

**A Pilot Project Phase II: Modeling an Effective Process to Control
Bedbugs in the Downtown Eastside**

**Vancouver Area Network of Drug Users
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EXECUTIVE SUMMARY

There has been a rapid rise in the prevalence of bedbugs in the last number of years. At this point in time, bedbug infestation has reached alarming and possibly epidemic proportions in the Downtown Eastside (DTES). The overall purpose of the VANDU Bedbug Pilot Projects (Phase I and Phase II) was to improve the lives of people living in the DTES by developing, testing, and evaluating a community based model developed by VANDU for reducing infestation and controlling the spread of bedbugs in the neighbourhood.

Phase II of the pilot project builds on Phase I, which successfully treated two residential hotels in the DTES. The main purpose of Phase II was to further develop the expertise and knowledge gained in Phase I and apply it to a larger SRO, the Cobalt Hotel.

The project was guided by a Steering Committee with representatives from: City of Vancouver (Solid Waste Management, the Housing Centre, Non-Market Housing Operations, and License and Inspections); the Vancouver Agreement; Vancouver Coastal Health (Health Protection); the Ministry of Employment and Income Assistance; and BC Housing. Direct funding for this project came from Vancouver Agreement, Vancouver Coastal Health, the Ministry of Employment and Income Assistance, and the City of Vancouver. The costs of pesticide treatment were covered by the Cobalt Hotel.

Phase II Objectives and Outcomes

Phase II of this pilot project has four main objectives:

1. Improve the lives of tenants living in the DTES SRO hotels by controlling and preventing the spread of bedbugs throughout the DTES.
2. Expand VANDU's expertise and method of controlling and preventing the spread of bedbugs in the DTES by targeting a larger (75-100 room) SRO hotel.
3. Carry out a longer term evaluation of the initial phase of the Pilot by conducting a follow-up evaluation of the two hotels initially treated.
4. Continue to educate tenants, owners and the broader community on the control and reduction in the spread of bedbugs.

Overall, Phase II was a success with the successful treatment of one large bedbug infested SRO hotel. Bedbug control was achieved in 68% of the rooms, and levels of infestation in those rooms still requiring follow up was greatly reduced. The peer-to-peer model that was employed was a key factor in the success of the project. Based on data collection received for comparison purposes these results are excellent.

Phase II also included a very successful and well received education campaign directly reaching the tenants of the Cobalt and over 100 members of the community.

Phase II achieved the following outcomes:

- successful treatment of one large infested SRO;
- continued reduction in the spread of bedbugs through the DTES;
- continued reduction in the risk of re-infestation in treated buildings;
- increased awareness about controlling the spread of bedbugs in the community through a continued information campaign and community workshops;
- continued low threshold employment and training opportunities for local residents;
- continued capacity building of a local street level organization;
- continued to build bridges among government, non-profit organizations, private and not-for-profit SRO owners/operators, residents, local businesses and others to deal with an increasingly serious bedbug issue; and
- kept the momentum going with peer to peer support and public education so that the benefits of Phase I could be built upon.

The following are key recommendations made for ongoing work of this nature:

1. Expanding the provision of these services to a level where they will have a significant impact will require strong business management. To this end, VANDU has been developing a social enterprise to offer treatment assistance services.

- In the early stages of stabilizing the provision of treatment assistance services, a Project Coordinator and probably at least one Team Supervisor should be hired from outside the VANDU membership.

2. Ensure that the City of Vancouver and Vancouver Coastal Health Authority have active roles in an ongoing bedbug maintenance program.

- Work with the City of Vancouver and Vancouver Coastal Health from the outset to enlist hotels where the service is very much needed but who might otherwise not enlist.
- Work with the City of Vancouver, Vancouver Coastal Health and the Pest Control Manager as necessary from the outset to ensure as much co-operation as possible with the owner/operators and to more strategically focus pre-treatment preparations (ie. begin work with those tenants who

- may have been accumulating excessive amounts of personal belongings as early as possible).
- In situations on the more difficult end of the spectrum, ideally the City of Vancouver and/or Vancouver Coastal Health would be a regular periodic presence during the process and for a period of time afterwards to ensure that requirements and recommended practices are more likely to be followed.
3. Continue using a Letter of Understanding, signed by the owner/operators outlining the benefits of the service as well as the expectations for compliance and cooperation with the project or develop a Memorandum of Understanding or a basic contract for ongoing work.
 4. Ensure that advance planning and logistics are tailored to the delivery of services to the specific location, the staff, and the tenants. Successful treatment also requires working effectively with the pest control company, and major providers of supplies and services (the Laundromat, the bed replacement company and garbage removal company etc.).
 5. Provide clothes for tenants or have a list of places they can get clothing until their laundry is returned.
 6. When a building is targeted for bedbug treatment it is important that all rooms in the building be treated and re-treated as required. In terms of obtaining access to all rooms, it is necessary to meet the legal requirements for keeping tenants properly informed of inspections and treatment days. It is also important to work as cooperatively as possible with tenants, owners and the pesticide companies.
 7. Bedbug control programs in the DTES should have peer to peer and educational components. With respect to preventing the re-infestation and/or spread of bedbugs, working one on one with tenants in buildings being treated and conducting public workshops is key. Education, prevention and early detection are essential to halting the spread of bedbugs.
 8. It is important for both tenants and owners to be actively involved in prevention and maintenance efforts. For tenants this entails cooperating with necessary treatments, decreasing the number of visitors, and decreasing and monitoring the amount of items brought in. For owners it entails providing proper and consistent treatment, monitoring rooms to make sure that there is not an unreasonable amount of personal belongings accumulating, using bedbug proof furniture as much as possible (ie. replacement beds that are bedbug resistant, mattress and box spring encasements, plastic chairs, furniture and beds with metal frames), and being careful not to recycle infested mattresses.

9. The following are recommendations for tenants for control and prevention:

- Tenants need to tell the staff/owners about the problem and be prepared to show signs of bedbug infestation ie fecal spotting, bites and/or a specimen if possible.
- Tenants should be prepared to join together with other tenants and follow up concerns in writing if they are not being addressed.
- Tenants need to monitor what is being brought home and keep personal belongings to a reasonable limit.
- Second hand items and items found in alleys or dumpsters are always suspect and should be avoided if possible unless they can be laundered and/or thoroughly inspected.
- Tenants should as much as possible keep clothing or infested items in plastic bags and keep things as clean and tidy as possible.
- Tenants should keep a reasonable limit on the number of visitors.
- Tenants who are concerned that a visitor might be carrying bedbugs should make sure they don't sit on the bed or other soft furniture.
- Tenants who are concerned about visitors carrying bedbugs should ask them to put their clothing and personal items in a plastic bag, give them a change of clothes and ask them to take a quick shower if they will be staying any length of time or are overnight guests.
- Tenants should put their clothes in a plastic bag until they can launder them and have a shower upon returning home after visiting somewhere they know has bedbugs or likely has bedbugs.

10. The following are recommendations for landlords for control and prevention:

- Where there has been an ongoing bedbug problem or as a preventative measure, carpeting should be avoided and/or there should be a plan to replace what is there. It is best to speak with a Pest Control Manager about your own specific situation but for example, surfaces that do not provide hiding places for bedbugs and that can be wiped down are best.
- On-site washers and dryers (or at least dryers) could be a major contributor to keeping bedbug infestation under control and decreasing the costs of ongoing treatment.
- Landlords need to monitor the amount of personal belongings of tenants.
- Landlords need to monitor what tenants are bringing home.

- Landlords should repair obvious things like holes in the wall or cracks in the floor, eliminating obvious places where bedbugs can hide.

11. In many situations ongoing treatment will be needed to truly control the infestation of bedbugs. Once comprehensive treatment is completed, buildings treated for an extensive bedbug problem should implement a maintenance plan with a Pest Control Manager for ongoing treatment.

