

Integrated Pest Management in the Home of Someone with Hoarding

October 2010

A HUD-USDA Interagency Agreement funded the preparation of this report.
For more information, see www.stoppests.org.

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Introduction

This guidance is meant for property managers and staff who are trying to eliminate pest infestations in a hoarded unit. Products, vendors, or commercial services mentioned or pictured in the trainings or presentations are for illustrative purposes only and are not meant as endorsements. Guidance given in this document assumes a worst-case scenario:

- The home is in a multifamily building
- The resident has not given permission to (re)move any belongings
- The home has heavy infestations of pests.

Note: This document focuses on the control of cockroaches, rodents, and bed bugs because these are the main public health pests. Control strategies for these pests will also affect other pests such as dust mites, stored product pests, and occasional invaders in the home.

Recommendations should be implemented as part of more comprehensive integrated pest management and cognitive behavioral therapy programs. The ultimate goal is to work with the resident to bring the hoarded home into compliance with local codes and property housekeeping standards in a sustainable way.

We recommend you consult www.stoppests.org for information on integrated pest management. At the end of the document you will find more resources for working on the psychological aspects of hoarding.

Working with someone who hoards

Managing hoarding must involve the resident. In addition to identifying the pests in a hoarded home, you also need to determine the needs of the resident(s) in the home. Consult a professional (see www.adaa.org) to officially diagnose hoarding behavior and begin to understand the individual's hoarding tendencies. It is important to act in a coordinated and humane manner. A high handed clean out should be avoided or used only as a last resort in cases of imminent risk. Most hoarders do not respond to "dumpster therapy." Simply clearing and cleaning the hoarded residence is a short termed solution and can have a disastrous affect on the hoarder.

A team approach is necessary to deal with most hoarding. Treatment (whether it be clinical/therapeutic and/or community intervention) plans for hoarding should follow a harm reduction approach: striving to make the home safe and sanitary (as defined by health and safety codes) in a way that is not injurious to the hoarder. Most hoarders view their hoarded objects as valuable. *Never touch or move anything without permission from the resident—assume that every single belonging holds significance.* Working with hoarders can be a time consuming process. Everyone involved must be patient.

Different agencies within a community may bring different strategies and resources to a situation and should work together to develop a cohesive strategy for dealing with hoarders. Regulatory authorities (e.g. health, police, and fire departments; probate and housing court judges and lawyers, elderly and child protective services, and animal control) can work with the therapeutic providers (mental health providers, elderly services, etc) to combat hoarding and may also provide a motivational 'stick' to the clinician [or pest management professional]'s 'carrot' of treating the problem (Steketee & Frost, 2006).

For many hoarders, there are pest issues. IPM teams should be involved early. For all options for tackling a pest problem to be presented and weighed, experts from multiple organizations should be on the IPM team from the very beginning. Many hoarders have do not have good insight as to their pest problem. As much as is practical, the hoarding resident should be involved in *every* aspect of the process involving his or her home. At the very least the property manager should host a meeting with the resident, a licensed pest management professional, a representative from the local health department or other agency dealing with housing code enforcement, and, if necessary or appropriate: a tenant advocate, legal aid, or health provider.

At the meeting, have information about hoarding, a copy of the inspection log, inspection map, pictures, and a list of identified pests. For each pest, outline a control plan. At least two control measures should be planned for each target pest, given that some control measures may work on multiple pests. Pest management may be an ongoing process in a hoarded home because the threat of introduction of new pests on acquired goods is so high. The goal is to reduce the pest population levels as much as possible without the pest control measures having a harmful impact on the resident's therapy.

Consider the following treatment goals and rules from *Compulsive Hoarding and Acquiring Workbook* (2007) by Gail Steketee and Randy O. Frost:

The following list of rules will ensure that [the hoarder's] treatment progresses in a manner and at a pace [he or she] can manage...

Treatment Rules

1. The clinician [pest control operator, or housing staff] may not touch or remove any item without explicit permission.
2. The [hoarder] makes all decisions about possessions.
3. Treatment proceeds systematically—by room, type of item, or difficulty of the task.

Treatment Goals

1. Increase [the hoarder's] understanding of compulsive hoarding.
2. Create a usable living space.
3. Increase the appropriate use of space.
4. Improve [the hoarder's] decision-making skills regarding possessions.
5. [Have the hoarder] organize [his or her] possessions to make them more accessible.
6. Reduce [the hoarder's] compulsive buying or acquisition.
7. Remove (discard, recycle, sell, give away) unneeded possessions.
8. [Have the hoarder] evaluate [his or her] beliefs about organizing, acquiring, and discarding.
9. Learn problem-solving skills.
10. Prevent future hoarding. Long term monitoring and follow up are necessary to prevent reoccurrence.

