

# **A Bed Bug Management Policy**

**for Accommodation Providers**  
(Draft)



May 2010

**Stephen L. Doggett**



# A Bed Bug Management Policy for Accommodation Providers

Draft First Edition ([www.bedbug.org.au](http://www.bedbug.org.au))

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## 1. INTRODUCTION

This Bed Bug Management Policy was initially developed to assist community housing groups who were experiencing recurrent bed bug problems. However, the policy can aid any organisation within the accommodation sector, be it the hospitality industry, student and staff lodgings, and/or public housing. For such organisations having a bed bug policy in place will ensure that the proper management processes are undertaken, which will increase the likelihood of a successful treatment, reduce the risk of bed bugs spreading over the long term, save money and potentially decrease the risks of litigation. It is important to note that not all sections of this policy will be applicable to every organisation and thus some degree of individual tailoring will be required.

This policy has been developed from "*A Code of Practice for the Control of Bed Bug Infestations in Australia*" (CoP) and, as such, is regularly referenced from within this document. The CoP should be consulted for greater detail on bed bug management and is available as a free download from [www.bedbug.org.au](http://www.bedbug.org.au).

The key areas within this policy include; defining responsibilities, education, documentation, occupational health and safety, eradication processes, bed bug prevention, and handling the media. Presently this policy is a first draft and to ensure broad acceptance of the document, feedback is sought from industry stakeholders. All submissions should be sent to Stephen Doggett, c/o Department of Medical Entomology, Westmead Hospital, PO Box 533, Wentworthville NSW 2145, or email: [stephen.doggett@swahs.health.nsw.gov.au](mailto:stephen.doggett@swahs.health.nsw.gov.au). Closing date is 31<sup>st</sup> September 2010 for submissions, which will all be considered in the development of the final release of the policy.

## 2. RESPONSIBILITIES

The responsibilities of the main stakeholders in relation to bed bug management include:

### 2.1. Facilities Management

- Implementation of this management policy,
- Ensuring that all control complies with the CoP,
- Acting promptly to tenant reports and newly identified infestations,
- Contracting Pest Managers only who have specific training in bed bug

management (see [www.bedbug.org.au](http://www.bedbug.org.au) for such a list),

- Documentation of the infestations,
- Education of tenants (especially to de-stigmatise bed bugs, raise the awareness of the signs of an infestation, and to ensure that tenants do not attempt control),
- Inspection and monitoring,
- Coordination of pest management,
- Liaising with Pest Managers as to requirements for room preparation,
- Informing Pest Managers of tenants with health problems (e.g. chemical sensitivities, respiratory issues, etc),
- Ensuring that all infested bedding and furniture earmarked for disposal is rendered unusable,
- Identification of risk behaviours for bed bug introduction and spread,
- To undertake bed bug risk minimisation.

## 2.2. Tenant

- Minimising clutter to reduce potential bed bug harbourages,
- Maintaining a regular regimen of vacuum and bed linen laundering,
- Regular examination of bed and room for bed bugs,
- Prompt reporting of suspected bed bugs to management,
- Transporting of all laundry in sealed plastic bags.
- Not to attempt bed bug control,
- Prepare room for treatment according to the directions of the Pest Manager,
- Not to collect beds and furniture found on the street.

## 2.3. Pest Manager

- To manage bed bugs according to the CoP,
- To develop a bed bug management plan for any infestation,
- To liaise with the Facilities Management.

# 3. EDUCATION & TRAINING

## 3.1. Training Aids

Each site should have access to a range of educational material for staff and tenant training. At a minimum this should include:

- The latest version of 'A Code of Practice for the Control of Bed Bug Infestations in Australia' (available from: [www.bedbug.org.au](http://www.bedbug.org.au)),
- Bed bug images,

- Fact Sheets, e.g. Westmead Hospital Bed Bug Fact Sheet ([http://medent.usyd.edu.au/bedbug/bed\\_bugs\\_factsheet.pdf](http://medent.usyd.edu.au/bedbug/bed_bugs_factsheet.pdf)),
- In house bed bug procedural guidelines.

Other useful training aids include:

- Samples of dead bed bugs, preferably preserved in 70% ethanol,
- Images of bed bug activity from their own facility,
- Records of where bed bugs have been found in their own facility,
- Samples of infested mattresses and furniture (it is essential that these have been thoroughly disinfected and should be stored in a clear sealed bag, which remains unopened),
- Online training guides, e.g. The National Centre for Healthy Housing Integrated Pest Management Bed Bug course: [www.healthyhometraining.org/ipm/IPM\\_MFH\\_6\\_BedBugs\\_8-27-09.ppt](http://www.healthyhometraining.org/ipm/IPM_MFH_6_BedBugs_8-27-09.ppt),
- Further reading materials, see References (see Section 10).