1. INTRODUCTION

There has been a rapid rise in the prevalence of bedbugs in the last number of years. Before about the year 2000 North American society had essentially enjoyed a 50 year break from bedbugs. When bedbugs began to re-emerge we did not generally know how to deal with them effectively. Two of the most frequently cited reasons for the recent resurgence of bedbugs are increased international travel and changes in pesticide management techniques. For example, it is often stated that the resurgence is in part due to restrictions on the use of powerful residual insecticides (ie DDT) that once effectively controlled bedbugs. However there is also evidence of the development of increased bedbug resistance, including resistance to DDT, which further complicates the problem.

Controlling bedbugs is complex and difficult. They can be very difficult to detect and also very resilient. Bedbugs are quite tiny and can hide in small cracks in floors, walls or furniture, as well as in the folds and contours of mattresses. Mattresses, bed frames and box springs are favorite hiding places for bedbugs. They prefer wood, upholstery and paper to surfaces like metal and plastic. They have an average life span of about six to nine months and females generally lay their eggs in secluded areas. The average female bedbug produces about 200-500 eggs over her lifetime. Bedbug infestations should be addressed as quickly as possible because otherwise the problem will increase rapidly and become much more difficult to treat.

The sole source of nutrition for bedbugs is blood. As a general rule they prefer less hairy humans, over pets and rodents, as hosts. Under normal conditions bedbugs feed once every week or two. However, an adult bedbug can live for over a year without feeding. There are documented cases of adults surviving for up to 560 days without a blood meal.

There is a fair amount of stigma as well as a general lack of accurate information about bedbugs. For example there has been a popular misconception that bedbugs can only thrive in poor sanitary conditions. However bedbugs can survive anywhere where they have a place to hide from light and a periodically present host. They have been found in five star hotels, hospital waiting rooms, university dorms, schools, movie theatres and health clubs.

The rise in bedbug infestations in Vancouver's Downtown Eastside (DTES) has been a growing concern for both tenants and landlords in the last number of years. The "Vancouver Agreement Hotel Analysis Project: Summary of Findings" found that 80% of the 54 hotels studied - all of which were in the DTES - have bedbug infestation, 77% have rodents and/or cockroaches, and few buildings

had a pest management plan.¹ The “Vancouver Agreement Hotel Analysis Project: Recommendations for Action” states that further action will be determined based on the results of the Vancouver Agreement funded Hotel Pest Control Project, which is Phases I and II of the VANDU Bedbug Pilot Project.²

There is much to be done to prepare for effective pesticide treatment for bedbugs. Often the Pest Control Manager was arriving to find that rooms were not prepared adequately, there was no plan to remove and replace infested items, and laundry was not being done. During Phase I VANDU hired a Project Manager who stayed with the project throughout Phase II, to manage the delivery of community based treatment assistance services, coordinate a public education campaign, and write the final evaluation reports.

The delivery of community based treatment assistance services involved training VANDU members and people who live in the DTES as Tenant Assistants (TA’s) to provide hands on treatment assistance services. Tenant information sessions were set up to inform tenants about the process. Individual rooms and tenants were surveyed throughout the process to determine the extent of the problem.

There were four rounds of treatment over a period of approximately 2 months. The first round of treatment took place over 5 days with a team of 10-12 VANDU members vacuuming, cleaning and preparing approximately 100 rooms, sending out approximately 3,800 pounds of laundry, removing eight and a half truck loads of infested beds and garbage, and replacing 98 beds. Ongoing information and educational material was provided to tenants throughout the process. Formal evaluations were conducted at the end to evaluate the effectiveness of the treatment. In addition to the information sessions held for tenants, 2 large public workshops were held for members of the community.

The overall purpose of the VANDU Bedbug Pilot Projects (Phase I and Phase II) was to improve the lives of people living in the DTES by developing, testing, and evaluating a community based model developed by VANDU for reducing the infestation of bedbugs in the neighbourhood. The VANDU Bedbug Pilot Project Phase II (“Phase II”) began in April, 2007. The main purpose of Phase II was to test the process in a larger hotel. In Phase II, treatment assistance services were provided in a large (100 unit) for profit hotel. A public education campaign was part of both Phase I and Phase II.

In Phase I, treatment assistance services were provided in two hotels in the DTES - a mid-sized not for profit hotel (40 units) and a mid-sized for profit

¹ Vancouver Agreement Hotel Analysis Project: Summary of Findings, March 2007. p. 6, “Health Protection/Environmental Health”.

² Vancouver Agreement Hotel Analysis Project: Recommendations for Action, March 2007, recommendations 8 and 12, pp. 6-7.

hotel (48 units). Phase I was completed in March, 2007 and staff reported the results to Council in early April, 2007.
(<http://vancouver.ca/ctyclerk/cclerk/20070403/documents/a8.pdf>).

The Steering Committee for Phase I and Phase II was composed of representatives from: City of Vancouver (Solid Waste Management, the Housing Centre, Non-Market Housing Operations, and License and Inspections); the Vancouver Agreement; Vancouver Coastal Health (Health Protection); the Ministry of Employment and Income Assistance; and BC Housing. Direct funding for Phase I came from the Vancouver Agreement, Vancouver Coastal Health, and the Ministry of Employment and Income Assistance. Hotel owners paid for pesticide treatment and some necessary repairs and improvements to their premises. Direct funding for Phase II came from Vancouver Agreement, Vancouver Coastal Health, the Ministry of Employment and Income Assistance and the City of Vancouver.

For Phase I and II VANDU's contract to carry out the Pilot was administered by Vancouver Coastal Health and the City of Vancouver coordinated the Pilot between VANDU and the Steering Committee.

2. OBJECTIVES

Phase II of the Bedbug Pilot Project builds on Phase I which successfully treated two hotels in the DTES. The main purpose of Phase II was to further develop the expertise and knowledge gained in Phase I. The four stated objectives of Phase II are as follows:

(i) Improve the lives of tenants living in the DTES SRO (Single Room Occupancy) hotels by controlling and preventing the spread of bedbugs throughout the DTES.

- ***Improving the health of tenants.*** While bedbugs are not considered to transmit disease they are considered a nuisance pest of health significance. Reactions from bedbug bites range from no reaction to itchy and/or stinging bumps, bites, welts or wheals of about 1 cm in size. There is the possibility of secondary infection and although extreme reactions are rare, those who are concerned are advised to see a doctor. Stress, depression, sleeplessness and insomnia are common reactions for those affected. For those who are already often dealing with addiction, compromised immune systems, mental health issues and/or poverty, the health impacts should not be minimized. For example, there is growing evidence of a relationship between bedbug

bites and the development of MRSA infection³, especially amongst those with compromised immune systems. MRSA infected bites in those with Hepatitis C and HIV can require hospitalization. Reducing the infestation of bedbugs and educating tenants and owners about their spread is also empowering, reducing the sense of hopelessness that can set in, as well as improving confidence and self-esteem which has positive effects on the physical and mental health of tenants.

- ***Improving living conditions for tenants.*** Bedbug infestation is being addressed by courts in Canada and the US. A proliferation of bedbugs is not an acceptable living condition, with rights and responsibilities falling to both tenants and owner/operators. There appear to be no effective “over the counter” remedies for dealing with bedbug infestation. With a coordinated and systematic treatment approach, general living conditions are improved. This includes coordinating professional pest control measures, as well as disposing of infested beds and other infested furniture, laundering clothing and bedding, removing garbage, replacing infested beds, and identifying other pest infestations. The work to improve living conditions was done collaboratively with the owner/operators and professional pesticide companies. In both Phase I and Phase II significant improvements were made in terms of reducing bedbug infestation and improving the cleanliness of individual units as well as the cleanliness of the entire building.

(ii) Expand VANDU’s expertise and method of controlling and preventing the spread of bedbugs in the DTES by targeting a larger (75-100 room) SRO hotel.

- ***Building on Tenant Assistant (TA) expertise.*** Phase II expanded and built upon the expertise gained by TA’s in Phase I. In Phase II the TA’s successfully prepared rooms, provided laundry services and garbage removal, and delivered beds in relation to the treatment of twice as many units as in Phase I.
- ***Testing the capacity of local service providers.*** Phase II also successfully tested the capacity of local service providers such as the local laundromat, local garbage removal and a local pesticide company, to provide services in relation to the treatment of twice as many units as in Phase I.
- ***Providing low-threshold training and employment opportunities.*** Phase II continued to provide training and employment opportunities for VANDU members and local residents.

