



## Bed Bug Action Plan for Home Healthcare and In-home Hospice Care Workers

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### Introduction

As of 2020, working in bed bug infested homes has become a regular feature of elderly/disabled in-home service. Whether the client lives in an assisted living facility or is still located in their original family home, bed bugs can often be found hiding in the structural features of the room and/or in the client's personal belongings (purses, clothing, wheelchairs, bedding, furniture etc.). The proliferation of these bed bugs over time increases the risk of home health care workers exposing themselves to these insects and possibly transporting them to their own homes, vehicles, offices or even the homes of other clients. It is for this reason that home health care providers must know what bed bugs (and their evidence) look like and how to avoid bed bug interactions while still providing the service to their clients.

It is important to understand that the bed bug resurgence has been a global problem since the mid-2000's and that control options are limited because human insecticide use has selected for mutant bed bugs that are not readily susceptible to the insecticide formulations that are available. While we are still able to eliminate bed bugs infestations from homes, multiple treatments are generally required to kill all the bed bugs and their eggs. If the home is large, or is filled with many personal belongings, the treatments take more labor time on the part of the pest management professionals. Typically, three or more treatments (applied at two-week intervals) are needed to get the bed bugs eliminated. Thus, the time and labor costs associated with bed bug treatment can be very expensive, and often our elderly/disabled clients may not be able to afford what bed bug elimination costs. Therefore, bed bugs simply become just another item on the long list of economic issues that our clients cannot afford to deal with. The consequence of this has been that if even

one or a few bed bugs are introduced into a low-income client's home, it is very likely that a full-blown infestation will develop over time (Figure 1).



Figure 1. A closeup of a bed bug infested pillow in a client's bed. (Morgan Wilson and Dini Miller, Department of Entomology)

Healthcare and hospice workers who routinely visit clients' homes as a part of their job are at risk of bed bug exposure. Due to the fear associated with these potential encounters, there have already been cases where service providers have refused to enter a client's home because of an existing bed bug infestation. But if that client is elderly or immobilized and dependent on these visits, their lives may be endangered if they do not receive the services they require.

While there is no question that bed bugs are obnoxious and their bites can cause some severe skin reactions, they do not transmit diseases. Therefore, their bites are not nearly as dangerous as those from a mosquito. Arguably the most negative impact that can be associated with a bed bug encounter is the possibility of transporting them to new locations.

However, transporting bed bugs to your home or vehicles is completely avoidable. Therefore, we must not let our bed bug fear put our clients in actual danger. So, what can be done? First consider that as a home service or hospice employee of any kind, you will need to accept that in the future you will frequently encounter bed bugs as part of your job. You will regularly be visiting homes with infestations. So, it is time to eliminate your bed bug fear and deal with these infestations in a systematic and logical way. The information presented below will protect both you and your (un-infested) clients from bed bug introductions.

## Action Plan

### Bed Bug Training for All Employees

Learning all you can about bed bugs can really help you eliminate any bed bug fear and to protect yourself from bed bug transport. To locate a bed bug expert, it is recommended that you contact your local extension agent and ask them who can provide you with an excellent bed bug training program. The agent may recommend an experienced pest management company, or some other local authority. Once you have located a bed bug expert, schedule a training program for all service employees. The training must include the identification of live bed bugs (all life stages), and bed bug evidence (including fecal spots and molted skins). It is also essential that the trainer provide color photographs of the types of bed bug evidence we typically see inside homes, such as smashed bed bugs on the wall, fecal stains, and bed bug eggs on a couch or bed. Visually identifying bed bug evidence in place will help your employees to recognize the signs of a bed bug infestation in someone's home, even if they do not see live bugs. Keep in mind that a case of bug bombs in the kitchen, or a gallon of insecticide spray sitting in the living room or bedroom are also signs of an active bed bug infestation that you will commonly see in a client's home.

Other topics that your bed bug training might include are:

- where bed bugs can hide,
- how to inspect yourself for bed bugs,
- and containment and treatment procedures for infested household items.

However, even if you have not yet received any bed bug training, it is imperative that you are able to visually identify bed bugs (Figure 2). An adult bed bug is typically described as being "the size (5-7 mm) and color of an apple seed." Immature bed bugs (nymphs) vary in size (1.5-4.5 mm) depending on their life stage, but they are smaller than the adults and range in color from whitish to yellowish brown. Although nymphs are not as visibly obvious as the adults, even the youngest first instar nymphs can be seen with the naked eye when they are moving. Unfortunately, bed bug nymphs are good at hiding and will often be concealed in small cracks and crevices. If you do not see the bugs themselves, be sure to look for dark fecal stains on surfaces, as well as the white eggs and shed skins.



