

A Maintenance Team's IPM Impact

The Cincinnati Metropolitan Housing Authority's IPM Program

Many integrated pest management (IPM) implementation projects led by the Northeastern IPM Center have involved small communities where success depends on universal involvement and shared enthusiasm. But what happens when the development in question has hundreds of residents? Can IPM still work?

The experience of Cincinnati Metropolitan Housing Authority (CMHA) at their Winton Terrace development suggests that it is possible. Despite the issues present at a family site, high vacancy rates, and over 600 units, their maintenance-focused strategy brought significant improvements to the property in two years.



Unlike many PHAs, CMHA uses an in-house pest control team at Winton Terrace. Using an in-house team gives CMHA control over reporting, scheduling, and procedures.

Moreover, the size of the pilot site actually helped in getting pests under control: with so many units, administrators could test procedures on a fraction of the units to understand what made the difference in pest control.

From “One-Man Pest Control” to “IPM Team”

Central to CMHA's success is their long-time staff pest management professional, Ed Hix. Calm and focused on pests, residents trust Ed, and allow him access to homes. It is heartwarming to see the children welcome him with open arms. Residents report problems to him readily. He respects their privacy and stays very focused on pests in order to keep their trust and cooperation. He always keeps meticulous records of problems and treatments—despite the fact that, before IPM, no one else in the development or the PHA seemed to read them.

To maintain his pest control license, Ed attends pest control conferences. He knew about IPM, but wasn't sure the concept would work at the housing authority—not because the pests were different, but because IPM is a team approach and he wasn't

sure other staff would want to participate. With the help of the Northeastern IPM Center training, everyone else at Winton Terrace agreed to try IPM whole-heartedly to see if they could make a change.

Ed was already doing many things right, but he was a one-man-show. And he didn't sign the checks for pest control expenses. His reports were going unread, and he was the only person at the development whom residents could trust to deal with pests. At the IPM training in January 2010, other staff started catching on to what Ed was up to. Luckily, PHA upper management came to the training, so everyone was on the same page.

Once Ed's skills with residents and habit of taking detailed notes were noticed, staff began to consult with him about pest control. He remains the epicenter of pest management, but his efforts go so much further with the support of other staff. In 2011, Ed received an award from the county and was named Maintenance Person of the Year at the Ohio Housing Authorities Conference.

Ed is still a familiar face to residents, but he no longer has to do his job alone. Now, when he identifies a pest problem that regular treatment alone can't cure, he brings focus units (that is, units with serious pest problems) to the attention of the property manager Crystal Riep. Crystal inspects the home and refers the resident to a housekeeping class. In this class, residents watch the Northeastern IPM Center's IPM video and learn how to prevent pests in their home. Finally, a staff person or a member of the community with training in IPM follows up with the residents with one-on-one mentoring until their pest problems are solved.

Working With High Vacancy Rates

There is no cookie-cutter approach to IPM. Staff must understand the principles and techniques well enough to apply them to the specific conditions in a given location. The Northeastern IPM Center training gave CMHA staff the foundation to develop their own program. At the time of training, the pilot site had a lot of vacant units. Infested vacant units are a problem because

- with no treatment or cleaning the infestation may grow;
- pests may spread to neighboring homes, especially if the area is disrupted or food and water become scarce; and
- maintenance contractors coming in before the unit is re-rented may refuse to work, or they may apply their own concoction of pesticides when they encounter pests.

The maintenance staff realized they could turn this challenge into an opportunity, since empty units also give staff a chance to thoroughly clean and treat pests. In this case, IPM was incorporated into a revamped make-ready procedure.

CMHA realized many benefits to extensively cleaning and renovating vacant units with pest control in mind. Maintenance and pest management staff could access all parts of the unit without getting in the way of residents. They could see trouble spots, like gaps or holes in the walls, without a resident's belongings in the way. And turning over clean, well-maintained, pest-free units to new tenants sends the message that the PHA cares about pest-free housing. New residents are welcomed into their pest-proofed home, complete with sticky trap monitors—proving that the unit is pest free. This starts the resident off on the right foot and encourages them to do their part to maintain their new home.

Using Research to Think Like a Cockroach

CMHA staff used their knowledge of cockroach behavior to make their vacant units good for people, but not for pests. Research on German cockroaches—the ones most prevalent in housing—gives insight into their behavior. German cockroaches

- can move in a gap 1/16 inches or more (Wille, 1920);
- prefer 3/16 inch gaps (Berthold & Wilson, 1967);
- tend to congregate where roach feces (frass) already exists (Berthold & Wilson, 1967);
- are most likely to move between apartments when there are adjacent kitchens (Runstrom & Bennett, 1990);
- move with greater ease when common plumbing exists between apartments (Runstrom & Bennett, 1984); and
- move within areas of an apartment (Owens & Bennett, 1982).

An Intensive Make-Ready Strategy

The CMHA staff tackles empty units according to a methodical make-ready plan.

1. When a unit becomes vacant, management staff conducts a move-out inspection and a make-ready work order is generated: old possessions and other debris are removed.
2. The PMP enters the unit to inspect for pests. If pests are found, the appropriate treatment is used. Either way, a minimum of 6 dated monitors are placed: 1 in each bathroom, 3 in the kitchen (1 near the stove, refrigerator, and kitchen sink respectively), 1 in the living room, and 1 in the master bedroom.

3. The "Make-Ready Crew" cleans thoroughly—removing pest food, old bait, and any pest evidence. They scrub dirt, grease, and pest droppings off of every surface (including floors, walls, ceilings, windows, and appliances). Old caulk is removed, too.
4. "Make-Ready Crew" makes necessary repairs to electrical and plumbing equipment and seals any holes or gaps greater than ½ inch. In the event the repairs needed are extensive, Maintenance will assist.
5. The Make-Ready Crew returns to seal all cracks and openings—anywhere that might let pests in or give them somewhere to hide. They are particularly detail oriented in the kitchen and bathrooms.
6. The PMP returns and checks the monitors. Trap counts are recorded and treatment is repeated if necessary. Monitoring and treatment continues until pests are no longer present. The PMP also double checks all the cleaning and repairs. When he is satisfied, he gives the OK for the unit to be painted.
7. The unit is painted.
8. Once the contractor is has completed the unit he or she comes to the office to notify staff; the Property Management Specialist accompanies the contractor to inspect the unit before the unit is released for occupancy.
9. The Property Management Specialist moves the new residents into the home, using the pest-free sticky traps as a way to start the conversation about pest control expectations and IPM.



In the first year, CMHA has seen great results. Chemical costs have been cut in half, resident-generated pest work orders have been reduced, and staff members feel like their pest control strategy is more effective. IPM works, even with a large family development. CMHA had such good success that they are currently implementing the process in their other two large family developments and high rises.

Works Cited

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Authors

Danya Glabau and Allison Taisey
The Northeastern IPM Center

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