³ MRSA stands for methicillin-resistant staphylococcus aureus but is shorthand for any strain of staphylococcus bacteria which is resistant to one or more conventional antibiotics.

(iii) Carry out a longer term evaluation of Phase I of the Pilot by conducting a follow-up evaluation of the two hotels initially treated in Phase I.

- The Project Manager spoke with a manager at IPM, the pest control company used at the Walton before, during and after Phase I. The Walton was heavily infested before Phase I. Approximately 15 months after the operational phase at the Walton the positive results achieved were holding with a monthly treatment plan. The Pest Control Manager remembered VANDU immediately and stated that working at the Walton with VANDU was the best experience they had had in providing bedbug treatment in the DTES and that it was the best preparation he's seen in that area. He also stated that the hotel has been much better since that treatment and that on average treating 4-5 rooms each month keeps the bedbugs under control.

(iv) Continue to educate tenants, owners and the broader community on the control and reduction in the spread of bedbugs.

- ***Engaging resident participation.*** Through the use of a peer-to-peer model, tenants were supported through the process and educated about controlling the spread of bedbugs and preventing re-infestation. By the end of the process 93% of tenants surveyed at the Cobalt stated they could detect bedbugs; 85% reported they could prepare a room; and 91% stated that they found the information provided throughout the process useful and adequate.
- ***Increasing awareness.*** Tenant information sessions and public education workshops were held to increase community awareness which helps to empower the community and prevent the spread of bedbugs. Between the tenants at the Cobalt and public workshop attendees approximately 200 people received direct education. In keeping with the benefits of peer based education, this knowledge will spread to others in the community. Participants were very engaged at the workshops and overall feedback on the workshops was excellent.

3. HOTEL SELECTION

The process of visiting potential SRO's began in mid April, 2007, with the goal of having a short list of 3-4 SRO's for the Steering Committee to choose from.

The main criteria for selection of the SRO were:

- The size of the SRO (75-100 units);
- The geographic location (in relative proximity to Main and Hastings);

- The significance of the bedbug problem (that the work would have a significant impact/benefit for tenants living with bedbugs);
- Anticipated cooperation of the owner/operators; and
- Workable logistics in terms of providing the overall services.

Obtaining buy in from hotel owners was a challenge in Phase I and Phase II. Many owner/operators stated that they did not have a bedbug problem or that they were handling it, even though tenants reported that there was a problem with bedbugs. Some owner/operators stated that they were dealing with the problem by having a number of rooms treated each month. One of the findings in Phase I was that once the level of infestation reaches a certain level, the entire building needs to be treated at least twice. There is also evidence that less extensive treatment than is required is a contributing factor in increasing levels of bedbug resistance.

By the end of April only one SRO owner was willing to be short-listed so the Project Manager enlisted the assistance of the City of Vancouver. By mid-May, 2007 the Cobalt Hotel, a for profit SRO hotel, was selected from a short list of 3 hotels.

4. PILOT PROJECT PLANNING, COORDINATION AND COLLABORATION

(i) Planning and Coordination

As in Phase I, overall management of the project was carried out by VANDU. VANDU hired the same Project Manager from Phase I who further developed and oversaw the process. The Project Manager worked with the City of Vancouver to coordinate the project between VANDU, the Steering Committee, the owner/operators of the Cobalt, the Pesticide Control Manager and members of VANDU. The Project Manager also oversaw the effective treatment assistance services, coordinated the public education campaign, and wrote the final report.

The Pest Control Manager VANDU worked with on this project was Richard Lorenzen of DTES Pest Control. He has a good understanding of the situation tenants are living in and a strong desire to improve conditions for people affected by bedbugs in the DTES.

The following is an overview of the key dates and activities of Phase II:

- Early-Mid April, 2007 - Contract negotiations
- Mid-April, 2007 - SRO selection process begins
- End of April, 2007 - Help of City of Vancouver enlisted in SRO selection process

- Mid-May, 2007 - SRO selected
- End of May, 2007 - Decision to have a Letter of Understanding signed before proceeding
- Mid-June, 2007 - Letter of Understanding signed by the Owner of the Cobalt and beds ordered etc - see **Appendix A**
- Mid-June to July - Preparations for initial pesticide treatments, bed replacement etc
- June 20th, 2007 - Tenant information session at the Cobalt
- July 2-6, 2007 - 1st pesticide treatment
- July 11-14, 2007 - 2nd pesticide treatment
- July 19th and 30th - follow up by Project Manager with Cobalt staff and Pest Control Manager
- Mid-August, 2007 - Tenant information session on bedbugs and preventing re-infestation generally; determination of whether more treatments were required
- Week of August 20th - preparations for 3rd and 4th treatments, including previewing the rooms that could be more problematic and speaking with tenants
- August 25-26, 2007 - 3rd pesticide treatment
- September 3-4, 2007 - 4th pesticide treatment
- Week of September 17, 2007 - Preliminary formal evaluations
- October 4th, 2007 - 1st Public Workshop
- October 12th, 2007 - 2nd Public Workshop
- Week of November 5, 2007 - Final 60 day formal evaluations
- Early December, 2007 - Recommendation made to the owner/operators to implement a monthly maintenance plan for bedbug treatment, beginning with the rooms requiring follow up at this time

Initially two Team Supervisors were identified to:

- provide support for preparations leading up to the operational phase (ie. recruiting and training TA's, providing information about the process to tenants, assisting with lining up required services and supplies);
- coordinate and supervise TA's during the treatment phase;
- assist with the workshops and formal evaluation process; and
- provide some assistance with the report writing phase as required.

One of the goals of Phase II was to be able to pass more responsibilities to the Team Supervisor(s). This has not been possible. One Team Supervisor became busy with other work and stepped down early in the process. VANDU entered into contracts with two Team Supervisors in mid-June. One of these Team Supervisors stepped down due to personal reasons in the early stages of the operational phase. The other Team Supervisor did a very good job during the main operational phase but was not available after this. Difficulties were encountered with keeping Team Supervisors in Phase I as well, mainly due to

reliability, as well as personal and/or interpersonal issues. During the course of both phases of the Pilot, the Project Manager has worked with five Team Supervisors in total, none of whom remain as Team Supervisors at this point.

VANDU is developing a social enterprise to offer treatment assistance services. The experience so far has shown that besides the TA's, many of whom may continue to be volunteers, the main positions required will be a Business Manager, a Project Coordinator, 1-2 Team Supervisors and a Laundry Coordinator. The goal is to keep as many people from VANDU as possible in key positions, though it will very likely be necessary, at least at the outset, to hire a Project Coordinator and at least one Team Supervisor from outside of VANDU to stabilize the delivery of services.

In terms of planning it would be useful in future to either have some clothes on hand for tenants or to have a list of places they can get clothing until their laundry is returned.

(ii) Collaboration

Collaboration was essential to the success of the project on several levels. The assistance of the City of Vancouver was crucial in the hotel selection process. The assistance of both the City of Vancouver and Vancouver Coastal Health was crucial once we were in the operational phase. The City of Vancouver and Vancouver Coastal Health were called in by the Project Manager for assistance in working with the tenants, Pest Control Manager, and owner/operators to get direction and support for how more problematic rooms would be handled.

The Project Manager coordinated the collaboration of the Pest Control Manager, the City of Vancouver, Vancouver Coastal Health, the owner/operators, and the tenants for more problematic room preparations. This allowed TA's to more effectively work with tenants to prepare their rooms, which included getting rid of or laundering and treating personal belongings. For example, in one situation a tenant had two adjoining rooms that were filled with personal belongings, including an abundance of books and clothing. These rooms were also very heavily infested. The joint recommendation by the representative from the City of Vancouver, Vancouver Coastal Health and the Pest Control Manager was for this tenant to get rid of at least half of her books and various other items. The owner/operator was also present and in agreement when this recommendation was made.