### 3.2. Staff

There should be designated staff members at each site that have the responsibility of dealing with the bed bug infestations. Wherever possible, these staff should be trained externally via an Australian Environmental Pest Managers Association (AEPMA) curriculum approved workshop.

Such staff need to be trained in:

- How to identify bed bugs and signs of activity,
- Where to look for bed bugs,
- Tools to assist in bed bug inspections,
- Bed bug biology,
- How to handle and treat infested linen and items,
- How to conduct themselves in a bed bug infested room,
- Personal Protection Equipment (PPE) and its use,
- Documentation procedures,
- How to educate tenants and other staff to minimise possible bed bug exposure,
- A basic understanding of the control process,
- The proper disposal of infested items,
- Preventative measures,
- Tenant risk behaviours that could increase the chance of introducing or spreading bed bugs,
- What constitutes the inappropriate use of insecticides (e.g. insecticide 'bombs').

These staff should also be responsible for the continuing education of other staff



members, ensuring that all bed bug training records and infestation records are properly maintained, and that bed bugs are a regular item on staff and tenant meetings. The designated bed bug expert should also be responsible for ensuring that the relevant bed bug information is included in new staff and agency induction training.

For major accommodation chains and organisations, there should also be a designated bed bug expert. That person would have the responsibility of keeping up to date management policies, procedure manuals and training programs, and to provide continuing education. They should also have the task of auditing sites to ensure that training records, documentation and infestation record keeping have been maintained.

For other staff, there should be a bed bug component within staff induction. Information should include:

- What are bed bugs and how to identify them,
- The staff member/s designated to deal with bed bug infestations,
- An overview of the management processes,
- Where to find more information.

For sites with chronic bed bug infestations, a specific bed bug training module may need to be developed encompassing many aspects discussed herein. Presently no such module exists in Australia.

### **3.3. Tenants**

Tenants need to be educated in the following:

- How to recognise bed bugs and their signs,
- Where to look for bed bugs,
- Laundering handling procedures (especially when an infestation is present),
- Procedural policies of the facility if bed bugs are detected or suspected,
- How to prepare the room for treatment by the Pest Manager,
- What not to do in an infestation (such as using insecticide bombs, which can spread an infestation and pose a fire risk),
- How to avoid bed bugs.

### **3.4. External Agencies**

Those from external agencies who need to access bed bug infested rooms or areas, or may be inadvertently exposed to bed bugs, must be informed of the risk. Details of how they can minimise the risk of acquiring bed bugs should be in the induction training.

## 4. DOCUMENTATION

Documentation should include:

- Procedural guidelines,
- The recording of bed bug mitigation activities,
- The documenting of bed bug infestations and treatments.

Having procedural guidelines in place facilitates and directs control. This ensures that control is less *ad hoc*, thereby reducing the risk of the spread of the insect and decreasing management costs in the long-term. Proper documentation of actual and suspected infestations is a vital part of bed bug management. This provides evidence that procedures have been completed and undertaken in an appropriate order and fashion. All bed bug infestations should be recorded as an incident report and/or logged into a specific database as described below.

The following should be documented as part of the bed bug mitigation processes:

- Records of staff, agency and tenant training/educational programs,
- Routine bed inspections for bed bugs,
- If outside agencies had to enter an infested room and if they have gone through induction training,
- Vacuuming regimen: vacuum bag changes, treatment and disposal,
- Vacant room inspections,
- Full details of any bed bug infestation as described in the proposed database below,
- The Bed Bug Management Plan as provided by the Pest Manager (Section 6.5),
- The Pest Manager treatment report.

### 4.1. Database for Bed Bug Infestations

A standardised database should be used to document bed bug infestations. This has a number of advantages; it can help ensure that procedures are undertaken, it can help in the tracking of people and potential infestations, it can be used to review the procedures within a facility, and the economic impacts of bed bugs can be recorded. A proposed database with fields is presented in Section 9.