Figure 2. Bed bug adults, nymphs, eggs, and fecal spots. (Dini Miller, Department of Entomology)

### Preparing for Home Visits

It is useful to contact the client prior to the first home visit and ask them if they have had any known insect infestation or pest control treatment within the last 2-3 months. If they answer in the affirmative, ask them specifically about bed bugs. Bringing up the subject of bed bugs to clients can be a delicate

matter regardless of whether your client is an elderly widow or a retired veteran. Approach the subject in a tactful manner as if bed bugs were the most common thing in the world (which they are). If bed bugs were a problem within the last 12 months, you can take precautions to protect yourself and your other clients before arriving at the potentially infested residence.

Always wear simple clothing when visiting a client's home. Nurses, volunteers, and care providers should wear solid-colored scrubs with minimal pockets and creases, and dark shoes with minimal tread (Figure 3). Social workers and chaplains visiting hospice patients should wear solid-colored shirts (no patterns) and khaki or black pants. Avoid shirts with buttons and pockets. Also avoid cargo pants (too many creases) and pants with cuffs. Do not accessorize (jewelry, watches, etc.) or bring in unnecessary handbags or backpacks.



Figure 3. Shoes with minimal tread. (Morgan Wilson, Department of Entomology)

## After You Arrive

**If you discover bed bugs in the home during your visit, remain calm!** Try to get a quick assessment of the population level the first time you enter the residence. Small infestations (also known as introductions) consist of a small handful of bugs (~1-10), hiding in close proximity to their host. A medium size infestation (10-100 bugs) might occupy more than just the furniture the resident sleeps on, so there may be eggs, shed skins, and fecal spots on the infested pillows, sheets, walls, and furniture. A heavy infestation (>100 bugs) can occupy furniture, baseboards, floor-wall junctions, ceilings, books,

toys, and all household items. Fecal spots, eggs, and molted bed bug skins can be found on multiple surfaces of infested rooms.

- Before sitting on upholstered furniture or the bed, take a quick look for bed bug activity (bugs, fecal spots, eggs, skins). Inspect the cracks and creases of chairs or couches before sitting down, or better still, bring your own foldable chair when you visit.
- Carry an extra-sticky lint roller to find and capture any bugs on the bed, couch, or chair that you will be sitting on (Figure 4). A lint roller is excellent at removing bed bugs from any surface including your clothes.
- Carry with you only those items that are essential to the home visit. Leave everything else in the car. A plastic clipboard can be used to hold your paperwork. A small handbag can be used to hold your wallet and personal items, but purses are not recommended.
- Avoid placing anything directly on upholstered furniture, bedding, or on carpeted floors.



Figure 4. An extra-sticky lint roller. (Morgan Wilson, Department of Entomology)

## Before You Get in Your Vehicle

1. Record the infestation in your notes so you will be prepared for the next visit.

2. When you return to your vehicle, roll your extra-sticky lint roller all over yourself. Pay extra attention to your shoes, socks, belt area, and collar.
3. Have a hand mirror handy so that you can perform a quick self-inspection. Check your clothing, (your hair, the back of your pants, tread of your shoes, shoelaces, socks, collar, and cuffs).
4. If you find an insect on yourself (bed bug or cockroach), don't panic. Use the lint roller to capture the insect (for later identification).

## If You Repeatedly Visit Infested Homes

Protect yourself and other clients by always using a bed bug prevention kit (Figure 5).