With some guidance, the TA's and Team Supervisor did an excellent job of working directly with the tenant in this situation and also in other challenging circumstances. At least 2 TA's worked directly with this tenant for 2-3 days, helping her get rid of things and doing excess laundry that we couldn't have sent out. This tenant actually got rid of more like 75% of her personal belongings. Out of the remainder of items, her clothing was laundered and books and some other items were treated and kept in plastic bags which we

locked in another room until the Pest Control Manager decided whether they had been successfully treated (about 10 days later). The Project Manager implemented and oversaw this process and the Pest Control Manager spoke with the tenant and made any necessary recommendations in terms of how to treat the items returned to her before using them. The Project Manager kept representatives from the City of Vancouver and Vancouver Coastal Health involved and informed as this work was progressing and everyone involved was satisfied with the results.

Throughout the process there were at least 10 rooms where it was necessary to work quite extensively with the tenant to get rid of garbage and excess personal items. With some guidance from the Project Manager, in each case the TA's and Team Supervisor did an excellent job in difficult circumstances. Being able to call upon the City of Vancouver and Vancouver Coastal Health for their input when necessary was essential.

In terms of TA's collaborating with each other and the Team Supervisor this was generally excellent with a few exceptions. For example, occasionally a TA came to volunteer "dope sick", was verbally abusive to other TA's or tenants, or was simply very disruptive of the process. Very occasionally a TA was verbally abusive and/or highly critical of the Project Manager. In all of these cases the TA was asked to change their behaviour, and warned that if they did not they would be asked to leave. Overall only two TA's out of approximately 30 over the course of the work had to be asked to leave. Generally the TA's worked together very well, though having one or two TA's around who were disrupting this had a very negative effect on the whole team.

In terms of working collaboratively with tenants, tenant cooperation varied from cooperative to quite uncooperative at the outset. Tenant cooperation substantially improved over the course of the project to the point where near the end the vast majority of tenants were cooperative and also voiced their appreciation of the work that was being done. A number of tenants passed on their appreciation anonymously to the Project Manager through the Team Supervisor, thanking us and stating that what we were doing was really making a difference. Overall the need for assistance with room preparations was quite high in Phase II.

In terms of working collaboratively with the owner/operators of the hotel, the Project Manager set up a number of meetings and walk-throughs of the hotel to view rooms and storage areas before beginning preparations and treatment. The Team Supervisor and Pest Control Manager were present for most of these meetings. Suggestions were made for cleaning out storage rooms, cleaning laundry facilities and vacuum cleaners, as well as suggestions for the storage of items. For example, it was pointed out that clean laundry must be stored separately from abandoned possessions of tenants or other items that may be infested. It was also pointed out that items that may be infested should be

stored in plastic bags and discarded after the required period of time had elapsed. Many of these suggestions were acted upon.

The Project Manager also had several conversations during the process with the owner/operators about building on the work done to clean up the building and individual rooms. At the end of the process, hotel management reported that there were now only 1-2 rooms that remain more cluttered than is desirable and they were working on this. One hotel manager was also taking the SRO Hotel Management Course and was implementing a room monitoring system whereby he was keeping records of his monitoring efforts and the rooms that required attention. It appeared that some definite improvements had been made and would continue. In terms of an ongoing maintenance plan it is very important that the staff monitor the rooms and make sure that there is not an unreasonable amount of personal belongings accumulating.

There were of course some challenges in bringing the infestation under control which everyone involved had to work with as well as we could. For example a significant rate of turnover in the tenant population, as well as some rooms with a high number of visitors can make it quite challenging to bring the infestation under control.

(iii) Overall planning, coordination and collaboration

In terms of planning, coordination and collaboration, there are a number of factors that will place housing agencies and/or SRO's along a spectrum from easier to work with to more difficult to work with. For example:

- How much turn over there is in the tenant population or other high traffic situations
- Whether the owner/operators and tenants are cooperative and motivated to achieve the best possible results from the process
- The size and general state of units, for example larger and more cluttered units will generally require more time to prepare
- The basic layout of the building, for example whether there is an elevator, how many flights of stairs there are, how accessible the building is from outside in terms of getting laundry, beds, garbage etc in and out

Often times those tenants who are living in the worst conditions and who are most at risk of becoming homeless will live in places that need the service but will be more difficult to work with and will require more significant support, financially and otherwise. In terms of project planning, coordinating and collaboration, Phase II involved working towards the more difficult end of the spectrum. The following lessons were learned that will prove useful for the future delivery of these services:

- Expanding the provision of these services to a level where they will have a significant impact will require strong business management. The main positions required for ongoing delivery of these services will be a Business Manager, a Project Coordinator, 1-2 Team Supervisors and a Laundry Coordinator. The goal will be to keep as many people from VANDU as possible in key positions. However, it will very likely be necessary, at least at the outset, to hire a Project Coordinator and at least one Team Supervisor from outside of VANDU to stabilize the delivery of services.
- To enlist those hotels where the service is very much needed but who might otherwise not enlist, it will be necessary to work with the City of Vancouver and Vancouver Coastal Health from the outset.
- For the pilot project a Letter of Understanding was signed by the owner/operators outlining the benefits of the service as well as the expectations for compliance and cooperation with the project. It would be prudent to continue with this practice or develop a Memorandum of Understanding or a basic contract for ongoing work.
- In some cases it will be necessary to work with the City of Vancouver, Vancouver Coastal Health and the Pest Control Manager from the outset to ensure as much co-operation as possible with the owner/operators and to more strategically focus pre-treatment preparations (ie. begin work with those tenants who may have been accumulating excessive amounts of personal belongings as early as possible).
- In situations on the more difficult end of the spectrum, ideally the City of Vancouver and/or Vancouver Coastal Health would be a regular periodic presence during the process and for a period of time afterwards to assist with the implementation of recommended practices for maintaining the benefits of the work.

5. PUBLIC INFORMATION PROCESSES

5.1 Pilot Project Building

(i) Tenant information sessions

There were two general tenant information sessions held, one in late June, 2007 before the process began, and another in mid August, 2007 after the initial two treatments. Each information session was approximately one hour. The purpose of the tenant information sessions were to give tenants an overview of the process so that they would know what to expect and how we could work together.

In the first information session tenants were provided with information about the project generally, the specifics of the process, the role of the TA's, how to prepare a room, and what to expect with pesticide treatment. 30 tenants were in attendance. The information was provided verbally and in the form of three information sheets. The Project Manager coordinated the information sessions and two Team Supervisors were present to provide information and assistance. Information sheets were also distributed to individual units leading up to and during the initial room preparations.

The second information session was held in mid August, 2007. The following information was provided: general information about the project; general facts about bedbugs; information on elimination and control; information on prevention; and what to expect with pesticide treatment. There were 47 tenants present, as well as the owner of the Cobalt, all operators of the Cobalt and operators from other SRO's owned by the same owners. This information was provided verbally and in the form of five information sheets. The Project Manager coordinated this information session with input from the Team Supervisor and Pest Control Manager who were also present at this meeting. The Pest Control Manager also provided information about the pesticides used and how to enhance the results of pesticide treatment. These information sheets were also distributed to all rooms leading up to the final two treatments.

All information sheets are attached to this report as *Appendices B through I*.

(ii) Number of participants in attendance at the tenant information sessions

There were 77 tenants in attendance at the two information sessions held plus the owner and operators of the Cobalt and operators from about 3 other SRO's owned by the same owners.

(iii) Number of information sheets distributed at tenant information sessions

Approximately 800 information sheets were distributed at the two information sessions and leading up to and during treatment at the Cobalt, to approximately 100 tenants and participants.

(iv) Tenant surveys

Formal tenant surveys were conducted at four points over the course of the project, first to gather information on the extent of the problem and then to help evaluate the success of the project. In total 180 tenant surveys were conducted to the middle of November, 2007.

38 tenants were surveyed in total at the outset of the project. The initial tenant surveys gathered the following types of information:

- whether they had bedbugs;
- whether the room had been treated before;
- whether they had much that would need to be thrown away;
- how much laundry they had;
- whether their bed needed to be replaced and if so the size;
- whether they were able to do what was required to get their room ready for treatment;
- whether they had somewhere to go during the time they would need to be out of their room;
- whether they had pets that needed to be accommodated;
- whether they had any medical issues that might require special accommodation; and
- whether they had other pest problems.