## 5. OCCUPATIONAL HEALTH & SAFETY

### 5.1. Staff Induction

The following OH&S matters specifically relating to bed bug management should be added to the OH&S induction of all new staff who may be called upon to deal with bed bug problems:

- How to conduct oneself in an infested room (avoid leaning or sitting on beds, take the minimum of equipment into the room, avoid placing items on the bed, etc),
- What PPE should be used,
- How, when and where PPE should be disposed of,
- How bed bug infested items should be handled,
- Manual handling processes (if for example, staff need to move beds and mattresses for inspection),
- How to disinsect ones own clothing, or items taken into an infested room,
- The limitations of the individual staff's duties (e.g. when a qualified trades person must be consulted).

### 5.2. Personal Protection Equipment (PPE)

PPE that should be available to staff includes:

- Disposable overalls,
- Disposable gloves,
- Disposable boot covers,
- Dust masks,
- Insect repellent (used in heavy infestations and should be applied to clothing),
- Ziplock bags for holding disposable items after leaving the room,
- Durable plastic garbage bags (for quarantining large items, eg. clothing).

### 5.3. Disinsection Facilities

Each facility should provide the following for staff who have to deal with bed bug infestations;

- Hot water washing machine,
- Hot dryer,
- Plastic zip lock bags for potentially infested clothing or dissolvable alginate bags,
- Change room and clothes storage facility,
- Durable plastic garbage bags.

## 5.4. Material Safety and Data Sheets (MSDS)

A current MSDS for each insecticide used to treat the bed bug infestation should be kept and be available for staff and tenants if requested. These can be obtained from the Pest Management company that undertakes the treatment.

# 6. ERADICATION PROCESSES

## 6.1. Overview

The following principles must be adhered to:

- All bed bug control activities must be in accordance with the Bed Bug CoP,
- Management must act promptly (preferably the same day) in dealing with potential or actual bed bug infestations,
- All real or suspected bed bug infestations must be documented,
- Only licensed Pest Managers must be used, and they should provide evidence of external training on bed bug management (see [www.bedbug.org.au](http://www.bedbug.org.au) for a list of Pest Managers who have completed an AEPMA approved course),
- The Pest Manager must provide a Bed Bug Management Plan (see below),
- Only insecticides registered with the Australian Pesticides and Veterinary Medicines (APVMA) can be used,
- The procedures outlined below must be followed in the event of a suspected or confirmed bed bug infestation, as well as the procedures outlined pre and post-treatment, along with the preventative measures outlined in Section 7.

## 6.2. Bed Bug Inspection Kit

For staff who have the task of undertaking regular inspections for bed bugs, the following tools may be of assistance:

- PPE, as described above,
- A powerful torch, with spare batteries,
- A 10x magnifying lens (to inspect for live bed bugs and eggs),
- Collection bottles (for gathering bed bugs for later confirmation of identity, sticky tape can also be used for gathering bugs),
- Fine tipped forceps (for picking up bed bugs),
- Screwdrivers and spanners for dismantling items,
- An inspection mirror,
- Plastic bags (large and small) to hold bottles, tape, infested items, etc.,
- Notepad, for recording details of the infestation,
- Digital camera for recording infested sites (the digital images or printouts can also be used as educational material).

### **6.3. Suspected Bed Bug Infestation**

If a tenant or a guest lodges a complaint suggestive of bed bug involvement, or if staff detect bed bugs or their signs, or if a medical practitioner has the suspicion that the cause of bites was bed bugs, then the following should be undertaken as a minimum:

- Any report of a possible bed bug infestation must be investigated and documented,
- Any tenant complaining and providing any form of evidence of bed bugs should be immediately moved to another room whenever possible,
- Management should document when the suspected infestation was reported, the room number, if and where the bed bugs were observed, and any adverse clinical reaction (e.g. whether bite marks were evident),
- The facility should attempt to collect bed bug specimens and have them identified by an appropriate expert, preferably an expert reference Medical Entomology laboratory. Bed bug specimens should be stored in a jar with a tight fitting lid sent live or containing just enough methylated spirits to wet the insects,
- If tenants develop a severe reaction to the bite, the facility management should encourage and assist the tenant to seek medical assistance. The facility management should never provide medical advice. Records of adverse reactions should be documented along with action taken,
- Management should demonstrate empathy with the tenant by explaining that bed bugs are becoming increasingly common throughout the entire accommodation industry, and that the facility now has strict policies in handling and responding to an infestation,
- The room should be inspected for bed bugs as soon as possible by appropriately trained staff or preferably a Pest Manager. If the room can not be inspected on the same day, then preferably it should be vacated until an inspection is undertaken.

