

Integrated Pest Management Practices

All PIM content was independently developed and reviewed to be vendor, product, and service provider-neutral.

DESCRIPTION

Integrated Pest Management (IPM) is a proactive approach that focuses on a combination of preventive strategies to help reduce pest presence and relies on targeted chemical applications only as a last resort. By integrating these best practices across your operations, you can help maintain a healthier environment with minimized chemical exposure for your patients and employees.

PROJECT TALKING POINTS

- Healthcare facilities are attractive environments for pests because they provide things a pest needs to survive – food, moisture and shelter – in abundance. There is no tolerance for pests in a healthcare setting as they could compromise patient health, damage a facility’s hard-earned reputation or possibly impact compliance with Joint Commission Standards. Additionally, as facilities undergo expansions, upgrades and renovations to meet growing patient needs, construction work can further increase the likelihood of pest activity.
- IPM can help deter the most common pests in a healthcare setting – ants, flies, cockroaches and rodents – from entering and creating problems inside your healthcare facility. IPM can also help reduce pest populations outside your facility. Preventing these pests is important because of the diseases they can carry and spread among your patients, guests and staff.

- IPM is more environmentally responsible than traditional pest control methods, as it focuses on pest prevention and reduces the need for chemicals. This method enables pest management providers to help their customers manage pests, protect staff and patients, and prevent pest activity in an environmentally responsible way.
- IPM places a proactive emphasis on facility maintenance, sanitation and preventive measures that make the environment unsuitable for pests, which can help keep pest infestations from occurring. IPM plans are well suited for healthcare facilities because they do not rely solely on chemical treatments – limited chemical applications are only used as a last resort, and then only in specific, targeted areas.

BOTTOM LINE BENEFITS

\$ Cost efficiency

An IPM approach can result in long-term cost savings for your facility when compared to traditional pest management methods. IPM’s ongoing, proactive cycle is more effective and financially sound, in comparison with a remedial treatment strategy following an infestation. Initial investments, such as facility maintenance, can help manage future costs of pest management overall. For example, during periods of construction, pest management is especially important to ensure pests are discouraged from entering wall voids and new areas of the facility, as this can lead to future infestations and expensive structural damage.

Examples of other one-time expenses that may result in future budgetary savings include:

- Improving waste management by moving trash or garbage containers away from facilities to help reduce the opportunity for pest invasion. This will result in fewer pest problems and help reduce the need for other pest control procedures.
- Installing physical barriers such as air curtains over the outside entrances to kitchens to help reduce flying insect problems. This will help lead to savings in years to come.
- Stepping up structural maintenance to correct situations such as leaky pipes. This effort helps reduce future maintenance problems, removes a key pest attractant and saves money in the long term.
- Training and/or certifying staff in IPM to help them become part of the solution. The knowledge base needed to implement IPM is more complex than that required for conventional pest control, but training staff is worth the investment to help reduce the number of pests in the long-term.
- Landscaping measures such as trimming back foliage at least two feet from the building and installing a 30-inch-wide gravel strip around the entire exterior of the building. Vegetation selection is also important, as certain plants or flowers may attract insects, rodents and other pests.

Environmental benefits

By reducing dependency on chemicals, IPM can help reduce the environmental risk of air and ground water contamination and can actually encourage the adoption of more environmentally responsible control tactics.

Fewer Pests, Fewer Health Risks

IPM can help deter common pests – ants, flies, cockroaches and rodents – from getting in and creating problems inside your facility. These pests are important to keep out because they may carry diseases that can spread to your patients, guests and staff. In healthcare facilities, patients

may have compromised immune systems and neurological, digestive or respiratory issues that put them at increased risk of harmful side effects from exposure to diseases that pests may carry. For example, more than 100 pathogens, such as Salmonella, Staphylococcus, E.coli and Shigella, are associated with flies, and rodents can spread diseases such as Hantavirus, plague and Lymphocytic choriomeningitis virus (LCMV). These diseases are especially a concern for people with weakened immune systems.

Judicious Use of Chemicals

IPM advocates for judicious use of chemicals, and only as a last resort. When chemical treatments do need to be applied, your pest management provider will follow the directions as shown on the label, applying the treatment to only the targeted area. For this and other reasons, IPM is recommended by the Centers for Disease Control and Prevention (CDC), the U.S. Environmental Protection Agency (EPA), Practice Greenhealth and the Association for the Healthcare Environment (AHE).

PURCHASING CONSIDERATIONS

In pest control, like in healthcare, success starts with science. The pest control experts you choose should have extensive knowledge about the behavior and biology of pests in order to develop a comprehensive IPM plan that implements preventive measures throughout your facility. Pest management providers should integrate seamlessly into the environmental services team, get to know the facility inside and out, and design an IPM plan to fit the facility's needs. The IPM plan should provide a long-term solution to pest prevention, rather than a short-term fix. It should also feature protocols based on extensive research and be designed to comply with proven practices recommended by healthcare thought leaders.