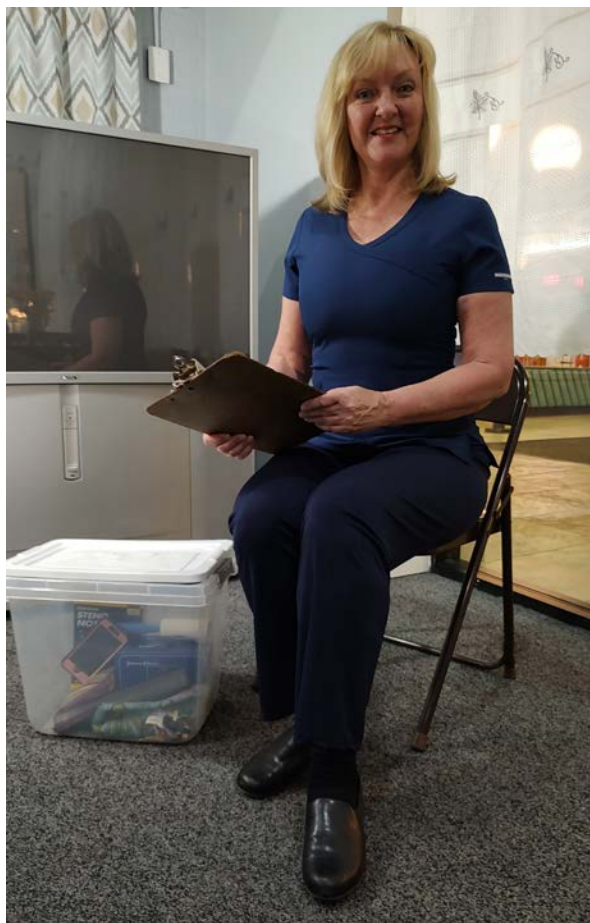


Figure 5. Workers should wear creaseless garments and have a kit that includes a foldable chair, and a clear plastic storage container for protecting their items. (Morgan Wilson, Department of Entomology)

A kit should include a lightweight foldable chair or stool, and a clear plastic storage container with a sealed lid that is large enough to contain some of the items that you typically have when entering clients' homes:

- your lint roller,
- your clipboard and writing tools,
- your purse or backpack,
- your cellphone,
- all medical tools,
- all sanitation tools,
- extra-large, heavy duty trash bags,
- any items that will be used in multiple client's homes,
- and a change of clothes and shoes (these can be kept in your vehicle).

## Transporting Someone Who Had Bed Bugs on their Clothes or Belongings

If you are in the unfortunate situation of having to remove a child from a bed bug infested home, or transporting an infested client for some other reason, you need to contain their belongings to protect your vehicle. Use your extra-large trash bags to contain your client's clothes and personal items. Tie the bags and seal them in an empty plastic storage container inside your vehicle prior to transport. If you need to transport a potentially infested wheelchair, wrap it in two of your heavy trash bags before putting it in the car. The wheelchair can be uncovered and used immediately when you arrive at your destination. Extra-large trash bags can also be used as seat covers to guard against bed bugs crawling off the client's clothing during transport. Depending on the situation, you may need to transport someone who has obvious bed bugs on their clothing. In that case you may need to cover them with a trash bag (cut a hole for their head) or you may have to grin a bear it by just having them sit on a trash bag seat cover. You should vacuum the vehicle once you have reached your destination and dropped the client off. Wet wipes can be used on seatbelts and seat seams to remove any bed bugs that crawled off the client.

## Use the Dryer When Returning to the Home or Office

Heat is an excellent bed bug killer, and nothing is more effective for killing all bed bug life stages than

a hot clothes dryer. Remove your work clothes as soon as you come home. Your clothes, including shoes, can be tumbled in the dryer on high for 30 minutes and emerge bed bug free. A dryer with a removable shelf is excellent for heating items that cannot be tumbled, like backpacks or other supplies. It is also highly recommended that your office purchases a clothes dryer (the same as you would purchase for your home use) so that employees who fear their clothes have been compromised can treat them immediately.

## Preventing Bed Bug Introductions

If you think you have been contaminated with bed bugs, notify your supervisor of the source, and return to your home. Remove all clothing before entering the home if possible (or in the bathroom if not). Immediately place your clothing in sealed plastic bags. Place shoes in a hot dryer for 30 minutes. Dry your clothes on high heat for 30 minutes.

### Additional Suggestions

Follow these guidelines to help avoid transporting bed bugs from one client to another or into your own home.

- Keep your vehicle clear of clutter, vacuum it weekly and inspect it periodically for bed bug presence.
- Keep a dedicated pair of shoes for use only in clients' homes or a jacket in sealed plastic containers in your vehicle.
- Discourage clients from sharing vacuum cleaners with other residents as this is a potential source of infestation.
- Bed bugs are excellent hitchhikers so clients should be discouraged from accepting or borrowing clothing, furniture, or other items from friends and neighbors.
- Be prepared to offer your clients basic bed bug information if they ask for it (bed bugs do not transmit disease, always hire a pest management professional experienced with bed bugs, don't use bug bombs in your home, etc.).

## Resources

For additional information about bed bug prevention methods, please visit the following resources:

- Virginia Department of Agriculture and Consumer Services, Bed Bug Fact Sheets, <https://www.vdacs.virginia.gov/pesticide-bedbug-fact-sheets.shtml>.



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