



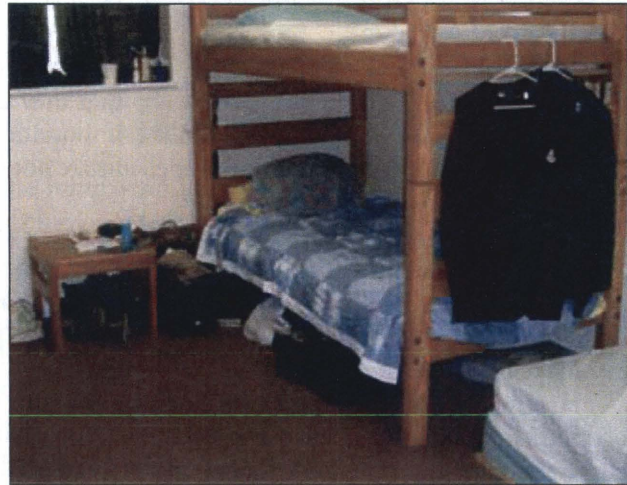
# Bed Bug Action Plan for Shelters

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## Introduction

The structures that are most at risk for developing bed bug infestations are where many people and their belongings move in and out with great frequency. Thus it is easy to see how places like hotels, motels, hostels and shelters are particularly prone to bed bug infestations. As in hotels and motels, shelters are at risk of having bed bugs arrive on every client that walks in the door.

Many shelters in Virginia have already dealt with one or more bed bug infestations. Unfortunately, some shelters have reacted as if their first infestation was their last. For example, one shelter paid more than \$10,000 for bed bug treatment. Another shelter closed their doors when they developed a bed bug infestation, and re-opened only after the bed bugs were eliminated. Another infested shelter threw out all of their furniture and replaced everything with metal-framed beds. Can a shelter afford to pay \$10,000 for bed bug control every year from now on? Can a shelter throw out and replace all of their furniture every time an infestation occurs? Can a shelter that re-opened yesterday close again tomorrow if there is a new bed bug introduction? No, none of these practices are sustainable. Shelter managers need to decide how they are realistically going to deal with bed bugs over the long-term, say the next 10 years.



Because shelters operate in unique ways, it is important to develop a bed bug prevention and treatment plan that meets each facility's specific needs. For example, bed bug prevention in a facility that houses homeless families for several months would be very different from that of a thermal shelter, which houses individuals from inclement weather for only one or two nights. Therefore, a plan regarding how the client's belongings are going to be stored, and how an infestation might be treated will be different for each facility. Below are the critical elements of a bed bug action plan that can be adapted to meet each shelter's specific needs.

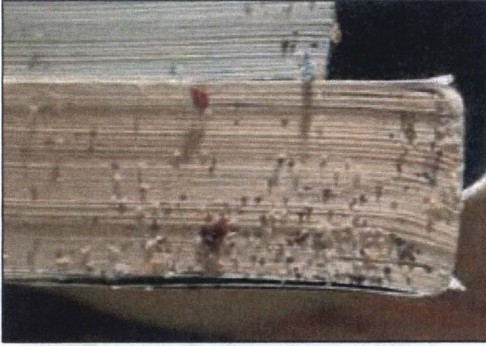
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## Select an Experienced Pest Management Company Before You Have Bed Bugs

Your facility may have a contract with a licensed and certified pest management company. However, that company may have little or no experience in dealing with bed bugs. Find out immediately. Call and ask the manager (not your technician or salesman) about the company's bed bug experience. How many bed bug jobs did they do last year? Do they have a printed copy of their treatment protocol? What products do they use? What is their protocol for follow-up treatments? Ask them to provide you with bed bug references. If your current company does not have the expertise you need, start investigating others. Find a good company by inquiring about those items listed above. It is likely that the price of a good bed bug company will be higher than that of routine pest control. But keep in mind that time = money in bed bug treatment. You want your company to take the time they need to get the job done, or you may not be satisfied with the results. Finding an expert bed bug company may take several days of investigation. Take the time you need to find a company that can work well with your facility. You do not want to start your investigation when you are already dealing with an infestation. **Start looking for a bed bug control company today with the goal of selecting a company by the end of the month.** Let all of your staff know who to call when a bed bug is found.

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## Bed Bug Training for Shelter Employees and Volunteers



Once you have selected your bed bug company, plan on cultivating a good working relationship with your technician. Because there is no quick fix for bed bugs you will be more involved in your pest control than ever before. It is very important that you and your technician are very comfortable working together. As part of your new partnership, have your technician present a bed bug inspection and identification training to all of your employees and volunteers. All employees need to know what bed bugs look like (all life stages), and where they hide, so that they can perform monthly (or weekly) bed bug inspections. It is important to train all employees to increase the chances of discovering

an infestation quickly. Keep in mind that clients are not the only people capable of bringing bed bugs into the shelter. Employees and volunteers can as well.

