



Safe, Decent, and Pest-Free Housing

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Making homes healthy

- ☛ IPM is part of a nationwide Healthy Homes movement to reduce housing-based health hazards
- ☛ A healthy home is:
 - ☛ Dry
 - ☛ Clean
 - ☛ Ventilated
 - ☛ Safe
 - ☛ Contaminant-free
 - ☛ Maintained
 - ☛ **Pest-free**



Cockroach infestation in a smoke detector

Priority pests

- 🪳 Cockroaches cause asthma in infants, trigger asthma attacks, and contaminate food
- 🐭 Rodents such as mice and rats carry diseases, bite, destroy property, may cause fires, and may trigger asthma attacks
- 🪲 Bed Bugs and their bites are a nuisance and are expensive to eliminate



Training agenda

Morning

- 🪳 Overview and Introductions
- 🪳 Cockroaches
- 🪳 IPM and Pesticide Use
- 🪳 Indoor Demonstrations
- 🪳 *Working Lunch*
- 🪳 Video

Afternoon

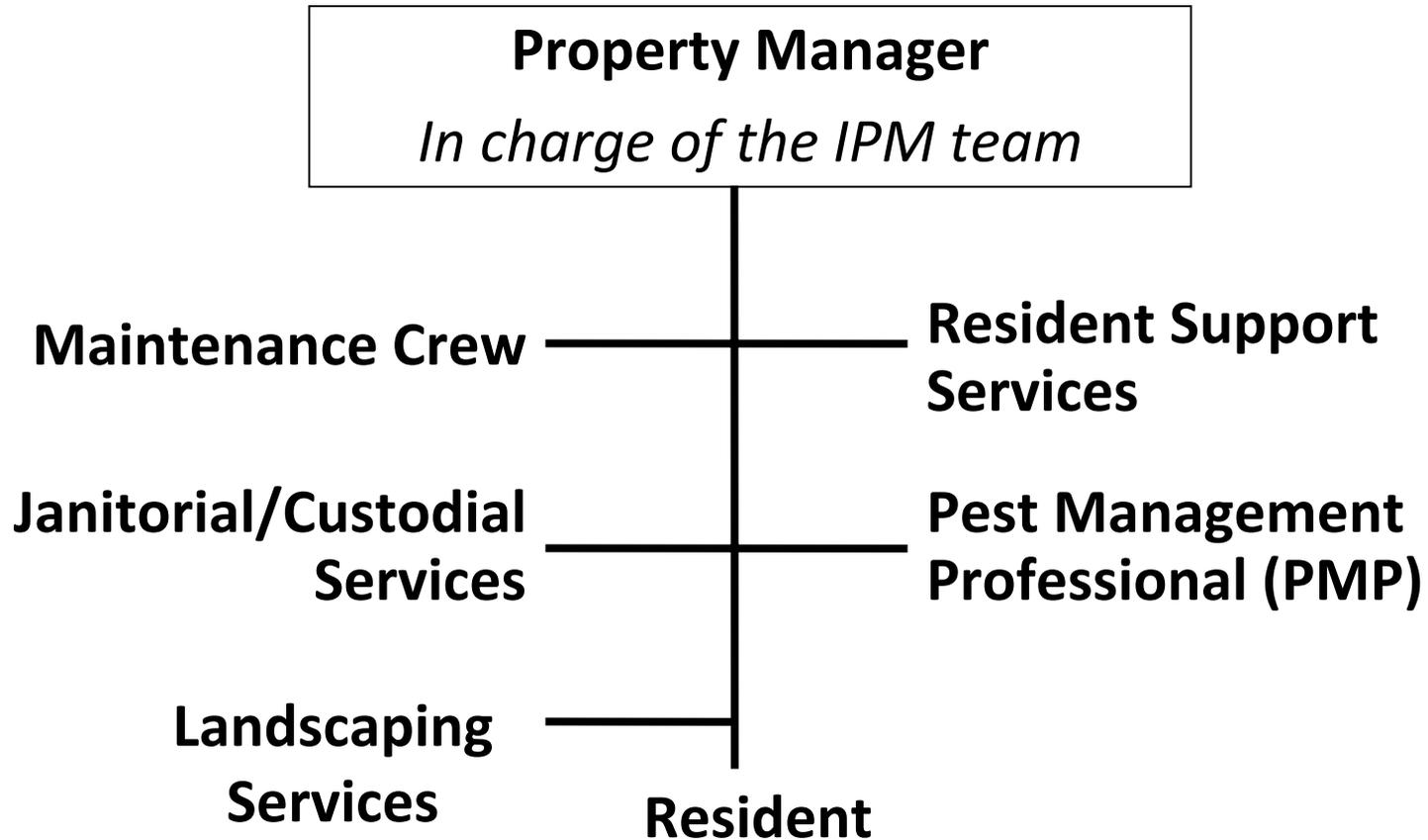
- 🪳 Roles and Responsibilities Panel
- 🪳 Rodents
- 🪳 Outdoor Demonstrations
- 🪳 Bed Bugs
- 🪳 IPM Exam and Course Evaluation