Working in a hoarded area

It is important that you take the health and safety risks of living *and working* in a hoarded home into consideration. Do not enter an area without taking proper safety precautions. Anyone working in a hoarded home should have personal protection equipment including, but not limited to, gloves and a respirator on hand. To avoid embarrassing the resident(s) in the hoarded home, discuss the precautions you are taking and consider offering them protective equipment as well.

Following is a list of hazards you may encounter in a hoarded area.

1. Blocked egress: where the door cannot be opened fully or you can't get to a window. Means of exit and entrance in an emergency are blocked. This is a problem if there is a fire where someone needs to get out quickly. Fire companies may not be able to get into the area to fight the fire or may not be able to send in personnel out of fear for the fire fighter's safety.
2. Fire load: how much flammable material is in the space. Where the material is placed can also be a factor. Items that are in an oven, on top of the stove, or near any heat source pose a fire hazard because they could combust. Note that hoarding may occur in basements where heat sources are present.
3. Tripping: in extreme cases, movement around the area is limited to passages in narrow (goat) paths. People may fall and become injured.
4. Crushing: Towers of items may fall and injure someone.
5. Infestations: cockroaches, rodents, bed bugs, fleas, wildlife, and stored product pests can all find food, water, and shelter in a hoarded area. Surrounding areas can be infested when pests travel on residents, property staff, visitors, or their belongings. In addition, if preventative measures are not taken, surrounding homes may become infested as well.
6. Poor air quality: Mold and mildew and other toxic air pollutions especially ammonia from animal waste and toxic chemicals that are hoarded.
7. Gas backup: when there are items in the bathtub or the shower, water is not able to flow through the trap, allowing sewer gases to back up. This can cause a health and safety issue for the occupant of that apartment and for the building as well.
8. Sanitation: depending on what is being hoarded, waste may accumulate in the area. Items like rotting food, food that has passed the expiration date, animal and human waste, needles, and animal carcasses are all sanitation concerns.
9. Structural safety: hoarded items such as paper, newspaper, and books can weigh quite a lot when accumulated. The building may not be able to support the load. In addition, conditions can deteriorate over time when needed repairs go unreported.

Pest control in a hoarded home

Integrated Pest Management (IPM) is the coordinated use of pest and environmental information with available pest control methods to prevent unacceptable levels of pest damage by the most economical means and with the least possible hazard to people, property, and the environment (Environmental Protection Agency, 2010). In a structural setting, an IPM program consists of inspection, identification, establishment of threshold levels, employment of two or more control measures (which may be sanitation, mechanical, cultural, biological, or chemical), and evaluation of effectiveness (NPMA, 2006).

Often pest control will be required for residence outside of the hoarded area. Many other apartments and even neighborhoods may be affected with pest control is instituted in the hoarder's residence. A comprehensive plan for managing the pests is important.

1. Inspection

Inspection of the premises can:

- Determine the location of the infestation[s]
- Determine the extent of the infestation[s]
- Note damage to the structure or belongings
- Determine conditions conducive to the infestation
- Identify harborage areas
- Identify sanitation deficiencies
- Identify avenues of possible entry
- Identify items or factors that would impact the development of a pest management program* (NPMA, 2006).

Inspect

For visual inspection, you will need:

- Flashlight for seeing in poorly lit areas
- Tools for removing face plates and other hardware that may hide pests
- Telescoping mirror for seeing under drawers, in corners of cabinets, etc.
- Specimen containers for collecting pests for identification
- Camera to take pictures of existing conditions that may factor into any treatment plan (whether it be clinical/therapeutic or a community intervention)
- HEPA vacuum for removal of pests and pest evidence seen. If a licensed pest management professional does the inspection a flushing agent can be used with the HEPA vacuum to get rid of many pests at the time of inspection.

Look *all* around the space, including areas above, below, and outside the home. In dark areas, use a flashlight. If residents (including children) are present, ask them where they have

encountered pests.

Note all of your observations on an inspection log. Document the levels of infestation throughout the home on a map of the unit. Add as much detail as possible. This map will be used to plan actions.

Collect samples for identification.

Crushed, damaged specimens are very difficult to identify. When possible, collect more than one insect for evaluation. Use a sturdy glass or plastic container to prevent damage. Put about ¼” isopropyl (rubbing) alcohol in the container and put the insects in the liquid. Make sure the container is leak proof.