The second set of tenant surveys were conducted from August 3-16th, beginning approximately 2 weeks after the first and second treatment to assess the situation. 62 tenants were surveyed and 35 of those (56%) still had bedbugs. When the Project Manager drafted a plan that included treating rooms above, below and adjacent to those that were still infested, it was determined that almost the entire building needed further treatment. It was decided that the entire building would be treated again.

The third tenant surveys were done approximately two months after completion of the initial two treatments and the fourth tenant surveys were done approximately two months after the final two treatments. Both the third and fourth tenant surveys were the same and were designed to provide an overall or formal evaluation of the process at two different times. 43 tenants were surveyed in September, 2007 and 37 tenants were surveyed in November, 2007. The results of the third and fourth surveys are presented in Section 8 of this report, which covers the formal evaluation.

The formal evaluations were used as an opportunity to educate tenants further about bedbugs and how to prevent re-infestation, as well as gathering the following types of information:

- the extent of the problem with bedbugs or other pests before treatment and currently;
- how the new beds were working for tenants;
- whether tenants were able to determine if they had bedbugs;
- whether it helped to have volunteer TA's from VANDU available throughout the process;
- whether tenants could now help someone prepare a room for treatment;

- whether tenants needed more information on bedbugs or what to do if they had them;
- whether tenants generally knew how to minimize the risk of re-infestation;
- whether tenants had suggestions for what the owner/operators could do to minimize re-infestation;
- what was best about the process for tenants;
- whether tenants had any suggestions for improving the process; and
- whether tenants needed any follow up.

The tenant surveys guides are attached as *Appendices J and K*.

(v) Notices posted and flyers delivered about the process

All notices - 11 in total from VANDU - were posted in common areas and flyers were delivered to each unit at least 48 hours in advance. Approximately 1200 notices and flyers were delivered by VANDU to tenants of the Cobalt during the entire process. Prior to pesticide treatment, the Pest Control Manager posted notices of the dates of treatment and materials to be used.

The notices that were distributed to tenants are attached as *Appendices L through U*.

5.2 Public Workshops

In addition to the tenant information sessions and surveys done on location, two public workshops were also held at the VANDU office. The Project Manager coordinated both workshops with the help of one TA and a number of VANDU members. The first public workshop was held on October 4, 2007 and the second public workshop was held on October 12, 2007. 91 written workshop evaluations were received in total. The purpose of the workshops was to educate local residents of the DTES and others affected by bedbugs about bedbugs generally, as well as providing information on prevention, early detection and reducing the risk of re-infestation.

(i) First Public Workshop

There were at least 50 people in attendance for the October 4, 2007 workshop, most of whom were tenants. There were approximately 5-10 people from non-profits serving people in the DTES.

The workshop included a panel presentation including presentations by Anne O'Neil, Project Manager, VANDU Bedbug Pilot Projects; Martha Lewis, lawyer and the Executive Director of TRAC Tenant Resource and Advocacy Centre; and Richard Lorenzen, Certified Pest Control Manager, DTES Pest Control. The Project Manager presented a PowerPoint which provided an overview of the community-based process developed, general facts about bedbugs, and tips on prevention and control. Martha Lewis from TRAC Tenant Resource and

Advocacy Centre provided an overview of the rights and responsibilities of tenants and owner/operators. Richard Lorenzen, Pest Control Manager of DTES Pest Control provided information on what to expect with pesticide treatment and the benefits of a community-based process for bedbug control.

Some of the highlights from the VANDU PowerPoint are as follows:

- We generally can't get rid of bedbugs with over the counter remedies
- Tenants need to tell the staff/owners about the problem and be prepared to show signs of bedbug infestation ie fecal spotting, bites and/or a specimen if possible
- Tenants should be prepared to join together with other tenants and follow up concerns in writing if they are not being addressed
- As much as possible keep clothing or infested items in plastic bags and keep things as clean and tidy as possible
- Second hand items and items found in alleys or dumpsters are always suspect and should be avoided if possible unless they can be laundered and/or thoroughly inspected
- Tenants need to keep personal belongings to a reasonable limit
- Landlords need to monitor the amount of personal belongings of tenants
- As little as 5 minutes in a dryer on medium heat will kill all stages of bedbugs
- On-site washers and dryers could be a major contributor to keeping bedbug infestation under control and decreasing the costs of ongoing treatment
- Tenants need to monitor what is being brought home
- Landlords also need to monitor what tenants are bringing home
- Landlords should repair obvious things like holes in the wall or cracks in the floor, eliminating obvious places where bedbugs can hide
- It is advisable not to put carpeting into units and to plan to replace what is there
- Tenants should keep a reasonable limit on the number of visitors
- Tenants who are concerned that a visitor might be carrying bedbugs can make sure they don't sit on our bed or other soft furniture
- Tenants who are concerned about visitors carrying bedbugs can ask them to put their clothing and personal items in a plastic bag, give them a change of clothes and ask them to take a quick shower, especially if they will be staying any length of time or are overnight guests
- After visiting somewhere we know has bedbugs or likely has bedbugs we can put our clothes in a plastic bag until we can launder them and have a shower upon returning home.

All attendees of the workshop also received the VANDU Bedbug Pilot Projects Brochure - see **Appendix V** - as well as the five information sheets attached as **Appendices E to I**.

All panelists took brief questions during the presentation. We then broke for a light lunch and had a fuller discussion following the lunch break. There was much discussion initiated by the participants and participants were generally very engaged. Five VANDU members assisted with set up and take down for the public workshop, handled sign up for the workshop, and ensured that the workshop went smoothly.

A small stipend was provided for tenants to attend and 43 written evaluations were received - see *Appendix W*.

(ii) Second Public Workshop

The second large public workshop took place at VANDU on October 12, 2007. There were 50-60 people in attendance, most of whom were tenants. There were approximately 5-10 people from non-profits serving people in the DTES, as well as people from non-profits outside of the DTES and a senior health inspector from Vancouver Coastal Health.

The description above in relation to the first public workshop applies here as well. 48 written evaluations were received.

(iii) Results of Workshop Evaluations

Table 1: Summary of Overall Public Workshop Results

	1 st Public Workshop	2 nd Public Workshop	Combined Results from both Public Workshops
Percentage of workshop attendees affected by bedbugs	74%	79%	77%
Percentage of workshop attendees who felt more workshops would be helpful	100%	96%	98%
Average workshop attendees response to how informative the workshops were on a scale of 1-5	4.15 (very informative to excellent)	4.07 (very informative to excellent)	4.11 (very informative to excellent)
Average workshop attendees response to whether the workshop kept their attention on a scale of 1-5	4.13 (very much so to excellent)	3.9 (moderately to very much)	4.01 (very much so to excellent)

77% of attendees from the two workshops had been affected by bedbugs, including having to throw away personal belongings, lack of sleep, job loss,

choosing to sleep outside, health problems associated with bites and hospitalization. 98% of workshop attendees responded that more workshops would be helpful. In terms of how informative the workshops were, the average workshop attendees response on a scale of 1-5 was 4.11 (very informative to excellent). In terms of whether the workshop kept peoples' attention, the average response on a scale of 1-5 was 4.01 (very much so).

In terms of the most important thing learned, responses in descending order of frequency by participants included:

- prevention and control measures (30%);
- general information ie lifecycle of bedbugs (15%);
- all of the information was important (12%);
- how widespread bedbugs are in the community (11%);
- that teamwork is key and no one can do it alone (8%);
- how resilient and hard bedbugs are to get rid of (7%);
- the rights and responsibilities of landlords and tenants (4%);
- get professional treatment as soon as possible (4%);
- how serious VANDU is about addressing this problem (3%); and
- that bedbugs know no boundaries and lack of hygiene is not the primary issue (2%).

Suggestions for other things to cover in the workshops in descending order of frequency included:

- very informative and nothing to add (66% of respondents);
- more on government involvement and subsidies/social services available (6%);
- bring the workshop to more places (6%);
- more on the effect of the chemicals used on medical conditions (3%);
- more on health risks associated with bedbugs (2%); and
- more hotel owners present for discussions if possible (2%).