Pest problem solving— Integrated Pest Management

1. Inspect
2. Identify
3. Establish thresholds
4. Take control measures
5. Evaluate effectiveness



The IPM team



1. Inspect

- 🕷️ Visual inspection
- 🕷️ Interview
- 🕷️ Monitor



Sticky trap monitors from one unit

2. Identify



Mosquito Bites



Tick



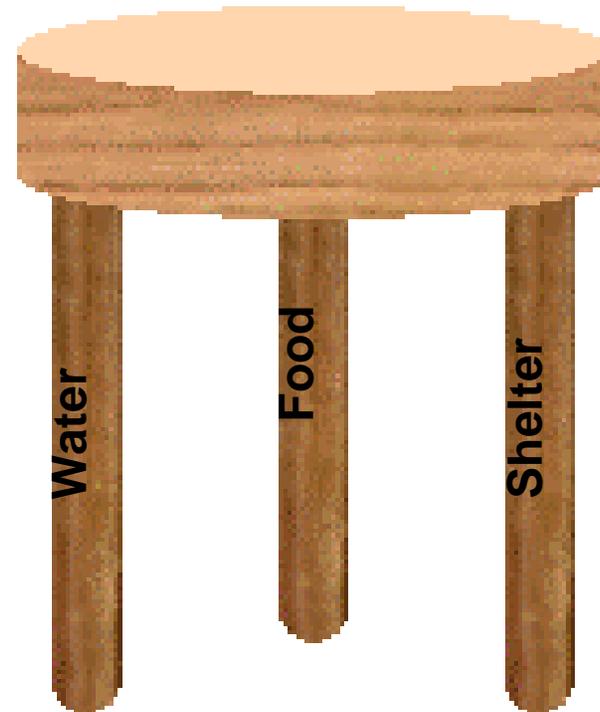
Cockroach Nymph



Bat Bug

What all pests need

- Food
- Water
- Shelter



3. Determine the level of response



vs.



4. Employment of 2 or more control measures

- Cultural, mechanical, biological, or chemical
- 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; and
 - Practical in terms of time and expense.

Control measure: cultural

- Residents and staff change practices or habits
- Residents may require education or hands-on support
- Guidance should be catered to the resident
 - translation or pictures,
 - provide detailed directions, and
 - refer to specific areas and conditions in the home

Cultural continued

Consider the routines for:

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

Focus areas are determined by the pest:

-  Food sources: human food, pet food, cardboard glue, grease around the stove...
-  Water sources: dripping faucets, sweaty pipes, plant saucers, sinks...
-  Shelter (a place to hide)...

Control measure: mechanical



Control measure: biological

- Biological control is the use of parasites, predators, or pathogens to control or manage pests.
- Not usually applied in structural IPM.
- Cats can't be relied on for rodent control.



Control measure: chemical

- ✪ Using pesticides—chemicals that kill pests.
- ✪ Only licensed pest management professionals should apply pesticides.
- ✪ Pesticides should work *with* other control measures to gain sustainable control.
- ✪ Choose the lowest risk pesticide *for the job*.
- ✪ Risk = toxicity + risk of exposure

5. Evaluation of effectiveness

- Use monitors, searchable work order codes, and service reports.
- Assess and adjusts the control measures that have been employed.
- Plan to evaluate should
 - Identify areas overlooked;
 - Enhance program effectiveness;
 - Reapply or revise any pest management procedures as appropriate; and
 - Monitor for new infestations.

How to know if you are getting IPM service

- 🕷️ Focus on prevention and monitoring
- 🕷️ Technicians focus on the source of the problem
- 🕷️ Methods such as exclusion, vacuuming & trapping are commonplace
- 🕷️ “Sprays” or “fogs” aren’t commonplace
- 🕷️ Time spent relative to the infestation
- 🕷️ Least risk products and application methods used

The Results of the Team Approach

- 🕷️ An inspection and monitoring system that finds pests
- 🕷️ A reporting system that identifies areas of improvement
- 🕷️ Areas are prepared to receive effective treatment
- 🕷️ Communication that empowers all
- 🕷️ Fewer pests and a healthier environment



Questions?



The end.



Thank you for having me!