Monitor

Monitors are data collection tools. They catch pests in an area and can provide valuable information about pest presence and behavior. Depending on the pest, different kinds of monitors are available. For example, sticky trap monitors can be placed to catch cockroaches and other crawling pests, a moat-style trap will catch bed bugs, and pheromone traps can attract and trap some flying pests. Some monitors are also considered control methods. Using traps for rodents not only identifies the infestation, it reduces the population.

2. Identification

Once you have samples of and descriptions of evidence of the pests present, ask a pest management professional or university affiliated entomologist to identify the pests. Proper identification is important because control strategies vary by pest species—some may be quick fixes. Also, the pests themselves may help prioritize areas to focus on within the home or motivate the hoarder to discard, or recycle.

A few examples follow here.

- **Flesh flies:** You may identify an area of the home where dead animals are present. These need to be removed (with the resident’s permission) and the resident should undergo therapy focused on the root of the compulsion to bring in animals.
- **Clothes moths:** These may be infesting only a sweater or a yarn collection. The resident may agree to discard the infested item to save other treasures.
- **Indian meal moths:** Their presence may motivate different storage and organizing practices, since breaking this pest’s life cycle involves keeping the breeding sites and food for the larva (grains and other stored products) away from the adult moths.

3. Establishment of action thresholds

An action threshold is the pest population level at which control measures are undertaken (NPMA, 2006). In housing, the level of infestation that is deemed unacceptable is low. The threshold may be established based on health and safety concerns, legal restrictions, or the levels of tolerance exhibited by the residents and staff living or working in the home.

In a hoarded home, reduce the infestation level to a point where it will not spread to other units through walls, under doors, or with the residents when they visit other locations.

Action threshold of one pest

If new evidence of any of the following pests is seen, take action early to get rid of the pest.

- American, German, Brown-banded, or Oriental Cockroaches
- Rats
- Mice
- Bed Bugs
- Fleas
- Mosquitoes
- Stinging Pests
- Ticks
- House Flies
- Mites
- Ants
- Termites
- Stored Product Pests (infesting food items)
- Clothes Pests (infesting fibers)

Clean up old evidence of pests so that you can notice new evidence. Doing so will also make the home healthier. Cockroaches frass, egg cases, dead bodies, and shed exoskeletons can cause or trigger asthma.

Higher action thresholds

Some pests do not pose threats when the infestation is low and do not mature fast enough to infest an area quickly. Often, these pests come into a home because conditions outside are adverse (too hot, cold, dry, or wet) or are carried in accidentally (such as a wood cockroach on firewood). Many times, a change in the residents' behavior (called cultural control) will fix the problem. An example of this would be keeping screens on doors and windows to prevent pests that are active at night and attracted to light from entering the home.

Property management should set action thresholds for each of these pests and incorporate this information into their IPM plan for the community.

- Spiders
- Earwigs
- Silverfish/Firebrats
- House Centipedes
- Crickets
- Ground Beetles
- And other occasional invaders

4. Employment of multiple control measures

Strategies chosen should be ones that are:

- Least disruptive of natural controls;
- Least hazardous to human health (including mental health of the resident);
- Least toxic to nontarget organisms;
- Least damaging to the general environment;
- Most likely to produce a permanent reduction of the pest population;
- Easiest to carry out effectively; and
- Most cost-effective (considering both short and long term expenses) (NPMA, 2006).

Strategies chosen will fall under one or more of the following pest control types:

- Sanitation
- Mechanical
- Cultural
- Biological
- Chemical

Use the following pages to guide your control plan.

The first step in the pest control program for a hoarded home is to protect the surrounding homes from pest entry. It is possible to have pests in one home, without the neighbors being affected. As was mentioned above and detailed below, multiple control strategies should be used.

1. Consult with a licensed pest management professional to understand options for pesticide application in wall voids between the hoarded unit and the neighbors. This may or may not include using a flushing agent and vacuum. Do not use foggers.
2. Seal any cracks and crevices on walls (including floors and ceilings) that are adjacent to the hoarded home.
3. Install door sweeps on all doors in the hoarded home and doors leading into the homes of any neighbors.
4. If an infestation already exists in a neighbor's home, work with that resident on an IPM program to get rid of the pests. Many pesticides in use by professionals today are not repellent and cockroaches do not travel far without motivation to do so. It is possible to have no pests in a unit adjacent to a hoarded home that has pests.
5. As with any IPM program, make sure the area is monitored so that new infestations are detected and dealt with before they grow.