Suggestions for improvement in descending order of frequency included:

- no suggestion/excellent or very good already (68% of respondents);
- have the workshop in the Life Skills Theatre Room (6%);
- provide more workshops (6%);
- provide a list of effective deterrents and where to get them (4%); and
- do the workshop for government (3%);

(iv) Number of information sheets and brochures distributed during the workshops

Approximately 550 flyers and 110 brochures were distributed in the two large public education workshops.

6. CARRYING OUT TREATMENT OF THE COBALT

VANDU provided treatment assistance services for the four pesticide treatments carried out at the Cobalt. The following table gives a summary of these treatments.

Table 2: Summary of Treatment Assistance Services Provided

	1 st Treatment	2 nd Treatment	3 rd Treatment	4 th Treatment	Sept follow up	Nov follow up
Number of Rooms in building	100	100	100	100	100	100
Number of Rooms Occupied	77	77	81	81	72	72
Number of Rooms Treated	100	100	100	99		
Laundry Washed	3,787 pounds					
Garbage removed	8 truck loads		½ truck load			
Beds replaced	98					

(i) Number of rooms occupied

The number of occupied rooms fluctuated somewhat during the process. According to the lists provided by hotel staff there were 77 occupied rooms in early July, 2007; 81 occupied rooms in early August, 2007; and 72 occupied rooms in mid September and early November, 2007. The following is an approximate breakdown of the monthly tenant occupation over the 4 months according to monthly tenant lists provided by the hotel staff:

- 46% were occupied by the same monthly tenant for the entire 4 month period
- 8% were occupied by the same monthly tenant for about 3 months
- 11% were occupied by 2 or more monthly tenants for about 3/4 of the 4 month period
- 13% were occupied by 2 or more monthly tenants about ½ of the 4 month period
- 13% were mostly unoccupied by monthly tenants over the 4 month period
- 5% were occupied by 3 or more monthly tenants during the 4 month period
- 4% did not have a monthly tenant listed during the entire 4 month period

(ii) Number of treatment assistance services provided

99 rooms were treated 4 times and 1 room was treated 3 times for a total of 399 treatment assistances. The common areas in the hotel and the adjoining bar were also treated a number of times throughout the process. The total cost of pesticide treatment paid by the owner was \$6,360.00 including GST.

(iii) Laundry

There was approximately 3,787 pounds of laundry washed in total. Many tenants were still keeping their unused laundry in the plastic bags they had been returned from the laundromat in. We encouraged tenants to continue this practice. We also provided more plastic bags, placing clean clothes and unlaundered clothes in separate plastic bags to minimize bedbug infested laundry from contributing to continued infestation.

The budget for the project did not allow for laundry to be done again in relation to the 3rd and 4th treatments. The costs associated with this go beyond the costs of the laundry alone to include having more TA's and the Team Supervisor work more hours, and increased equipment and supplies costs, for an estimated additional \$6,500.00.

(iv) Garbage removal

There were eight and a half truck loads of garbage removed in total. Much of the garbage removed consisted of infested beds. There was also a significant amount of bagged garbage and a small amount of other furniture items. Each truck load could take approximately 15 infested beds, as well as some other furniture items and bags of garbage. It came to our attention that some people, including some of the tenants we were working with, were going through the items from infested rooms that had been placed in the garbage. For this reason it would be more ideal to have a TA at the garbage at all times when we are on site and to have at least one truck load of garbage removed from the site as late as possible each day.

(v) Bed replacement

98 beds were replaced in total.

(vi) Follow up treatments

All rooms with the exception of one were treated four times. The tenant in the single room that was not treated a fourth time changed his locks and left a note on his door that the room had been bedbug free since the initial two treatments. The staff had no key to his room. The Project Manager followed up with staff at the hotel and the tenant a couple of days later and was satisfied that there was no need to treat the room.

7. PROJECT LOGISTICS

Treatment at the Cobalt

(i) Description of the tenant assistant training process

The Project Manager and Team Supervisor interviewed 34 people on May 19th, 2007. 12 people attended a training session on June 4, 2007. During the training session the work involved was described in more detail, including coverage of safety concerns and precautions to be taken. There were no WCB information sessions available at this time so the Project Manager developed a training session based on the materials covered in earlier WCB workshops and a conversation with Worksafe BC for updates and tips in relation to overall protocols for the type of work we were doing.

The Project Manager and Team Supervisors conducted a TA training session and the main topics covered were:

- how to protect ourselves from bringing bedbugs out of the hotel;
- how to prepare the rooms;
- safety for lifting heavy items like beds;
- staying alert to the possible presence of needles and other sharp items;
- avoiding needlestick and sharps injuries;
- disposing of needles; and
- what to do in the event of injury.

The most noticeable outcome of the initial training sessions combined with the on the job training was that generally the team worked well together and were able to prepare approximately 25 rooms for treatment each day. There were some rooms that were very cluttered and the TA's developed and displayed strong skills in working with tenants to get rid of excess personal items. This is key to successful treatment. Also there were occasions where the TA's did not have access to the room until quite close to the time of treatment and they developed good skills for preparing a room quickly.

For some additional basics on the Tenant Assistant training process, refer to the Phase I evaluation report available on the City of Vancouver's website at <http://vancouver.ca/ctyclerk/cclerk/20070403/documents/a8.pdf>

(ii) Number of Tenant Assistants trained (type of low-threshold employment and training opportunities created)

There were approximately 12 TAs trained initially. The main duties of the TAs were to clean and prepare the rooms for treatment. This involved the following:

- bagging and transporting garbage for pick up;
- bagging and transporting infested beds and furniture for pick up;
- disposing of used needles;

- bagging, labeling and transporting laundry for pick up;
- vacuuming; and
- generally cleaning and tidying up the rooms.

The TAs also interacted with the tenants providing information about the process, answering questions, and addressing concerns. The Team Supervisor did the same hands-on work as the TA's, as well as supervising the work of the team.

The Team Supervisor also worked with the Project Manager in keeping tenants informed of the process by posting notices, as well as assessing and preparing for the work to be done by being involved in room inspections and surveys. The Team Supervisor also worked effectively with the staff at the hotel and the Pest Control Manager throughout the entire operational phase.

One TA coordinated the provision of laundry services. This involved being very organized and keeping detailed notes on how much laundry was being sent out for each room as well as working well with the laundromat and verifying that the right amount of laundry was returned and delivered to each room. This TA did a very good job throughout the entire process.

The Project Manager met with the Team Supervisor and TA's each day for breakfast for the 12 full days worked in the Cobalt. This was an excellent opportunity for everyone to start the day with a good meal and to connect with each other before beginning the formal shift. The Team Supervisor and TA's were provided a stipend for lunch for each full day worked and could choose to have lunch together or have some time to themselves.

(iii) Number of Tenant Assistants on the project

Over the course of the entire treatment at the Cobalt we worked with about 30 TA's, some of whom only worked for a day. During all phases of treatment the Project Manager was present on site or a short distance away and available by phone. During all phases of treatment the Team Supervisor was present on site. For the initial phase of treatment at the Cobalt (4.5 days) the Team Supervisor and 10-12 TA's worked each day. During the second phase of treatment at the Cobalt (4.5 days) the Team Supervisor and 5-6 TA's worked each day. During the third phase of treatment at the Cobalt (2.5 days) the Team Supervisor and 2-4 TA's worked each day. During the fourth phase of treatment at the Cobalt (2 days) the Team Supervisor and 1 TA worked each day.

For the formal evaluations at the Cobalt, which took place over 2 days in September, 2007 and 2 days in November, 2007, 1 TA worked with the Project Manager. For the 2 public workshops held in October, 2007, 5 VANDU members (1 of whom was a TA) assisted with set up, running the workshop, and take down after the workshop.

(iv) Tenant Activities

All the tenants had a place to go when their room was being treated. Stipends were provided for tenants when they left their rooms for treatment. \$10 was provided when they were asked to leave for 6-8 hours and \$5 was provided when they were asked to leave for 2-4 hours.

