INTEGRATED PEST MANAGEMENT (IPM) IN HOSPITALS

Continuous pest management is a must for hospitals. First of all, hospitals are places in where various types of patients are being treated and thus a great variety of pathogens and microorganisms exist there as well. Any pest infestation would easily lead to outbreaks of diseases, particularly vector-borne and food poisoning diseases. Meanwhile, hospitals need to get rid of pest problem that may affect their image in maintaining sound sanitation.

Pest management in hospitals is comparatively more complicated. Firstly, the architectural and operational arrangements of hospitals are often favorable to pest breeding and infestation:

- There are many passageways between buildings.
- Abundance of sources of food, water and harborage for pests.
- Busy people flow and logistics.
- Movement of food, clothing and other materials happens everyday inside hospitals.

Secondly, there are restrictive factors in the application of pest control measures in hospitals. For examples:

- Patients are more vulnerable to pesticides.
- Patients may not be able to leave the infested areas that need to be treated.
- Application of pesticides is not allowed in some areas such as operation theatres, nursery rooms, ICUs, etc.
- There are a lot of sensitive articles like electronic equipment, sterilized materials, etc.

Furthermore, there is a great variety of pest type potentially infesting hospitals including rodents, cockroaches, mosquitoes and flies, spiders, ants, termites, bed bugs, fleas, lice and mites, birds, bats, etc.

IPM in hospitals mainly consists of pest surveys, pest management methods and record management.

**Pest Surveys**

1. Before conducting pest surveys, meet with staff of hospital administration and maintenance department to ascertain current and past pest situations.
2. Conduct inspections with the presence of hospital staff whose can provide relevant information.
3. Obtain building layouts, as far as possible, for the purpose of identification of infested areas and placement of control devices.
4. Pay particular attention to pest black spots such as toilets, laundry rooms, kitchens, patient wards, staff locker rooms, plant rooms, garbage rooms, loading docks, etc.

Pest Management Methods
With surveys completed, pest management technicians shall meet with hospital representatives, report and propose management plan. The plan should include details of control measures for every areas and locations involved. Details shall include:

- Pest(s) to be treated.
- Control method(s) to be used.
- Pesticides, if used, with active ingredient, application method, formulation, application frequency, safety measures, etc.
- Area(s) needs to be repaired or operational changes required.

Pest control methods may vary with special features of the operation areas of hospitals. Non-chemical and chemical method can be adopted alone or simultaneously.

Non-chemical control methods of IPM in hospitals include:
Sanitation ------ Clear garbage and stagnant water regularly; inspect and repair building facilities at intervals; restrict eating at designated locations; inspect incoming food, equipment, clothing, tools, etc. for any pest infestation.

Trapping ------ Place devices such as rodent cage trap, glue board, UV-light insect trap, etc. at relevant locations to trap pests.

Screening ------ Install wire mesh, caulking, air curtain, etc. to stop ingress of pests or to limit their movement.

Physical Control ------ For articles not suitable to contact with chemicals, use heating, freezing or carbon dioxide gas to treat them to avoid pest harborage.

Chemical control measures should be taken cautiously in hospitals. It is
necessary to make sure the areas being treated are patient wards, treatment rooms or non-medical areas.

Patient Wards and Treatment Rooms ------ Pesticide bait shall be considered first, if appropriate (Remark: Not applicable to rodent control). If pesticide spraying is unavoidable, all patients and staff should be evacuated. Room ventilation system should be turned off. Non-irritant pesticides and low level spraying method should be selected. Never do space spraying or dusting of pesticides in patient wards and treatment rooms.

Non-medical Areas ------ Chemical control measures could be taken when necessary. However, all relevant safety measures should be taken and observed. Particular attention should be made to avoid spillage of chemical to other areas via the ventilation system.

Record Management
IPM should have a thorough system for work records that comprise:
- Dates, times and locations of conducting pest surveys and application of control measures.
- Details of pesticide application including location, method, formulation and quantity.
- Proposals for required remedial or improvement works for building structures.
- Proposals for required improvement in sanitation.
- Locations with pest activities or increased pest problem.
- Difficulties encountered during pest control operations.
- Recommended changes in control program with reasons.

All work records should be reported to hospital representatives regularly. Discussion meeting shall also be held for follow up actions.