Control Option: Sanitation

Sanitation for pest control is the reduction of food, water, and shelter available to pests. Good sanitation is crucial to pest management, but will be the greatest challenge in a hoarded home. The therapist and hoarding resident should prioritize areas posing health hazards and suitable conditions for pest infestation in their treatment plan.

Food

Once a professional identifies a pest in an area, its sources of food should be identified and reduced or eliminated. Items that are not human food may provide nutrition for pests. In addition to human food that pests are eating, consider the following to be food sources for pests:

- Cardboard or paper glue
- Grease on and around the stove
- Pet food
- Seeds
- Rice or beans used for crafts
- Potpourri
- Dried or decaying animals
- Clothes fibers

Once a source of food is identified, it should be discarded or stored in a container that will prevent pest access.

Water

Cockroaches and rats will die from lack of water faster than they will die from lack of food. In a hoarded home, water sources may be easier to control than food sources. In addition to human water sources, consider the following to be water sources for pests:

- Dripping AC Units
- Condensation on pipes
- Condensation in bathrooms
- Plant pots and drip trays
- Pet water
- Leaky pipes or dripping faucets
- Refrigerator drip pans

Depending on the source of water, maintenance workers or residents can reduce the source. Property-owned utilities and pipes should be fixed by property maintenance. Condensation on windows and walls can be eliminated if the residents change their behavior to include the use of fans and other ventilation and dehumidifying devices. The availability of water from pets, plants,

and dishes in the sink can be limited to the daytime when pests are less active. Dishes should be washed and dried nightly. If a cockroach infestation is present, have the resident lay a dry cloth over sink drains at night so that cockroaches cannot crawl down the pipe to get water.

Shelter

In a hoarded home, shelter (places where pests can hide) will be plentiful. Exposure to discarding possessions through mental health treatment will slowly reduce the shelter-providing clutter.

Control Option: Mechanical

Mechanical (or physical) control involves the use of traps, caulks, seals, or barriers to prevent pests from entering, establishing, and living in an undesired location (NPMA, 2006). Mechanical control will likely be a large component of pest control in a hoarded home. Using the measures listed below, pest populations can be reduced, introductions can be limited, and neighbors' homes can be protected. The mechanical control component of the IPM plan may include any or all of the measures listed below:

- Excluding (pest proofing) using barriers such as screens, seals, nets, and caulking
- Manually removing pests using hands, snares, or by vacuuming
- Setting traps including sticky, electric, light, multiple catch, and snap types
- Using heat or cold to destroy pests

Many products are available for each of these measures. Consult a licensed pest management professional for details.

Control Option: Cultural

Cultural control involves manipulation of the pest's environment to make it less favorable for the pest to exist. It may also be referred to as habitat modification or environmental alteration. To accomplish this, [residents] may have to change some of their normal practices or habits and thus make it harder for the pests to access food, water, or shelter (NPMA, 2006).

Because every resident's behavior is different, no one set of recommendations applies to cultural control in all situations. Give explicit instructions and demonstrate good housekeeping practices at any opportunity. When advising the resident, consider routines for the following activities and help the resident see how their practices can impact pest control. :

- Food preparation
- Food storage
- Trash removal
- Eating (locations in the home)
- Acquiring infested items and bringing them home
- Cleaning

Control Option: Biological

Biological control is the use of parasites, predators, or pathogens to control or manage pests (NPMA, 2006). This control measure isn't often used in housing because the introduction of more insects isn't always desirable. Biological control may be a desirable option to manage cockroaches in a hoarded home since limiting shelter and human access to all pest breeding sites will not be an option.

Control Option: Chemical

Consider chemical control measures as the last resort option when making an IPM plan. Pesticides (the chemicals used to kill pests) are an important option in an IPM program, but are only one part. Simply using multiple low risk pesticides is not IPM. Neither resident nor staff should use foggers.

Pesticides should work with other control measures in order to gain sustainable control. Often, sanitation, mechanical, cultural, and/or biological control measures will be employed before or at the same time as chemical controls. If a pest infestation poses a health hazard, chemical control may be the first step, immediately followed by non-chemical control methods aimed at preventing the infestation from re-growing.

Many pesticide options are available. They don't all work on all pests and they don't all work together. You should avoid the terms "green," "safe," or "environmentally friendly" when you describe pesticides. Pesticides all have an implicit risk. You determine risk by the product's toxicity *and* likelihood that a nontarget organism (including children and adults) would come in contact with the pesticide. Choose products that pose the least risk, while still getting the job done. Consult a licensed pest management professional for all pesticide applications.