All the tenants at the Cobalt were invited to the Public Workshops for the presentation of more information, a light lunch, discussions, and a small stipend. A number of tenants from the Cobalt attended.

(v) Effectiveness of Tenant Assistants working with tenants (ie. able to resolve issues, coordinate moving them out so the treatment process went smoothly etc)

The ability of the TAs and Team Supervisor to work with the tenants, including resolving issues and coordinating the movement of tenants out of the building during treatment for bedbugs, was very good. There were some challenging situations in terms of some tenants requiring quite a lot of assistance and being somewhat difficult to work with (including a number who were verbally abusive at times). The TA's and Team Supervisor handled all of the situations very well with some guidance and assistance from the Project Manager when necessary. The comments made by the tenants during the evaluations reflected this. For example, one tenant stated that "You all worked really hard and handled the pilot really well and took a lot of flack too."

Overall this was a very challenging working situation with close to 100 rooms to be prepared for treatment and 98 beds to be replaced over the course of four and a half days. The hotel was 4 floors with twisting stairwells and no elevator and many of the days were quite hot. Infested mattresses were bagged and carried to the back alley for pick up. 98 new beds were delivered. We ran into the difficulty that the new box-springs did not easily fit up the stairs and handrails had to be removed. We came back for three further rounds of treatment after the initial treatment. With some support from the Project Manager the Team Supervisor and the TA's worked very well with all of these challenges.

In terms of the circumstances we encountered, they ranged from heavy infestation where rooms were jammed full of possessions and/or garbage, to rooms that were quite neat and clean, to tenants that were able to do a lot themselves, to tenants who needed quite a lot of assistance, to tenants who were generally very appreciative and agreeable, to the odd tenant who had nothing but complaints the whole way through.

At least 2 TA's spent the better part of a week in one room that contained hundreds of books and many other personal items and was very heavily infested. This tenant also had a lot of clothing and a couple of TA's spent time

helping her do her laundry for those items past the limit for what we could send out. Another example of a room that required a lot of work was a tenant who was in hospice and of course not expected to be back. We worked with this tenant in terms of his specific instructions for his belongings. The Team Supervisor did an excellent job of preparing this room and the Project Manager made sure special requests for items were followed through on. For example several attempts were made to deliver a TV to a friend of the tenant. In the end arrangements were made so that the friend could pick up the TV. The Project Manager received a thank you phone message from the tenant who had seen how VANDU had treated his personal belongings as well as a thank you from the friend who had received the TV and was very appreciative of the efforts made.

There were 10-15 rooms that were quite challenging to prepare because of the amount of items in the rooms. With some help and guidance from the Project Manager the Team Supervisor and TA's reduced the number of rooms that were cluttered by the end of the process to one or two on last report from the staff. At the end of the process the main staff person at the hotel reported only 1 room where he needed to continue to work with the tenant to decrease personal belongings which she was beginning to accumulate again.

There was also a tenant who required medical attention during the process. The Project Manager called for emergency medical assistance and followed up with the hotel as to how this tenant was doing a couple of days later. This tenant spent at least overnight in hospital and was back to his room a couple of days later.

The peer based model makes a tremendous difference in terms of what can be accomplished because the tenants are generally very comfortable and willing to work with VANDU members. VANDU members are also very comfortable and able to work with the tenants. It cannot be stressed enough that this is key to the success of a project of this nature. The average person would not be able to do the work that VANDU members do. The ability of the TAs and Team Supervisor to interact well with the tenants and provide strong peer-to-peer support was undoubtedly a key component in the success of the project overall.

With support from the Project Manager, the TAs and Team Supervisor worked effectively with all circumstances that arose on this project, as well as getting 98 infested beds and garbage out, laundry prepared for pick up, new beds delivered, clean laundry delivered and rooms cleaned up and vacuumed. After having the Team Supervisor and 10-12 TAs working at the Cobalt for four and a half days, there was a vast improvement in the hotel when we returned for the next rounds of treatment.

Many tenants commented that the help from VANDU was the best part of the process for them with comments as follows:

- “Thank you very, very much Anne and all the crew. It was very helpful”;
- “The process was 10 on a scale of 1-10”;
- “Great process!”;
- “The VANDU process was very well organized and I really appreciated it”;
- “Very caring and well organized”;
- “The preparation and process were very thorough”;
- “Everyone worked really hard and handled it really well”;
- “VANDU was very good with the people living here”;
- “It was really bad here before - lots of bedbugs and no sleep and now no bedbugs for 3 months!”;
- “I really appreciated all the help and effort from VANDU”;
- “I clean rooms and common areas here and haven’t seen any bedbugs in the rooms for a couple of months and I used to see them all the time”;
- “You are doing a wonderful job”;
- “I would not have wanted to try to do this all alone”;
- “I slept for 15 hours the first night I was rid of them”.

The comments made about the overall process and the help VANDU provided were overwhelmingly and quite consistently positive.

8. FORMAL EVALUATIONS / RESULTS OF FINAL TENANT SURVEYS

Two sets of formal evaluations were done at the Cobalt. The first formal evaluations were done on September 17th and 21st, 2007. This was 2 months after completion of the 1st and 2nd treatments and 2 weeks after completion of the 3rd and 4th treatments. 43 evaluations were done at this time. 72 of the rooms were occupied according to the hotel records.

The second formal evaluations were done on November 5th and 6th, 2007. This was at least 3 months after the 1st and 2nd treatments and 2 months after completion of the 3rd and 4th treatments. 37 evaluations were done at this time. 72 of the rooms were occupied according to the hotel records.

Overall, 80 evaluations were done covering a total of 54 separate rooms. The reason that 80 evaluations does not equate with evaluations for 80 rooms is because some rooms have more than one tenant and some of the same rooms were evaluated in September and November.

The following table gives an overall summary of the formal evaluations - see **Appendix K** for Formal Evaluation form.

Table 3: Summary of the Formal Evaluations

Number of rooms	100
Number of rooms occupied	72
Number of rooms surveyed	54(75%)
Number of rooms not needing follow up after fourth treatment	39(72%)
Number of rooms needing follow up after fourth treatment	14(26%)
Number of rooms where it was uncertain whether follow up is needed after fourth treatment	1(2%)
Percentage satisfied with new bed	97%

(i) Units surveyed

75% of the units (54 out of 72) were surveyed.

Three staff of the Cobalt were also interviewed and reference will be made to their comments separately under the relevant headings. In terms of overall improvements the three staff placed the Cobalt at 7-8 on a scale of 1-10 in terms of how bad the bedbugs were before treatment and at 1-2 after treatment.

(ii) Bed Replacement

The Project Manager did some research on replacement beds and submitted some options to the Ministry of Employment and Income Assistance. A decision was made to purchase new replacement beds that were comprised of a foam mattress covered with a water resistant chem-safe cloth which is similar to a nylon tent-like fabric. These beds can be wiped down and vacuumed off which is highly advantageous for units that may become re-infested because the beds should not have to be replaced if that happens.

These beds were reported to have been used with success by the Portland Hotel Society, BC Housing, and a Salvation Army project on Hastings Street. When we did the third and fourth treatments the Team Supervisor and TA's simply vacuumed them off and wiped down all these beds with a water and Pinesol solution. So it is very good news that 97% of the tenants were satisfied with these beds.

All three staff interviewed were also satisfied with the new beds and had not heard any complaints.

In terms of dealing with infested beds there are other options that may be worth exploring in future, ie bedbug proof encasements for mattresses and boxsprings. However, with the general condition of the beds on this project that option was not viable.

(iii) Units not requiring follow up treatment

72% or 39 out of 54 reported they did not need follow up.

(iv) Units requiring follow up treatment

26% or 14 out of the 54 units surveyed do require follow up for bedbugs. For 1 out of the 54 units it was not possible to assess whether the unit was bedbug free or whether follow up for bedbugs was needed. This tenant reported she thought she might have fleas in the unit during the September, 2007 evaluations but was not available for follow up beyond this.