Healthcare facilities may find it helpful to work with an outsourced pest management provider if they have:

- Difficulty preventing pest problems without relying on chemical treatments.
- Received pest control deductions on Joint Commission audits.
- Staff that are diverted from more important quality assurance functions due to execution of the in-house pest control program.
- Difficulty finding the time and resources to stay abreast of the latest pest control technology and government regulations.
- Challenges maintaining detailed pest control documentation.
- Employees that would benefit from outside training to help them identify infestations, alert management to pest issues and contribute to sanitation efforts.

[Commonwealth of Pennsylvania RFP for IPM Services.](#)

HOW-TO

There are three essential steps in the IPM cycle: evaluate the situation, develop solutions and routinely check the results. Evaluating the situation includes a thorough inspection of the property to take note of all high-risk areas where pests may reside or gain access to your building. Once your pest management provider completes the comprehensive inspection, he or she should create an IPM program designed for your facility to help keep pests away. Lastly, your pest management provider should maintain a regular schedule to check your property for pest activity inside and outside, document progress and issues, develop a monthly and/or yearly trend report, and adjust your program as necessary. Throughout the IPM cycle, be sure to maintain records for each building detailing techniques, location and inspection schedule, as well as any pest sightings or action steps taken. Document your results and inspection findings, including recommendations, in your pest logbook.

The following checklist can help you get started with or improve your IPM program with the assistance of a professional pest management provider:

Exclusion and habitat modification

Identify potential points of entry and harborage areas inside and outside buildings.

- Ensure doors and windows are completely sealed when closed. Install door sweeps, weather stripping, air curtains and fans as necessary. Also, create positive airflow in the building so air pushes insects out open doors instead of pulling them into the facility.
- Eliminate common points of entry, such as gaps around utility penetrations. Seal all cracks and crevices with foam sealant or caulking.
- Install double sets of automatic sliding doors for areas of high foot traffic like lobbies.
- Consider installing vinyl strip doors in areas like loading docks.
- Use sodium vapor lights near the building instead of fluorescent lights, which are attractive to flying pests.
- Implement bird control measures such as netting, gels, bird coils, bird wire, traps, anti-reproductive measures like bird birth control and filling holes where birds can slip inside.

Sanitation and waste management

A good sanitation program can help remove the elements that attract pests, such as food and water, and help prevent infestations.

- Design a written sanitation plan that focuses on pest hot spots, which are areas most likely to attract pests.
- Position outdoor dumpsters as far away as possible from buildings. Be sure dumpsters are cleaned and/or rotated regularly.
- Use mechanical cleaning measures around dumpsters, compactors and other equipment. Power washing bi-weekly, especially during summer months, will help eliminate breeding sites and the need to use chemical treatments.
- Request that waste disposal vendors create a schedule for internal and external pressure washing or steam cleaning of compactors and debris boxes that hold landfill and kitchen compost materials.
- Employ a professional cleaning solution

that uses naturally occurring enzymes and beneficial bacteria to help eliminate the conditions found in drains and on floors that pests like flies and cockroaches need to eat and breed. This will help minimize the need for treatments.

- Educate staff on IPM efforts and ask for their cooperation, especially from a sanitation standpoint (i.e. cleaning food and drink spills immediately).

Moisture control

Eliminate the excess water pests need to survive.

- Conduct routine inspections to identify sources of unnecessary moisture and repair them wherever and whenever possible. Common moisture sources include leaky roofs, HVAC units, soda and ice machines, refrigerators, laundry rooms, dishwashers and broken sprinkler heads.

Landscaping

Manage exterior and interior landscaping, and avoid vegetation that produces flowers or fruit to make the facility less attractive to pests.

- Outdoors, trim vegetation away from the building's exterior by at least 2 feet and replace mulch with gravel or stones. Avoid planting fruit-bearing trees and flowers that can attract pests like rodents, stinging pests and birds.
- Indoors, take care of plants wisely; overwatering plants can lead to fungus gnats. Also, be mindful of what plants you bring indoors and be sure to inspect them, as they may be carrying pests.

Supply inspections

Check all incoming supply shipments for signs of pest activity. Encourage suppliers and vendors to support the IPM program and confirm that all incoming product shipments are inspected.

- Remove all supplies from shipping containers before storing them.
- Rotate inventory on a "first in, first out" (FIFO) basis.
- Use black lights to inspect for evidence of

rodent activity such as urine in trucks, loading docks and shipments.

Action Threshold

An action threshold is the pest population level at which the pest's presence is a nuisance, health hazard or economic threat. A defined action threshold will focus the size, scope and intensity of an IPM plan, so it is critical to guiding pest control decisions.

Trapping

Work with your pest management provider to: Place traps in pest hot spots in order to monitor and control activity. Hot spots include boiler rooms, loading docks, kitchens, stair entryways, maintenance areas, loading docks and other areas around the exterior. Ask about snap traps and glue boards, pheromone traps, light traps and mechanical rodent traps.