Ask your new bed bug technician to show you or another designated bed bug person specific locations in your facility where preventative maintenance can eliminate bed bug hiding places. Repairing crumbling plaster or caulking cracks and crevices can reduce a large number of bed bug harborages. Your technician can show you how to use a caulking gun, spackle or drywall compound. Some companies will do small repairs for you, but if money is tight you can make many repairs yourself.

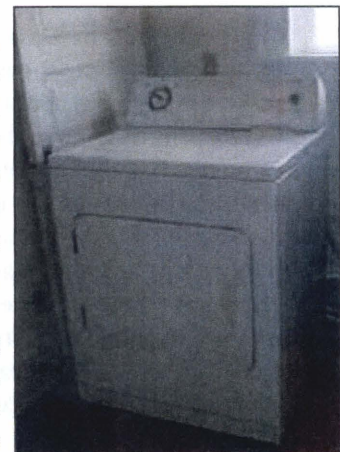
Finally, your new technician can teach you or your in-house bed bug person how to effectively apply a non-toxic bed bug product like diatomaceous earth. Diatomaceous earth (DE) is a desiccant dust that can be applied preventatively in potential bed bug harborages or as an immediate remedial treatment before your technician arrives when clients are experiencing bites. Applying DE requires a light hand, have your technician show you where and how to apply it so that it will be effective.

## Long-term Shelters (weeks to months): Prevention

*Discuss Bed Bugs at Check In.* A woman entering a battered women's shelter for the first time may already be under extreme stress. If she finds a bed bug in her room she may go ballistic. She may also cause other women in the shelter to join her in her hysteria. How do you deal with this situation? **The first and most important step of any bed bug management plan is to remain calm.** Communicate your bed bug action plan to your clients immediately. Better still, head off this situation by talking to your clients about bed bugs right when they check in. People hate to be surprised so it is best to address the bed bug issue immediately. Let your clients know that bed bugs are common in shelters, and that your shelter has a plan for dealing with bed bugs. Let the client know her responsibilities regarding the plan. Let each client know how their belongings are going to be treated to protect everyone from bed bugs. Your client may have other problems on her mind, but this discussion is unavoidable if you are going to protect your facility. In some facilities providing an informational brochure on bed bugs may be helpful. In others, a brochure may be completely useless. But in both cases, make sure that you verbally communicate to your clients that they need to report any bed bug sightings to a facility employee immediately.

*Using a dryer to treat a new client's belonging.* Heat is an excellent bed bug killer, and nothing is more effective for killing bed bugs than a hot clothes dryer. The client's dry clothing can be tumbled in a loosely filled dryer set on high for 30 minutes. You may need temporary clothing available for your client during this process. A dryer with a removable shelf is excellent for heating items that cannot be tumbled, like shoes or personal items. It is highly recommended that shelters purchase a dedicated clothes dryer (nothing more than what you might purchase for your home use) for the purpose of dealing with bed bugs. If bed bugs become a common occurrence in your shelter, the dryer will pay for itself by reducing the need for bed bug treatment.

*Storage of Belongings.* How you decide to store a client's belongings is critical for keeping bed bug infestations to a minimum. Clients should not be allowed to bring non-essential items into the shelter (see clutter management below). Therefore you will need to store their non-essentials. Some shelters allow their clients to store their belongings in their vehicles

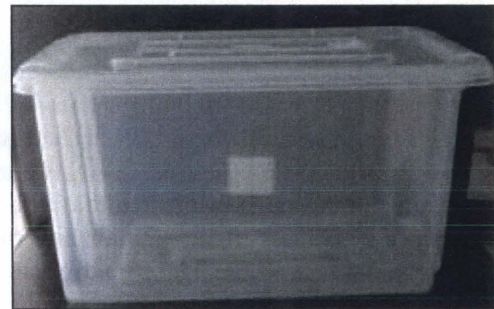


parked outside the shelter. This is a good idea for bed bug prevention during the summer months when high temperatures in the cars will kill many bed bugs. However, in the winter the car provides a safe haven for bed bugs. In many cases, your clients' belongings will have to be stored in a building. Some shelters have small detached storage buildings outside the shelter. This is highly recommended for preventing stored bed bugs from entering the shelter. Belongings can be stored in sealed plastic containers (see below) to keep bed bugs from moving between one person's belongings and another. A lower budget alternative would be storing belongings in sealed labeled plastic bags. If you have reason to believe that a client's stored items are infested you can add a fumigant no pest strip to their loosely packed container or bag, the vapor will kill any bed bugs present make sure there are no other animals inside the bag first. Always read and follow the pesticide label directions on the no pest strip. If the storage room becomes infested, heat (see below) or conventional pest management can be used to treat the infested storage room. If items have to be stored within the shelter, make sure that the storage area is distant from the sleeping rooms and that your bed bug management company is called at the first sign of an infestation.