### **6.4. Confirmed Bed Bug Infestation**

In addition to the above procedures, the following should be implemented upon the confirmation of a bed bug infestation;

- If the tenant or guest has been moved to another room, then the second room should also be inspected and treated once the tenant has vacated (again ensuring all above procedures are documented),
- The washing of the tenant's or guest's clothing in hot water prior to room reallocation may help to reduce the risk of further spreading bed bugs,
- In the event of a confirmed bed bug infestation, the facility should provide information to the tenant or guest on how to avoid spreading bed bugs to others,
- If there is any suspicion that others may have stayed in the infested room

(either prior to the current tenant moving in or since) then they should be contacted by management about the infestation,

- If the tenant regularly visits friends or family or has a carer in other properties, or has recently moved, then these facilities should be informed of the activity (assuming no privacy laws are violated).

### **6.5. Bed Bug Management Plan**

A Bed Bug Management Plan must be provided to the facility for the treatment of all bed bug infestations by the Pest Manager. This can also serve as the service contract. The plan sets out the pest control processes by detailing the work to be undertaken. It must be stated up front that the aim of the treatment is to achieve complete eradication of the infestation. Following an initial site assessment, the Bed Bug Management Plan should include:

- The findings of the initial assessment (e.g. where bed bugs were evident, the degree of the infestation, and photographs where possible),
- The treatment process. This would include:
  - estimated treatment commencement date and a time frame for the treatment process,
  - estimated number of treatments required to achieve eradication,
  - non-chemical means of control,
  - insecticides to be used (and MSDSs as required),
  - where the insecticides will be physically applied,
  - times when the client needs to vacate the premise and can re-enter,
  - any client duties prior to and after treatment (such as the placement of a mattress cover over insecticide treated mattresses).
- The requirements for follow up inspections and treatments,
- That the plan follows the CoP,
- Warranties, limitations and restrictions,
- Period of validity of the plan and quote,
- The charge for the treatment.

In the plan, it must be stated that inspection of adjoining rooms (both vertically and horizontally) should be undertaken. The Bed Bug Management Plan should explain clearly the organisation's responsibilities and include authorised signatures stating when they will carry out any recommendations made by the Pest Manager.

### **6.6. Pre-Treatment**

Prior to treatment, but following the inspection by the Pest Manager, the following should be undertaken if agreed to by the Pest Manager:

- All bed linen, curtains and clothing must be removed from the infested areas.

It is essential to handle all such items as infectious; they must be bagged before removal from the room and washed in the hottest water possible (>55°C) and/or dried in a hot-air clothes drier. Alginate bags are preferable for infested linen, as the bags with the linen enclosed can be placed directly into the washing machine and the bags will dissolve. This reduces extra handling of infested linen and reduces potential cross-contamination in laundry facilities. Delicate items can be placed into a freezer after bagging. If a linen contractor is used, then all potentially infested linen must be kept isolated, with instructions to wash separately in hot water,

- Likewise, all wardrobes, drawers and cupboards must be emptied and the contents treated as above. After clothing and materials have received the heat treatment, these should not be returned to wardrobes but kept sealed in plastic bags until the infestation is eliminated,
- All wall hangings including framed picture and photographs, posters, flags, etc., need to be removed and decontaminated,
- All loose articles must be removed from the floor,
- Cover up any fish tanks (if any are present in the rooms) or preferably remove them from the room to be treated,
- Tenants must vacate the premises and/or area of treatment,
- For infested rooms, the room must be kept closed upon bed bugs being detected until the infestation is declared eradicated,
- If possible, the Pest Manager should be provided with a plan of the building so that the location of all bed bug infestation/s can be recorded and that all adjoining rooms are inspected and, if necessary, treated. A copy should be kept by management,
- If the infestation is exceptionally heavy and the room cluttered, then all items will need to be treated, or else discarded. To treat the items it will be necessary to bag all items so that they can be taken to a fumigation facility, or treated by heat. None of the items should be returned until the infestation is declared eradicated.

## 6.7. Post-Treatment

The following should be undertaken post-treatment:

- Occupants should be encouraged not to re-enter the treated area until after the chemical has completely dried. Refer to insecticide label instructions for re-entry period,
- The floors and upholstered furniture should not be vacuumed for at least 12-14 days after the final treatment so that the residual insecticides are not removed,
- The room should be kept vacant until the Pest Manager declares the area free of bed bugs in a follow-up visit. As the eggs take 10-12 days to hatch (at 22-25°C ambient temperature), this should be the minimum period for

any follow-up visit. However, in heavy infestations more than one follow-up visit will be required before bed bug elimination can be assured,

- All past signs of the infestation should be removed, such as dead bugs and the blood spotting on walls and mattresses, to avoid future confusion,
- Preventative measures should be undertaken as outlined below.