- Check the traps regularly, and clean or replace them when necessary.
- Record all trap placements on a detailed site map.
- Update the site map each time traps are added, removed or relocated.
- Record pest activity in the traps and develop a monthly and/or yearly trend report.

Baiting

This method can be used in interior and exterior locations to help control rodents and crawling insects.

- Work with a pest management provider to set up bait stations with non-toxic baits. (Reevaluate baiting methods if non-toxic baits are being eaten.)
- Ensure the bait stations are properly secured, numbered and mapped.
- Monitor the bait stations regularly.

Construction-specific approaches

Facility upgrades, expansions and renovations pose specific challenges at healthcare facilities when it comes to pest control. Work with your contractor and pest management provider to:

- Assess pest activity in the area prior to construction to determine what measures should be taken to reduce pest populations.
- Establish pest monitors to help assess pest activity and populations in the area as construction progresses.
- Grade the property to eliminate the chance of puddles accumulating around the foundation. Moisture accumulation can attract pests.
- Select non-cellulose building materials to help prevent termites, and apply a preventive termite barrier to new areas of the property.
- Verify the foundation's solidity prior to construction, as even the smallest cracks and crevices can allow pests to access the building.
- Keep the site as clean as possible during construction so pests are not attracted to food and other odors.
- Cover up all building supplies at the close of each workday, especially when it comes to wood products, as they can become an incubator for fungi when wet. Pests often infest wet wood to feed on fungi, so it is best to start construction during the driest part of the year.
- Make sure you have access to pipes and plumbing during construction. Leaks underneath a slab can create a breeding ground for flies and other pests looking to enter your structure.

Tools

- [Joint Commission Pest Control Checklist](#)
- [Shortcuts to Sustainable Pest Management](#)
- [IPM Recommended Practice Guide](#)
- [EPA Fact Sheets on Pesticides](#)

Case Studies

- [Glens Falls Hospital](#)
- [Moffitt Cancer Center](#)
- [Piedmont Hospital](#)
- [Westminster-Thurber Community](#)

Regulations, Codes and Standards, Policies

A 1970s Executive Order required all federal buildings/institutions to use IPM. Many states and counties followed suit, requiring government organizations to use IPM. Recently, however, some states such as [New York](#) and Louisiana have introduced legislation requiring hospitals to use IPM.

[Executive Order 13423 Technical Guidance for Implementing the 5 Guiding Principles for Federal Leadership in High Performance and Sustainable Buildings](#) – this technical guidance has been developed by the Interagency Sustainability Working Group (ISWG) to clarify requirements and related mandates needed to meet high performance and sustainable building requirements. It contains additional recommendations and considerations, as well as resources for implementation, including model contract and specification language. The ISWG will review the Guiding Principles and Technical Guidance periodically for updates and to consider adopting additional principles or goals for addressing issues such as conservation plantings, Integrated Pest Management, deconstruction, and siting.

The Joint Commission Standards – specifically Environment of Care Standard 3.10 – require healthcare organizations to manage hazardous materials and waste risks. Elements of performance include:

- *The organization creates and maintains an inventory that identifies hazardous materials and waste used, stored or generated using criteria consistent with applicable law and regulation.*
- *Organization creates and maintains an inventory that identifies hazardous materials and waste used, using criteria consistent with applicable law and regulation.*
- *The organization establishes and implements processes for selecting, handling, storing, transporting, using and disposing of hazardous materials and wastes from receipt or generation through use and/or final*

disposal, including managing the following: chemicals, chemotherapeutic materials, pharmaceuticals, radioactive materials and infectious and regulated medical waste including sharps.

- *The organization maintains documentation, including permits, licenses and adherence to other regulations.*

Integrated Pest Management and chemical treatments are directly tied to these elements of performance. Healthcare facilities should provide evidence of compliance and evidence of performance improvement as they relate to each of the elements of performance. For more information, view the [Joint Commission Pest Control Checklist](#).

Educational Resources

- [HealthcarePestControl.com Self-Assessment Survey](#), from Orkin
- [IPM Quality Self-Assessment](#), from Orkin and ASQ
- [Pulling Back the Sheets on the Bed Bug Controversy](#), from Orkin and AHE
- [Trends in Bed Bug Management, Monitoring and Treatment](#), from Orkin
- [Bed Bugs 101 Tip Sheet Healthcare](#), from Orkin
- [Coming Clean About Bed Bugs: The Facts About Bed Bug Prevention and Treatment](#), from *Laundry Today*
- [Separating Fact from Myth about Bed Bugs](#), from *Facility Care*
- [Four Ways to Keep Pests Out of Healthcare Facilities](#), from *HC&O News*
- [A Green Bill of Health](#), from *Healthcare Building Ideas*
- [“Don’t get ‘bugged’: prevent pests with IPM.”](#) from *Healthcare Purchasing News*
- [Targeting Pest Management Requires Good A.I.M.](#), from *Healthcare Purchasing News*