*Increase Bed Bug Awareness.* Bed bug posters placed in strategic locations like the laundry room and dormitory area will help remind clients and staff to be on the lookout for bed bugs. Guard against the posters becoming part of the shelter landscape. Bed bug posters should be removed and re-hung periodically so that people do not become desensitized to them. Bed bug prevention requires constant vigilance.

*Clutter Management.* Clutter is the bed bug's best friend. With many places to hide, a bed bug population is practically guaranteed some survivors even after the most aggressive treatment. It will be important to limit the belongings that clients are allowed to keep in the shelter building, particularly non-essentials like plush toys, pillows, books, knick knacks, electronic items, etc. This may be difficult when children are in the shelter, but it is essential for making the living quarters less bed bug friendly. Also be sure to communicate that any new items being brought into the facility, say from the client's car or storage space, must be inspected and / or heat treated before being taken to the living areas. Have a mandatory vacuuming regimen posted to ensure that stored belongings do not sit indefinitely under beds, in closets or in corners.

*Containing Bed Bug Introductions.* Although you may not always be able to prevent bed bugs from being brought in the shelter, there is the possibility of containing them once they get there. Clear plastic storage containers like the one in the photograph can be used to store clients' essential belongings indoors as well as non-essential belongings in a storage room outdoors is preferable. Labeled containers eliminate the problem of client's possessions contacting each other in storage areas where bed bugs might climb from one item onto another. The smooth interior of the container is also difficult for the bed bugs to climb so wandering bed bugs are likely to fall into the bottom of the container. The containers can inspected periodically for bed bugs. If a bed bug is found, the client should be alerted to the problem and their possessions treated in the dryer.



*Canine Scent Detection.* Another proactive approach to bed bug detection is to have your shelter inspected at regular intervals by a bed bug sniffing dog. Certified dogs that have been trained to detect bed bugs are specifically trained to detect only live bed bugs (all life stages). They do not respond to dead infestations. One advantage to having a shelter inspected by a dog is that a bed bug dog can check rooms very quickly. Where it might take two pest management professionals two hours to thoroughly inspect a bedroom, a dog could complete the inspection in about 2 minutes. Keep in mind that most dogs are not 100% accurate, but usually above 90% accurate, so the dog handler must also be well trained. The handler is responsible for confirming bed bug presence when the dog gives a positive signal. There are some handlers out there with dogs that give false positives. So make sure you hire a certified handler and be present the day of the inspection. The handler should show you live bed bugs when the dog gives a positive signal. Never pay for a chemical treatment unless you have seen live bed bugs.

## Short-term Shelters (days or a week): Prevention

*Inspections and treatment at check-in.* In a thermal shelter or a shelter where clients move from one location to another every week, bed bug prevention is more challenging. In these types of shelters the client must only be allowed to bring essential items inside the shelter. Those that are brought in need to be inspected by your bed bug trained staff and volunteers. If your employees find bed bug evidence, the items must be treated. If there is no clothes dryer



available a portable heat chamber like the Pak-Tite® (\$310) would be very useful for treating infested belongings. If there are bed bugs in the client's clothing, you will need to have spare clothing for them to change into while their clothes are being treated. One disadvantage to the Pak-Tite® device is that it takes longer to kill the bed bugs than a hot dryer. However, it can easily be carried anywhere, and it can treat almost anything that will fit inside it without any damage. See instructions on the product.

*Storage of belongings.* In temporary shelters, storage of the clients' non-essential items is also challenging. However, in the case of thermal shelters, intense cold can be helpful. The clients' non-essential items can be sealed inside plastic bags and the labeled bags can be left outdoors in a secured area. The bed bugs may not be killed by the cold but they will not be actively moving

around so the risk of spreading the infestation is almost non-existent. In short term shelters where the clients move every week, the clients' non-essential items can be placed in plastic storage containers or plastic bags and moved with the client to each facility. Again, because clutter reduction is essential, the non-essential items should be stored outdoors in a secure area or in a storage room that is not connected to the shelter building. An infested storage building should be treated by pest management professionals or by using heat (see below).