Any report from the Pest Manager should be attached to the incident report or linked to the Bed Bug Database. The Pest Manager report must include details of the treatment regimen and the insecticides used, if different to the Bed Bug Management Plan.

## **7. PREVENTATIVE MEASURES**

### **7.1. Overview**

Bed bug prevention is essentially about risk reduction and harm minimisation. Each facility should have a multidisciplinary approach to prevention with various strategies against the four main phases of a bed bug infestation (these are defined in Section 19 of the CoP). The most important aspect in relation to bed bug risk management is prompt action. The following represents the key points of the strategies as described within the CoP, with a reference to the relevant sections within the CoP.

### **7.2. The Traveller (Section 19.3 of the CoP)**

Advice should be given to tenants on avoiding bed bugs while staying away and reducing the risk of introducing the insects into the facility. This includes checking beds and storing unpacked luggage in plastic bags. More information is in Section 19.3 of the CoP.

If there is a suspicion that the tenant may have been exposed to bed bugs while travelling, then the following should be undertaken;

- On return back to the facility, luggage should be inspected and kept isolated from the bedroom (such as in a storage area that can be readily treated),
- If kept in the room, then luggage should be stored in plastic bags, and the facility should provide these to the tenant,
- All clothing should be hot washed and/or dried on the hot cycle of a clothes dryer for a minimum of 30 minutes,
- If there is any possibility an infestation may have been acquired, then a Pest Manager should be contacted immediately,
- Document the incident and the management action as an incident report as discussed above.



### **7.3. New Tenant Intake Procedures**

There should be an intake procedure for new tenants whereby they are interviewed and asked if they may have been exposed to bed bugs at their previous location. If they have had exposure or deny this yet have possible bed bug indications (e.g. obvious bites on the body or spotting on furniture), then those disinsection procedures described in the previous section should be undertaken.

### **7.4. Second Hand Furniture (Section 19.4)**

If feasible, second hand furniture should be banned. If not, then such furniture should be thoroughly inspected by an appropriate expert before being placed into rooms.

### **7.5. Linen & Bedding (Section 19.5)**

All linen should be laundered in hot water and hot dried.

### **7.6. Room Furnishings & Room Construction (Section 19.6)**

All furnishing and construction elements should be 'bed bug unfriendly', i.e. of materials that are smooth and contain few cracks and crevices. For example:

- Avoid using wicker furnishing and MDF materials,
- Avoid having fixed cupboards,
- Avoid fixed bed heads,
- Render and paint walls that are open brickwork,
- Have linoleum or tiled floors rather than carpet.

### **7.7. Ongoing Maintenance (Section 19.7)**

All cracks and crevices should be sealed, and loose wallpaper removed or reglued.

### **7.8. Bed Design (Section 19.8)**

All beds that are newly purchased should be constructed of metal without springs. Ensemble bases should be avoided.

### **7.9. Mattress Design and Mattress Encasements (Section 19.9)**

Mattresses without edge beading should be used, with the alternative being the use of bed bug mattress encasements. Effective encasements are listed in Appendix C of the CoP.

**7.10. Hygiene** (Section 19.10)

There should be a regular documented vacuuming regimen to all areas within the facilities, including both common areas and tenant rooms. If tenants seem unable or unwilling to comply, especially in bed bug prone facilities, then management should ensure vacuuming is undertaken in their rooms.

The vacuums should be the type with a disposable bag, which must be routinely changed, sealed and disposed of in a sanitary manner. The vacuum appliance when not in use should be stored to minimise the risk of bed bug transfer (see Section 16.1.3 of the CoP).

**7.11. Risk Assessment** (Section 19.11)

All past infestations should be analysed to examine for patterns or behaviours that may assist in the identification of new or potential infestations. High risk tenants should be located within the facility where the risk of bed bug spread is the lowest (e.g. at the end of the building).

**7.12. Linen Handling** (Section 19.13)

When linen is laundered externally, it is important that the linen is bagged within the tenant's room, and the used linen is stored in a bed bug 'unfriendly' area and away from the clean linen. The used linen hopper should be of a construction that can help contain bed bugs and is easy to decontaminate (e.g. solid metal or plastic).

**7.13. Pest Inspections** (Section 19.14)

In facilities with ongoing bed bug infestations, there should be regular documented bed inspections. The frequency of inspections would depend on the level of activity and modified according to the rate of new infestations. All vacated rooms should be thoroughly inspected before re-leasing.