IPM in Action

How to start

- 🕷 Hire a qualified pest management firm or get staff licensed
- 🕷 Pick a pilot site
 - 🕷 ~100 units
 - 🕷 Enthusiastic and willing property manager
 - 🕷 Active tenant council
- 🕷 Incorporate pest-specific codes into your work order system
- 🕷 Train site IPM team members using resources from www.stoppests.org



A property manager inspecting building exteriors for holes

Identify focus areas

- 🕷️ Monitor and inspect
- 🕷️ Identify focus areas
- 🕷️ Look through service records and work orders for trends

Solve problems

- ❷ Allocate time and resources to focus areas
- ❷ Use renovation as an opportunity
 - ❷ Eliminate pests
 - ❷ Reduce the risk of pest infestation
 - ❷ Seal up holes and crevices where pests hide
 - ❷ Educate the incoming tenant
- ❷ Track data from work orders and PMP service reports to identify trends and track efficacy



Monitor under a well-sealed sink

Focus units & housekeeping

- 🪳 Require housekeeping classes that focus on taking food, water, and shelter away from pests
- 🪳 Case management
- 🪳 Reach out
 - 🪳 Family members
 - 🪳 Faith-based organizations
 - 🪳 Local support agencies
- 🪳 Motivate with lease enforcement

Focus units & the PMP

- ☛ Vacuum to achieve initial knock-down and remove pests and evidence
- ☛ Visit every room
- ☛ Spend time in focus units
- ☛ Communicate with the resident
- ☛ Leave detailed recommendations on the service report

Focus units & maintenance

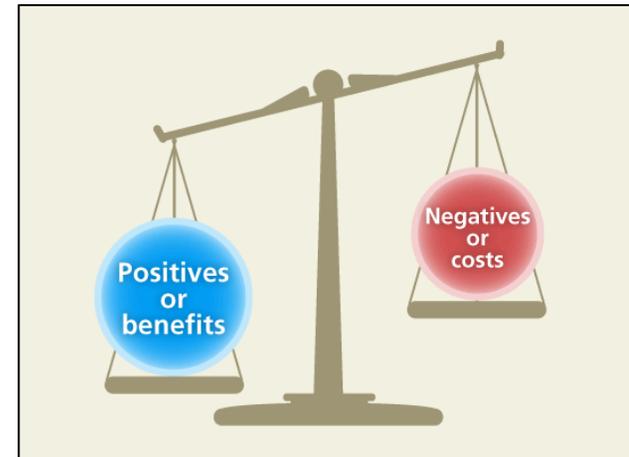
- ☛ "Exclusion" or "pest-proofing"
- ☛ Door sweeps
- ☛ Screens
- ☛ Seal around plumbing/electrical wall penetrations
- ☛ Seal cracks and crevices in kitchens and bathrooms
- ☛ Follow PMP's recommendations

Maintain and expand pest-free housing

- 🕷️ Inspect new residents' homes within 90 days of move-in
- 🕷️ Ensure the PMP gets access to units
- 🕷️ Teach everyone to prevent, inspect, and monitor so introductions never turn into infestations
- 🕷️ Expand program to other sites

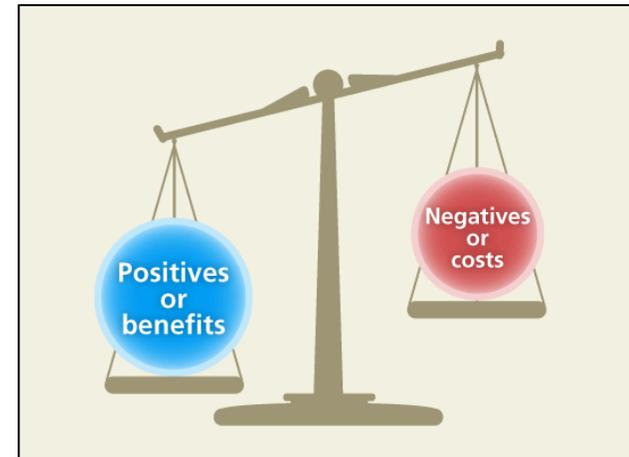
Program costs

- An IPM budget includes
 - Materials for caulking and sealing holes
 - Free items for residents in need: cleaning supplies, mattress encasements, monitors, etc.
 - An IPM contract, including inspection and monitoring



