live in multi-unit housing.

Over the past few years the scientific understanding of bed bugs has improved vastly. Likewise, the basic familiarity of people with bed bugs has improved, as indicated by industry data that places New York City at #10, down from #7 in the numbers of bed bug treatments (Orkin, 2014). This suggests that outreach from programs like the New York State IPM Program is effective. In 2010 significant attention was given to bed bugs in the news, which also helped to increase the public's familiarity with this pest. IPM staff members have been featured in news articles and other media. However, the need for education about avoiding and eliminating bed bugs is still high. This includes outreach to cooperative extension educators, Master Gardener Volunteers, pest control professionals, facilities managers, social workers, medical professionals, travelers, college students and their families, landlords, tenants of rented properties, and just about everyone else. The people most vulnerable to bed bug infestations are those in multiple unit buildings, the elderly (often living alone), and those living in assisted or group homes. It is believed that elderly, disabled and disadvantaged individuals are more commonly living with bed bugs, because they may have fewer resources, no control over pest management decisions, and may even lack the capacity to recognize or deal with bed bugs on their own.

The New York State IPM Program has approached the bed bug issue from a variety of angles for over 12 years. Staff members are frequently called upon to help individuals, organizations and agencies deal with bed bugs in homes, facilities, and schools. Through phone calls, presentations, sample identification, development of educational materials and other outreach, the NYS IPM Program continues to raise public awareness about this pest and low-risk methods of controlling bed bugs. In a broad effort to provide outreach to cooperative extension educators and other trainers, a bed bug webpage is maintained on the NYS IPM program website and various new educational and instructional materials are available. Many training sessions were held in 2013, reaching audiences such as social workers, housing staff and medical service providers.

Background and justification:

Bed bugs, *Cimex lectularius*, are blood-feeding parasites of humans and some animals. Bed bugs cannot fly or jump, but they can move fast, spread easily, and they are excellent at remaining undetected in the human environment. These insects, once commonplace in homes and hotels, nearly disappeared from developed countries by the 1950's due to the use of residual insecticides. A resurgence of bed bugs became evident in the late 1990's, and since this time bed bugs have affected all parts of the United States. Over the past ten years there has been an expansion of research and outreach from various sources, including Cornell University.

Throughout the United States people are facing bed bug infestations in their homes, dormitories, hotels, and other types of housing and accommodations. According to a survey of the pest control industry conducted in 2005, the resurgence of bed bugs has been consistent across the US (Gangloff-Kaufmann et al. 2006). By 2010, over 95% of pest management companies in the United States responding to a survey reported that they had done some bed bug work (Potter, et al, 2010). Although bed bugs are not vectors of disease, they do pose significant health effects for sufferers. Bed bugs cause high levels of anxiety, stress, and loss of sleep when they infest the home. While reactions to bites vary among individuals, bites often result in itchy welts that may lead to secondary infections from scratching. Anemia has been reported for the elderly in heavy infestations. Bed bugs have also been identified as an asthma trigger. However, the overexposure to pesticides, especially from self-treatment, may still be a greatly underestimated public health risk.

Extension programs in many states have responded with fact sheets, new research programs, and educational opportunities. In addition, health departments and municipal agencies in a few cities have taken steps to help their citizens with bed bug problems. Still the problem appears to have worsened over the past few years. Complaints to the New York City help line, 311, have increased from about 540 in 2004 to more than 8800 by the first half of 2008. Field collected bed bugs from various parts of the US are known to be resistant to commonly used pyrethroids (Romero et al. 2007). Although bed bugs are not currently known to vector disease, their public health impact can be seen in the numbers of bites victims suffer, the emotional stress of fighting them, the financial strain placed on families and people when money is tight, and the potential for pesticide overuse. Even with the improved level of communication among pest control professionals and university researchers, and increased awareness and skill level, bed bugs continue to be among the most frequent and challenging pests to deal with. This project addresses the needs of the pest control industry, municipal agencies, and the general public for help with bed bug problems. In particular, focusing on non-traditional audiences, such as medical and social service providers, may have a significant impact on the protection of human health while indirectly benefitting others.

Objectives:

- Raise awareness about bed bugs and effective management practices;
- Increase the adoption of successful management tools for bed bugs;
- Reduce the overall risk to New Yorkers from bed bugs and the tools used to manage them.

Activities:

The Nassau County Bed Bug Task Force continued to meet on a monthly basis in 2013, addressing the concerns brought to the table by various stakeholders. The Task Force hosted two regional workshops in March and October 2013 geared toward general audiences, including medical providers, social workers, municipal agencies, hospital administrators, pest managers, college property managers and other public/private housing managers. The workshop topics addressed the specific issues found in housing and the workplace as well as bed bug introductions to classrooms. These workshops were advertised throughout Long Island, NYC and into the Hudson Valley. There were around 85 participants in March and 89 in October.

Additional efforts of the Task Force include the development of a bed bug brochure published by the Nassau County Health Department. Members of the Task Force constantly look for opportunities to demonstrate bed bug management methods to the wide variety of stakeholders that come into contact with them. Members have submitted grants to fund projects, but to date none have been successful.

Three online courses were developed in Moodle software to train pest management professionals to properly inspect, identify, manage and treat bed bug infestations. These three courses are offered through the Pesticide Management Education Program for DEC pesticide certification credits. Part one focuses on bed bug biology, ecology and behaviors as they relate to inspection and control. Part two teaches the user how to conduct a thorough inspection in both homes and school classrooms. In Part three, best management practices are described, including what pesticides to use, which to avoid and how to manage bed bugs safely. All courses focus on the use of IPM and describe the problems with relying solely on pesticides for bed bug control.