**7.14. Destruction of Infested Items** (Section 19.15)

All infested beds and furniture earmarked for disposal must be labelled as 'Bed Bug Infested' and rendered unusable before disposal.

## **8. MEDIA**

For each facility, all media enquires should be directed to and handled by a designated media liaison officer who should be familiar with bed bugs, the facilities management policy and the CoP (notably especially Section 8.2 – Customer Relations – Accommodation Industry). No other staff should speak with the media. If the media liaison officer is unavailable, then media enquires should be directed to the Executive Officer of the facility.

Generic press releases should be prepared for a rapid media response. Information would include, that the world is in the grip of a bed bug pandemic, infestations are not uncommon in the accommodation industry, the organisation has or is in the process of developing management policies to deal with any infestation, and that staff are sympathetic and proactive in assisting tenants and guests in resolving the problem.

## 9. BED BUG DATABASE

The fields listed below represent the minimum required for a comprehensive database. A degree of modification may be required for the individual accommodation provider.

Field	Description
Room number	Room number of suspected bed bug infestation.
Date tenant moved in	Self explanatory.
Date Bed Bugs reported	Date when the suspected infestation was first reported.
Why reported	This may include the tenant or room visitors seeing bed bugs, the tenant experiencing bites or having bite like reactions, bed bugs being detected during routine inspections, an adjoining room being infested or the tenant being possibly exposed to bed bugs while staying away from the facility.
Date inspection by staff	The date when the room was first inspected by a staff member.
Staff member inspected	Name of the actual staff member undertaking the inspection.
Access granted by tenant (Y/N)	Self explanatory; for sites with residential occupancy.
Bed bugs present (Y/N)	Self explanatory.
Describe activity	Include information on bed bug numbers, e.g. a light infestation (<10), moderate (10-100), heavy (>100). Where bed bugs (or signs of bed bugs) were observed.
Previous activity	Has this room previously had bed bugs and been treated.
List surrounding room numbers	If the presence of bed bugs has been confirmed, all the rooms immediately adjoining must be listed to ensure that these are inspected. Each room should be listed separately in the database.
Date surrounding rooms inspected by staff	Self explanatory.
Activity detected in surrounding rooms	If yes list, which rooms were positive.
Date Pest Manager contacted	Self explanatory.
Date of inspection	Self explanatory.
Bed bugs confirmed (Y/N)	Self explanatory.
Adjoining rooms inspected by Pest Manager (Y/N)	If yes list which rooms were positive. If this list includes rooms additional to those found infested when expected by staff, then a separate entry should be included.
Bed Bug Management Plan received (Y/N)	The Pest Manager should provide a Bed Bug Management Plan that describes the findings of the inspection, the process of the treatment, treatment dates, insecticides used and other relevant information.

Date/time of treatment notice and information pack given to resident	The date and time of the treatment should be given to the tenant as well as information pertaining to bed bugs and the actual treatment.
Who was the information given to and by which staff member?	List name/s.
Date and time of first treatment	Self explanatory.
Date and time of follow inspection	Self explanatory.
Date and time of subsequent treatments & follow up inspections	Self explanatory.
Date treatment declared eradicated	Self explanatory.
Formal notification of eradication received from Pest Manager (Y/N)	Self explanatory.
Total cost of pest management treatment	Self explanatory.
List bedding/furniture and furnishings replaced	Self explanatory.
Bedding/furniture and furnishings replacement costs	Self explanatory.
Laundering costs	Include estimate for electricity if done in house.
Estimated staff time	Self explanatory.
Staff costs	Include hourly rate.
Total costs	Self explanatory.
Follow up investigations: How where the bed bugs brought in?	For risk analysis purposes, there should be an attempt to determine by which means bed bugs were introduced.
Follow up investigations: List other tenants that may be at risk	The names of friends, partners and carers should be listed, so that follow up inspections can be undertaken.
Follow up investigations: List room numbers	The room numbers of the people identified in the previous field should be listed.
Follow up investigations: List date of inspections	List the date when the rooms listed in the previous field were inspected. If positive, then a separate database entry needs to be made.
Follow up investigations: Previous tenant/s	List the previous tenant/s name and present address if current tenant has been resident less than six months.
Does the previous tenant or facility need contacting?	List Y/N if the previous tenant may have had bed bugs.
Contacted?	Date when tenant was contacted and/or the facility where the tenant presently resides was contacted.
Data entry person	Staff who entered the data and date(s) of entry.
Notes	Any additional information, this may include any adverse health impacts and medical referrals, etc.