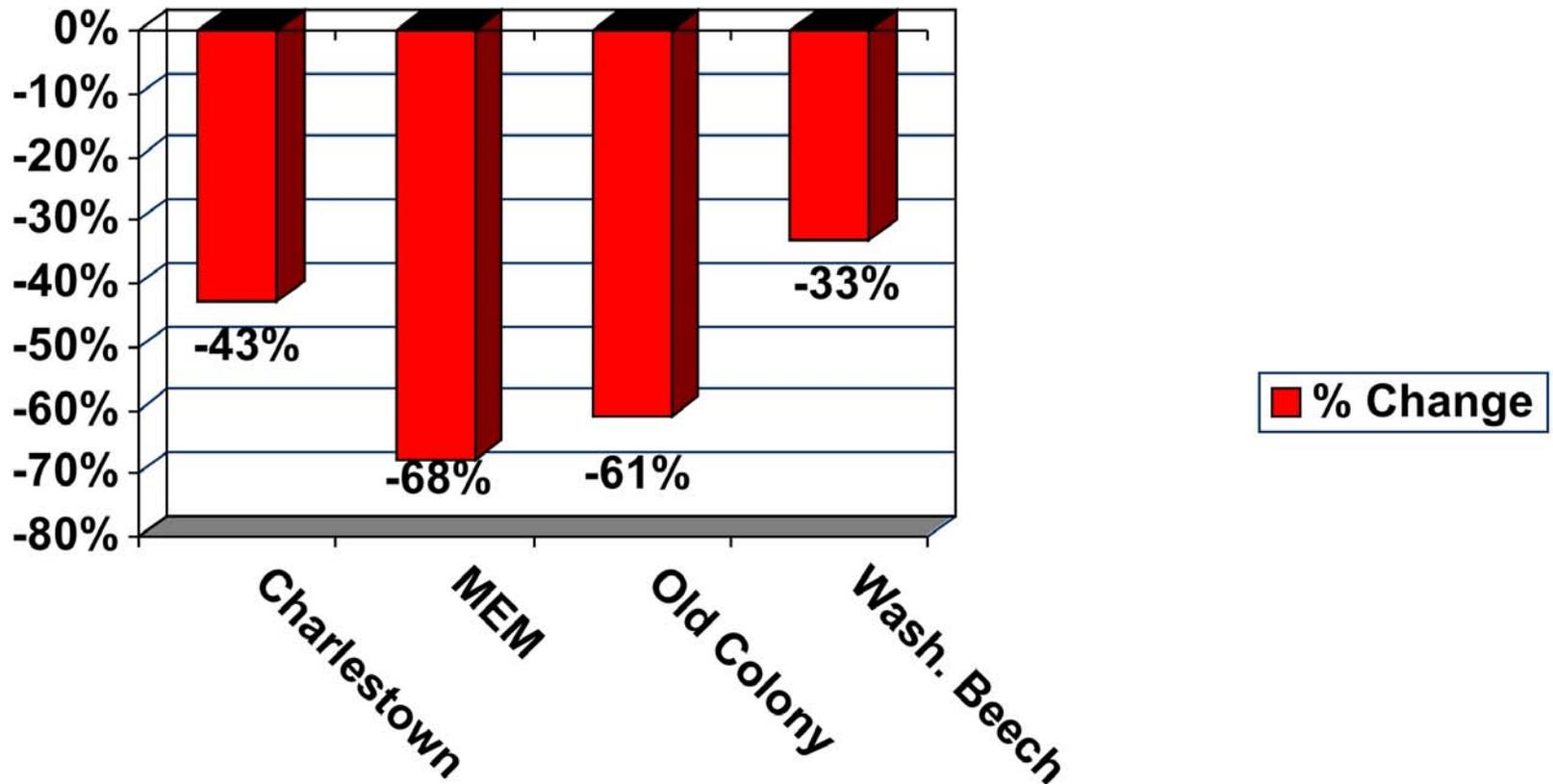
Expected program outcomes

- Increased cooperation and communication
- Decreased pesticide applications
- Infestations limited to periodic introductions—no high-level infestations
- Increased partnership with outside agencies



Boston's success

Percent Change in Total Pest Work Orders



What we've learned in public housing

- Executive management must be supportive
- Start your IPM program at a pilot site
 - Licensed pesticide applicator
 - Enthusiastic property manager
 - Staff time and funding
 - Small enough to cover the entire building/AMP

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What we've learned

- 🕷️ Educate staff, residents, home health aides, and community partners—give everyone the basics and have each person commit to doing their part
- 🕷️ Have a continuity plan for staff and resident turnover

IPM resources

Websites

- ✦ The Northeastern IPM Center's IPM in Multifamily Housing website and blog: www.stoppests.org
- ✦ The National Pesticide Information Center: <http://npic.orst.edu/>
- ✦ Boston's Healthy Pest Free Housing Initiative:
<http://www.bphc.org/hpfhi/AboutUs/Pages/home.aspx>
- ✦ PIH 2011-22: Promotion of Integrated Pest Management (IPM)
- ✦ Notice H 2011-20: Guidelines on Bed Bug Control and Prevention in HUD Insured and Assisted Multifamily Housing