



Integrated Pest Management: A Case Study in Managing Pests and Minimizing Pesticides

**University of Rochester Strong Memorial Hospital
A 2002 H2E Award Winner**

The Program

In the process of eliminating pests, health care facilities can expose patients and employees to toxic chemicals through the inhalation, ingestion and absorption of pesticide residues. Most vulnerable to pesticides are pregnant women, infants and children, the elderly, and those with compromised immune systems, allergies, and sensitivity to pesticides. These populations are present in abundance at a health care facility.

Integrated Pest Management (IPM) aims to prevent and manage pest problems in the least hazardous manner possible. The University of Rochester Strong Memorial Hospital implemented an Integrated Pest Management (IPM) system in 1995 in recognition of the health concerns related to pesticide use. As a result, this large multi-use facility has saved money and protected its patients, employees and the environment from the harmful effects of traditional pest control techniques. The mission statement of the University of Rochester Strong Memorial Hospital PCU is:

*The philosophy of the
pest control unit is:
We are guardians of the
environment, rather
than simply eliminators
of pests.*

Utilizing a fully Integrated Pest Management approach, protecting the health and safety of the University Community and property by first preventing structural pest problems from developing, by emphasizing exclusion and proper sanitation, and by minimizing and quickly abating problems that do occur by using industry best practices and environmentally sound methods.

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Benefits of the Program

Pest Reduction

There was a 77% reduction in pests in monitored areas between 1995 and 2002.

Cost savings

Between 1995 and 2002, the University saved about \$45,000 a year on labor costs alone. The program also resulted in a 34.5% reduction in pest management costs even as infrastructure and services increased.

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Environmental Benefits

Pesticides applied in a hospital building or on its grounds negatively impact all components of the ecosystem including the local birds, fish, beneficial insects, mammals and plants. The increased load of pesticides in the environment further complicates existing pressures on biodiversity and the air, water and soil.

The dominant component of an IPM program is prevention.

Reducing use of these pesticides lightens this burden on the local ecosystem. In 1990 the University used over 800 ounces of various spray-type pesticides, including Dursban. By 1997, there was a significant reduction of spray-type pesticides used, including the complete elimination of Durban. Because of the preventative nature of the IPM program, fewer pesticides are used decreasing exposure to these chemicals.

Health Benefits

With the decrease in pesticides comes a decrease in pesticide-related health effects. These effects include acute effects like nausea, vomiting, headaches, rashes, dizziness, aching joints, flu like symptoms and asthma. Long term effects of exposure to pesticides can include cancer, birth defects, genetic damage, neurological problems and development of chemical sensitivities.

Morale

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How to Replicate the Program

Getting Started:

The dominant component of an IPM program is prevention. University of Rochester Strong Memorial's methodology starts with exclusion and sanitation - blocking all potential pest entries to the facility and maintaining a clean environment that does not attract pests. When pests do appear the strategy shifts to deprive them of food and shelter. Realistically, certain conditions in low risk areas may allow for a minor, chronic problem with pests. Consequentially, a threshold may be established at a level that is acceptable to all concerned parties. When the incidence of pests exceeds this threshold level, when exclusion and sanitation do not succeed, and when all attempts at non-pesticide control methods have failed, the least toxic pesticides capable of achieving the maximum control are considered and used sparingly. The IPM plan does not include preventative spraying of pesticides.

Other key components of this IPM program include:

- regular inspection for pests, especially in food service areas,
- identification of problem areas,
- education of engineering and environmental services staff on IPM methods cleanliness,
- timely reporting of problems,
- regular monitoring and evaluation,
- enforcement,
- program buy in from staff and patients, and
- long-term commitment of staff and administration.

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Tracking Data:

Data collection and monitoring are extremely important to the success of any IPM program. For example, as a regular part of the pest control program, the Strong Memorial PCU monitors roach populations in certain high risk or problem areas such as food service establishments. This helps the unit identify areas that have problems and assess the severity of the problems. It also demonstrates the effectiveness of treatments with the roach program in general.

Challenges and Lessons Learned

Any successful IPM program has to be a partnership involving all areas of the facility.

Any successful IPM program has to be a partnership involving all areas of the facility. The Pest Control Unit cannot do it alone. The facility as a whole must take ownership of the program, including the responsibility of taking corrective action that the Pest Control Unit communicates through written or oral recommendations regarding the cause of problems or conditions that potentially could cause pest problems.

For More Information

If you'd like more information about Integrated Pest Management and pesticides, please visit any of the following sources:

- Beyond Pesticides, www.beyondpesticides.org
- Health Care Without Harm, www.noharm.org/pesticidesCleaners/issue
- Hospitals For a Healthy Environment, www.h2e-online.org/tools/chem-ipm.htm
- IPM Institute of North America, www.ipminstitute.org
- Pesticide Action network North America, www.panna.org
- U.S. Environmental Protection Agency, www.epa.gov/pesticides

Quick Stats

University of Rochester Strong Memorial Hospital

Location: Rochester, NY

Size of facility – 736 beds

Type of facility – Health Care Facility and Teaching Facilities

Partner of H2E Since: 1999

H2E Awards: Making Medicine Mercury Free (2002), Environmental Leadership (2002)

Contact Information

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This case study was developed by Hospitals for a Healthy Environment (H2E) with approval and guidance from the University of Rochester Strong Memorial Hospital. Published October 2004. For more information about the H2E program and awards, visit www.h2e-online.org.