While weighing the different pesticide options, consider the residual efficacy and attractiveness/repellency of each. Because the pest management professional will not be able to access ideal pesticide application sites in a hoarder's home, he or she must employ strategy to place pesticides in a way that works with the pests' behavior. If a heavy infestation exists in a unit that shares walls with others' homes, avoid repellants in the hoarded area so that pests do not spread to others' homes.

We do not advise that residents apply pesticides in their own home. They should focus their time, money, and energy on sanitation, cultural, and mechanical control measures. Never use foggers. Sprays may make the bait used for ants and cockroaches not work. If residents insist on using their own pesticides, make sure the products they use are

- legal as identified by an EPA Reg. No. on the label being used in compliance with the label directions;
- least risk; and
- not interfering with the pest management professional's pesticide application.

For more information on pesticides, contact the National Pesticide Information Center at 800-858-7378 or <http://npic.orst.edu/>.

5. Evaluation of effectiveness

Integrated Pest *Management* implies an ongoing process. Follow-up inspections enable the IPM team to

- Assess and adjust the control measures that have been employed;
- Identify areas overlooked;
- Eliminate entry points;
- Enhance program effectiveness;
- Reapply or revise any pest management procedures as appropriate;
- Maintain a relationship with the resident and the rest of the IPM team; and
- Monitor for new infestations (NPMA, 2006).

The home should be reinspected on a regular (scheduled) basis using the instructions and equipment detailed previously. Monitors may be particularly important in early detection of pest populations. Pest control in a hoarded home will never be complete, even if no pests are present. Because the threat of introducing hitchhiking pests into the home is so high, procedures must be in place to monitor the area. If a resident is involved in clinical/therapeutic treatment, a therapist will likely be monitoring the resident's behavior to avoid a relapse. Pest management professionals should collaborate with therapists to synergize their monitoring efforts.

Resources for working with someone who hoards

Books

- Frost, R. O., & Steketee, G. (2010). *Stuff: Compulsive Hoarding and the Meaning of Things*. Boston, MA: Houghton Mifflin Harcourt.
- Frost, R. O., & Steketee, G. (2006). *Compulsive hoarding and acquiring: therapist guide*. Oxford, UK: Oxford University Press.
- Frost, R. O., & Steketee, G. (2006). *Compulsive hoarding and acquiring: workbook*. Oxford, UK: Oxford University Press.
- Neziroglu, F., Bublick, J., & Yaryura-Tobias, J. (2004). *Overcoming Compulsive Hoarding*. Oakland, CA: New Harbinger Publications, Inc.
- Tolin, D.F., Frost, R. O., & Steketee, G. (2007). *Buried in Treasures: Help for Compulsive Acquiring, Saving, and Hoarding*. New York, NY: Oxford University Press.
- Tompkins, M.A., & Hartl, T.L. (2009). *Digging Out: Helping Your Loved One Manage Clutter, Hoarding, and Compulsive Acquiring*. Oakland, CA: New Harbinger Publications, Inc.

Websites

- The International Obsessive Compulsive Foundation's compulsive hoarding web page: <http://www.ocfoundation.org/hoarding/>
- The Anxiety Disorders Center at The Institute of Living: <http://www.harthosp.org/InstituteOfLiving/AnxietyDisordersCenter/Compulsivehoarding/default.aspx>
- Anxiety Disorders Association of America; a good reference for finding a therapist in your area: www.adaa.org
- Association for Behavioral and Cognitive Therapies: reference for finding a therapist who treats hoarding: www.abct.org

Educational Opportunities

- All IPM team members must be able to think like the target pest(s) knowing how the pest gains access to an area and where they find the food, water, and shelter they need to survive. Each IPM team member must know how to complete their respective parts of the IPM plan thoroughly, and communicate with each other. Education about hoarding, pests, and IPM should be a shared foundation for all members of the IPM team. Trainers may be found within the team (with each member presenting on his or her expertise) or be outside experts who run training for the group. Outside experts for IPM information can

be found through the university Cooperative Extension system. See <http://www.stoppests.org/IPMinMFHTraining.htm> for training materials on IPM for multifamily housing.

- In addition to receiving IPM education and therapy targeted at reducing clutter and improving sanitation, hoarding residents must be taught how to inspect items for pests before bringing them home. If they are unable to resist bringing home a new treasure, they should know what options are available for getting an item pest free (likely chemical or mechanical control measures) before bringing it into their home. See <http://www.stoppests.org/for-residents.htm> for resources that can be used for educating residents about pest control.

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NPMA. (2006). *Urban IPM Handbook*. Fairfax, VA: National Pest Management Association.