## Develop a Procedure for Employees and Clients to Follow when a Bed Bug is Found

Bed bug introductions cannot be completely avoided, and no acceptable client should be refused shelter because they have bed bugs. For example, mentally ill clients may really need your help but may not be able to deal with your bed bug prevention procedure. **So bed bugs come into the shelter, it is not the end of the world.** If an infestation develops, it just needs to be handled correctly. Make sure you have a posted bed bug sighting procedure in place. Make sure that clients understand that if they find a bed bug in the shelter they must make an employee aware immediately. Make sure that the inhabitants of the infested room understand that they will not be moved, potentially spreading the infestation. The employee should then:

- **Identify with a sign the exact location where the bed bug(s) was found, and isolate that location (no need to panic).**
- **Call the pest management company immediately.**
- **Capture at least one bed bug and save it in a plastic bag for positive identification. Crush all others.**
- **If your pest control company confirms the infestation by identifying your captured specimens, or by inspecting and finding additional bugs, they should provide the shelter with instructions on how to prepare the infested room for treatment.**
- **Follow instructions to the letter (this may include vacuuming, clutter removal, etc.) so that the company can begin their treatment protocol.**
- **The pest management company will advise you as to how long after treatment the pesticide label requires the room to remain empty.**
- **See the list of potential treatment methods above. For a complete explanation of each method see *Non-Chemical Bed Bug Management and Bed Bug Treatment Using Insecticides***

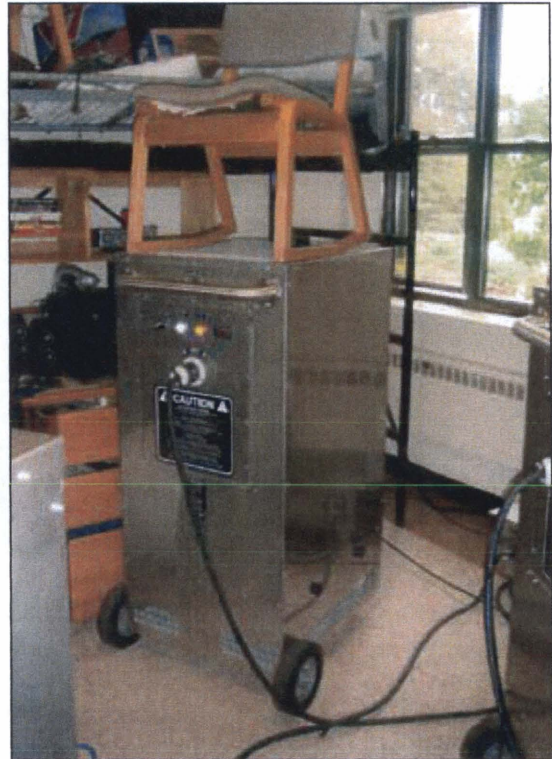
### Potential Treatment Methods

- Clutter removal
- Bed bug detection devices
- Steam
- Vacuuming
- Desiccant dusts
- Liquid insecticide formulations
- Aerosols insecticides
- Insecticidal dusts

## Heat Treatment for Bed Bugs

Heating systems are now used by pest management companies, and these systems are available for purchase by shelters. The most widely available heating system consists of large industrial heaters (see photograph below), multiple high volume fans, temperature sensors and a software package for monitoring the ambient temperatures at the sensors. These systems are used for treating entire rooms. The room is treated by raising the ambient temperature to ~135°F. This temperature will not damage items in the room (including computers) but the heated air will be pushed by the fans into cracks and crevices where bed bugs hide. The systems kill the bed bugs by heating them to their thermal death point (114-118°F). These heaters can be used to treat individual bed rooms, your storage facility, or in a heat chamber. Infested items books, furniture, electronics, etc. that are placed inside a heat chamber, a sealed storage container or cargo truck, will be heated to the bed bugs' thermal death point.

Unlike chemical fumigation, heat does not have to be applied by a certified pest management professional because it does not involve pesticide use and is non-toxic. Heat chamber and whole-room heater packages can be purchased by the shelter and applied by trained employees in their buildings. While the cost of purchase is relatively high (>\$60,000) a group of shelters might purchase a system and have specific employees transport and treat different facilities. Note: While heat treatment is usually 100% effective, building construction features sometimes create heat sinks that provide refuge for bed bugs. So it is sometimes necessary that the heat treatment be supplemented with a single insecticide application to harborage locations.



## Most Important!

Never turn a client away just because they have bed bugs. Keep calm, and remember that bed bugs will be with us from now on, so you need to have a long-term plan. For shelters, bed bug prevention is critical. Make clients aware of your bed bug prevention plan when they arrive. Inform clients that they are part of the plan and responsible for reducing clutter, using individual storage containers and reporting bed bugs seen inside the shelter immediately.