## 10. REFERENCES AND FURTHER READING

Those marked with an asterisk contain extensive information on bed bug biology.

Doggett SL. 2010. **A Code of Practice for the Control of Bed Bug Infestations in Australia**, 3<sup>rd</sup> Edition. *Westmead Hospital and AEPMA, Westmead*. 74pp. [www.bedbug.org.au](http://www.bedbug.org.au)

\*Doggett SL. 2009. **Bed bug workshop 2009. Course notes**. *Westmead Hospital, Westmead*. 135pp.

Doggett SL and Russell RC. 2009. **Bed bugs, what the GP needs to know**. *Australian Family Physician*, 38(11): 880-884.

Gangloff-Kaufmann JL and Pichler C. 2008. **Guidelines for Prevention and Management of Bed Bugs in Shelters and Group Living Facilities**. *New York State IPM Program, Cornell University*. 39pp. [www.nysipm.cornell.edu/publications/bb\\_guidelines/](http://www.nysipm.cornell.edu/publications/bb_guidelines/)

\*Pinto LJ, Cooper R and Kraft SK. 2007. **Bed Bug Handbook. The complete guide to bed bugs and their control**. *Pinto & Associates, Inc.*

Taisey AA and Neltner T. 2010. **What's working for bed bug control in multifamily housing: reconciling best practices with research and the realities of implementation**. *National Center for Healthy Housing*. 37pp. [www.nchh.org/Portals/0/Contents/bedbug\\_report.pdf](http://www.nchh.org/Portals/0/Contents/bedbug_report.pdf)

## 11. GLOSSARY

**AEPMA** – The Australian Environmental Pest Managers Association; the peak industry body for pest management companies in Australia ([www.aepma.com.au](http://www.aepma.com.au)).

**Alginate Bags** – Dissolvable laundry bags used for handling infectious bedding.

**APVMA** – Australian Pesticides and Veterinary Medicines Authority; this is the federal authority responsible for insecticide licensing ([www.apvma.gov.au](http://www.apvma.gov.au)).

**Bed bug/s** – Either the Common bed bug (*Cimex lectularius*) or the Tropical Bed bug (*Cimex hemipterus*).

**Bed Bug Elimination** – The inspection and treatment have been undertaken according to the CoP and no living bed bugs were detected in the final inspection.

**Bed Bug Friendly** – Any item, material (e.g. wood, chipboard, cane, unsealed brick work, etc) or dwelling that contains numerous cracks and crevices, and provides a multitude of bed bug harbourages.

**Control** – In the context of this policy, primarily implies the elimination of a bed bug infestation. In some contexts, control also includes bed bug management and prevention.

**CoP** – The Code of Practice for the Control of Bed Bugs in Australia, available from [www.bedbug.org.au](http://www.bedbug.org.au).

**Disinsection** – The process of eliminating an insect infestation.

**Facilities Manager** – In the context of this policy, is the overall manager of the accommodation facility.

**Fumigation** – The process of using a fumigant, which are gaseous insecticides. Due to the highly toxic nature of fumigants, they can only be used by pest managers with a fumigation licence. Fumigation is rarely undertaken for bed bug control at the site of the infestation.

**Guest** – In the context of this policy, the term is used for any individual staying within any form of accommodation, excluding those privately owned (i.e. homes, units).

**Harbourages** – Places where bed bugs hide.

**Housekeepers** – Includes staff responsible for hotel maintenance and cleaning.

**IPM** – Integrated Pest Management is a multidisciplinary approach to pest management with the main aim being to maximise the control of insect infestations by the use of multiple methods. IPM is based on the proper identification of the pest, knowledge of the pest's ecology, non-chemical means of control and the judicious use of insecticides.

**MSDS** – Material Safety Data Sheet.

**Pest Manager** – A person licensed to undertake pest management services under relevant State Legislation, and who undertakes a bed bug treatment. Note that this name varies across the country with the different State Legislative Acts.

**PPE** – Personal Protection Equipment; this includes gloves, facemasks, overalls, dust masks, etc.

**Residual Application** – The process of applying insecticide to a surface such that an insect will contact the insecticide when it walks on the treated surface.

**Socially Disadvantaged** – People who for whatever reason are unable to control their own circumstances.

**SPs** – Synthetic pyrethroid insecticides.

**Topical Application** – The process of applying insecticide directly at the insect (as opposed to 'residual application').