A series of unique fact sheets were developed to help low literacy audiences understand crucial steps in “self-help” for bed bugs. These fact sheets, collectively titled “Bed Bugs Illustrated”, use stylized images and a few words to describe important techniques. A total of 10 illustrated fact sheets were published on the NYS IPM website in both English and Spanish. Their titles are:

- Inspection
- Get Rid of Clutter
- Vacuum Here, There, Everywhere
- Clean Mattress and Bed Frame
- Heat Everything That’s Safe to Wash
- Make Your Bed an Island
- How to Dispose of an Infested Mattress
- Dealing with Bed Bugs in Multi-Family Housing
- Prepare for a Visit by a Pest Management Professional
- Tips for Travelers

Ten interactive “Bed Bug Illustrated” presentations were also published on the IPM website that encourage visitors to walk through concepts described in Bed Bugs Illustrated at their own pace. See fact sheets and presentations at:

http://www.nysipm.cornell.edu/whats_bugging_you/bed_bugs/default.asp.

The publication “Bed Bugs are Back! An IPM Answer” was revised in 2013 to reflect recent improvements in our understanding of bed bugs and current inspection and management practices.

A Facebook page was created in 2010 for the NYS IPM Program. Staff posted bed bug stories and images 18 times in 2013 and those posts were each viewed 20-100 times. Although it is challenging to know the full value of this form of social media outreach, the number of fans and views continues to increase.

Thousands of samples of bed bugs collected from a large NY school district were investigated to determine the sex and life stage of bed bugs introduced to schools on a regular basis. The location, type of school (elementary, junior high or high school), date, sex or juvenile and number of bed bugs in each sample are recorded. The goal is to answer the question “Are female adult bed bugs more likely to be transported into buildings (such as schools) than adult males or juveniles?” and also “in schools do younger or older kids have a higher risk of transporting bed bugs?” Other aspects include the time of year versus age/sex and time of year by total numbers of bed bugs found in schools, as a measure of population fluctuation.

NYS IPM staff members were asked to attend a formal round table discussion about bed bugs hosted by the Rockland County Department of Health. In attendance were over 25 individuals from Rockland County representing housing, health, education and social service agencies. The meeting was productive and several members of the group were interested in forming a task force to better address bed bug issues in their communities.

Results and discussion:

Over the past few years there has been a noticeable reduction in bed bug complaints, both in CCE offices in NY, hotlines such as 311 (NYC) and the pest management industry. Anecdotes from industry suggest that infestations are smaller and easier to eradicate than years ago. One possible reason for this is the improved level of bed bug awareness of New Yorkers. Another could be an increase in skills and professionalism of the pest management industry with bed bug management. NYS IPM staff members have been involved in the training of pest management professionals and raising awareness of the general public since 1999. In 2013 the number of people reached through web-based resources was over 300,000 for bed bug materials alone. The Frequently Asked Questions document was single the most popular document on the NYS IPM website in 2013, with 329,993 total views. The publication titled “Guidelines for Prevention and Management of Bed Bugs...” was viewed more than 14,000 times and downloaded over 830 times. These two statistics clearly indicate the need to thoroughly update the Frequently Asked Questions document and to be sure the Guidelines are

current. Data on total views of new resources, including the Bed Bugs Illustrated documents, will be available in 2014.

Feedback from the 2013 workshops of the Nassau County Bed Bug Task Force was overwhelmingly positive. One hundred percent of March participants and over 96% of October participants said the workshops were helpful and no participants said the workshops were not helpful. Of the October participants, 72% were new and 28% had attended a previous workshop. These data suggests the value of bed bug workshops to experienced participants, as well as the interest that still exists among people who have never attended. Many attendees come from organizations that have previously participated, suggesting that organizations value and need bed bug outreach and education. Participants often request trainings for their own workplace and staff. In 2013 NYS IPM provided an additional training for a group of volunteer emergency medical technicians, organized by Mather Hospital in Northport, NY. Additionally, members from Rockland County DOH were in attendance.

Many specific needs were identified by Task Force workshop survey respondents including more information about landlord/tenant rules especially for supportive housing, guidelines and policy for school administration, bed bug prevention, bed bugs in vehicles, and simply more information about detection, prevention and extermination. NYS IPM incorporates these requests into future plans of work.

In six workshops held in 2013, NYS IPM staff directly educated around 260 people in bed bug identification, management and avoidance. Some of the major topics of these events were correct identification of bed bugs, defining the scope of the infestation (small and new to large and widespread), dealing with multi-unit housing and bed bug infestations, control methods that work, reducing risks from pesticide use and avoidance of the use of total release foggers.

Project locations:

Albany, Nassau, Suffolk, Monroe, Westchester, Rockland, Orange Counties, NY, communities throughout New York State and the United States (online outreach).

Presentations in 2013

Date	Title and type of presentation	Location	Audience	# of people
3/7/13	Bed Bug Update	Farmingdale, NY (Molloy College)	Bed Bug Task Force stakeholders	85
9/30/13	Bed Bug Information Session (informal group presentation)	Pamona, NY (Rockland County)	Individuals involved in clinical care in Rockland (meeting hosted by Rockland County Dept of Health)	~25
10/23/13	What Individuals can do to Manage Bed Bugs?	Bethpage, NY (Nassau County)	Attendees of the Nassau County	89

			Bed Bug Task Force Meeting	
10-23-13	“Bed Bugs – What’s Happening Today”	Bethpage, Nassau County, NY	Varied audience of the Nassau County BB Task Force	89
12-3-13	“Bed Bugs – What EMS Need to Know”	Stonybrook, Suffolk County, NY	EMTs	25
12/4/13	Fight the Bite! Bed Bug Management Strategies	Albany, NY (Albany County)	Albany County Code Enforcement Officials and Department of Health Staff	34

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