## 12. ACKNOWLEDGEMENTS

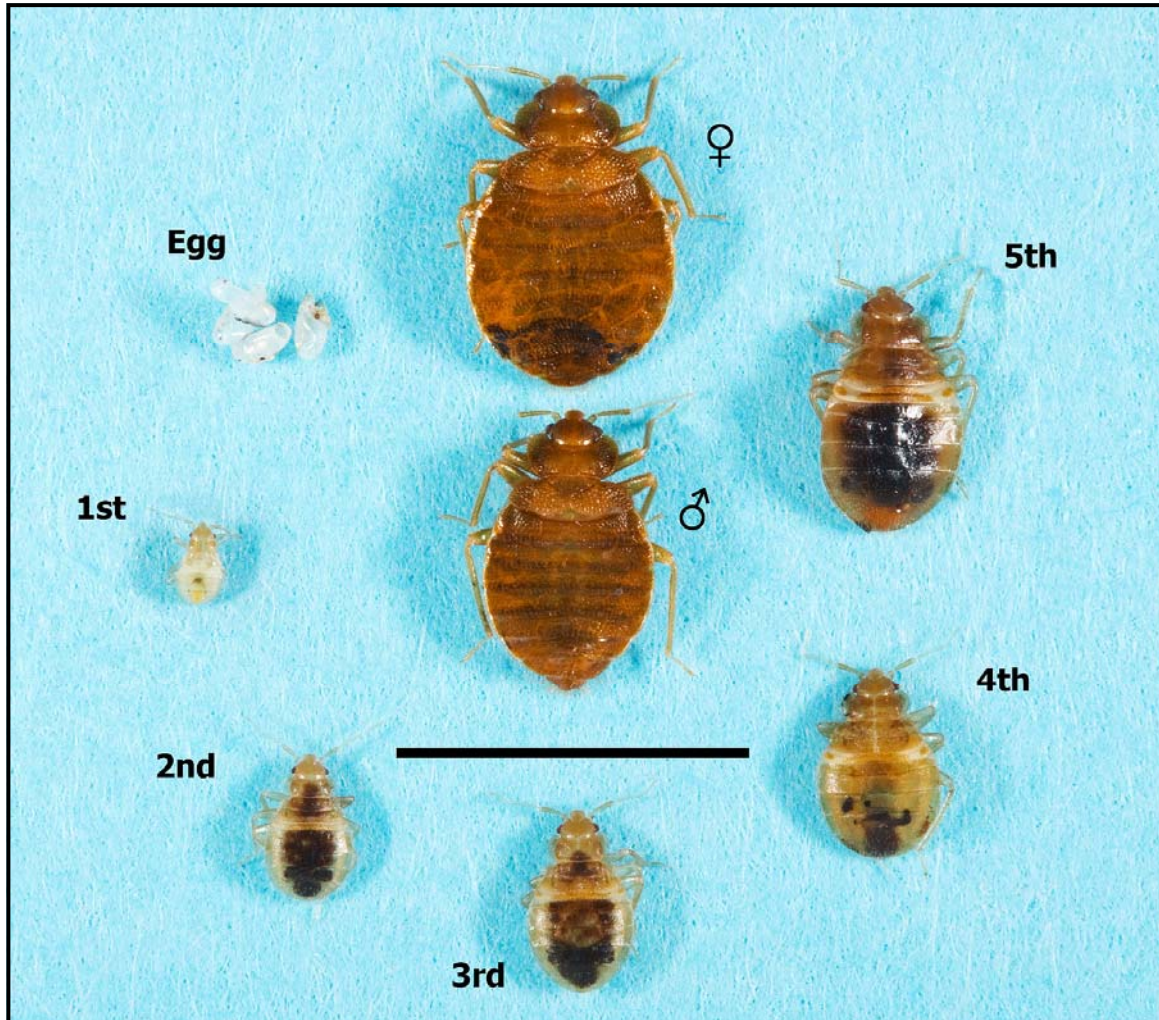
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- The Australian Environmental Pest Managers Association, Bed Bug Code of Practice Working Party.



### 13. BED BUG LIFECYCLE

The Common Bed Bug, *Cimex lectularius*. Bar = 5mm.



**Actual Size** (when printed at A4)

**First Instar Bed Bugs**



**Adult Bed Bugs**



**Identification Service** (this may attract a fee):

The Department of Medical Entomology, ICPMR, Westmead Hospital, PO Box 533, Wentworthville, NSW, 2145. Ph: 02 9845 7265 [www.medent.usyd.edu.au](http://www.medent.usyd.edu.au)