(v) Bedbug control achieved

The criteria that is emerging from the literature is that control is achieved if there are no bedbugs and no bites for 60 days. Of the 54 rooms surveyed, 9 had reported being bedbug free in September but they did not meet the 60 day criteria at that time and no further evaluation was possible. Of these same 54 rooms, 1 tenant reported in September that she thought she had fleas and was not available for further evaluation. This left the total number of rooms that could be evaluated in terms of the emerging criteria at 44.

Table 4: Further Breakdown on 54 Rooms Surveyed

Bedbug free on September evaluation but no further evaluation available/can't determine if the 60 day criteria is met	9
Can't assess definitively	1
Number of rooms that could be assessed for 60+ days	44
Bedbug control achieved for 60 or more days	30(68%)
Number of rooms needing follow up	14(32%)

68% or 30 out of 44 respondents reported no bedbugs for at least 60 days. 33% of the rooms meeting the 60 day criteria were actually bedbug free for 3 months.

14 rooms required follow up, 10(23%) definitely requiring additional treatment and 4(9%) being more questionable. For those rooms requiring treatment, the level of infestation was greatly reduced from what it had been. For example, at least half of these were reporting a reduction of at least 50% in the level of

infestation. 3 of this group of 10 reported not much change and 1 reported that it had gotten worse. The tenants who lived in the unit that had gotten worse worked in a shelter that had problems with bedbugs and reported that they were taking precautions not to bring them home.

For those in the questionable category, most had gone from significant levels of infestation (5-9 on a scale of 1-10) to the odd bite or seeing one bedbug over a week or so (1-2 on a scale of 1-10). The questionable category is comprised of tenants who reported being bedbug free for at least 2 months and had seen one bedbug on their clothes or in their unit in the last week or so which they might have recently brought in. One of these tenants had brought in a used pillow which he promptly got rid of and also changed the sheets and wiped down the bed and hadn't seen any since. The others in this group were advised to launder or at least put their clothing (most importantly the bed linens) in a dryer on medium heat for 10 minutes if possible and wipe down the bed more frequently over the next while.

Although we are not aware of any reported studies for comparison purposes, the Project Manager had a conversation with Rick Cooper of Cooper Pest Company, one of the leaders in the field. In data collection for 90 apartment units:

- 51 apartments had less than 10 detectable bedbugs upon inspection. The problem was eliminated with 2-3 treatments 81% of the time. This increased to 88% with client co-operation and decreased to 50% without client co-operation.
- 39 apartments had 11-50 detectable bedbugs upon inspection. The problem was eliminated with 2-3 sprays 46% of time. This increased to 55% with client co-operation and decreased to 12% without co-operation.⁴

At the Cobalt we were dealing with significantly higher levels of infestation. So the results of 68% of the units reporting the problem had been eliminated and the majority of the rest of the units reporting it had been reduced by at least half are excellent compared with Cooper Pest Company's 55% elimination in units with 11-50 bedbugs.

The formal evaluations were also used as another opportunity to do more education as necessary, assess the situation in terms of what had been accomplished, and record suggestions tenants had for improving the process.

A list of the rooms requiring further treatment for bedbugs was provided to the owner and staff at the Cobalt as well as the Pest Control Manager. A recommendation was made to the owner that these rooms be followed up on as soon as possible and that an ongoing monthly maintenance plan be put in effect

⁴ It should be noted that this report is focused on evaluating and reporting on the process developed and the results obtained as opposed to doing research.

whereby a number of rooms identified by tenants and/or staff at the Cobalt as requiring treatment for bedbugs be treated each month.

(vi) Help from VANDU, education and prevention

Table 5: Education and Help from VANDU

Percentage who stated it helped to have VANDU	94%
Percentage who can detect bedbugs	93%
Percentage of tenants who could now prepare a room	85%
Percentage who found the information provided useful and adequate	91%
Percentage who would like more information	9%

Table 6: Most Commonly Reported Prevention Techniques

Decreasing the number of visitors	73%
Decreasing and monitoring the amount of items brought in	70%
Keeping the room clean and tidy and clutter to a minimum	47%
Regular laundry on hot cycles	20%
Use of plastic bags and containers for questionable items	15%

94% stated it helped to have VANDU. 93% stated they could detect bedbugs and 85% could prepare a room. 91% found the information provided useful and adequate and 9% would have liked more information.

When asked if they knew how to help prevent re-infestation and what they were doing in that regard, almost all tenants responded that they were decreasing the number of visitors and decreasing and monitoring the amount of items brought in. Just under half of tenants reported keeping their room neat and clean/clutter to a minimum as a prevention technique. Doing laundry regularly and on hot cycles, as well as the use of plastic bags and containers with questionable items, came up as a response a significant amount of the time.

The three staff of the Cobalt interviewed all stated that:

- they and the tenants were better able to detect bedbugs;
- it helped to have VANDU present to assist, stating that it made it a lot easier and there was also much less garbage and clutter in the rooms;
- they would have a good idea how to prepare rooms now;
- they received adequate and useful information during the process; and
- monitoring rooms and working with tenants to remove excess personal belongings was key in minimizing the risks of re-infestation and this project had given them incentive to get and stay on top of it.

(vii) Best part of the process and suggestions for improvement

Table 7: Best Part of the Process

Got rid of the bedbugs	48%
The help from VANDU	46%
The entire building was treated and cleaned up	16%
The new bed	13%
That action was taken	7%

Table 8: Suggestions for improvement of VANDU process

No suggested improvements	55%
Come back more	11%
Check rooms for preparations further in advance	6%

Table 9: Suggestions for improvement by staff/hotel management

No suggested improvements	48%
Monitor what people are bringing in	15%
Remove carpets	13%
Periodic treatments	7%

When tenants were asked what the best part of the process was for them, the most common answers given were that it got rid of the bedbugs (48%) and the help from VANDU (46%). A significant number of tenants also reported the fact that the entire building was treated and cleaned up, the new bed, and that action was taken as the best part of the process.

When asked for suggestions on how VANDU could improve the process more than half had no suggestions. A significant number of tenants suggested that VANDU come back more and check rooms for preparation further in advance. When asked how they thought staff/hotel management could improve the process just under half had no suggestions. A significant number of tenants suggested that staff monitor what people are bringing in, remove the carpets and implement periodic treatments.

In terms of what was best about the process, the three Cobalt staff interviewed stated that the whole process was worthwhile, it was very good for the hotel to get rid of the bedbugs and have new beds for tenants, and that the project made it easier to keep the rooms clean. Suggestions for improving the process from staff were to have VANDU come more regularly and no suggestions because it was a good job and a huge project.

9. HEALTH AND SAFETY PROTOCOLS

The Project Manager developed a basic health and safety training session based on the materials covered in earlier WCB workshops. The WCB bedbug training workshop had four parts including (1) Violence Prevention and Risk Assessment, (2) Musculoskeletal Injuries, (3) Needle sticks, and (4) Bedbug Infestations. This training seems adequate for individuals who work in locations in the DTES where bedbugs may be found and provides general information such as how to prevent back injuries and needle stick injuries. The Project Manager also spoke with Worksafe BC for updates and tips in relation to overall protocols for the type of work we were doing.

The Project Manager and Team Supervisor conducted a training session that covered the following topics:

- how to protect ourselves from bringing bedbugs out of the hotel;
- how to prepare the rooms;
- safety for lifting heavy items like beds;
- staying alert to the possible presence of needles and other sharp items;
- avoiding needle stick and sharps injuries;
- disposing of needles; and
- what to do in the event of injury.

We had a safety session and basic overview of how to prepare a room before beginning work at the hotel, as well as periodically throughout the process, for example when new TA's joined the team. Most members of VANDU are very knowledgeable about all the issues and already well trained in safety procedures and protocol. We also had a first aid kit on site at all times.

Basic instructions in safe lifting techniques were given and demonstrated. In relation to needle stick injuries and other injuries with sharps, prevention is the key. The basic rule is to always be alert to the possibility of needles or other sharp objects being present. The overall instruction was don't put your hands or fingers anywhere you can't visually inspect, and work as slowly as necessary to protect yourself. For example, TA's were instructed not to slide their hand(s) under a box spring or mattress, but rather to lift it up from the edge and do a visual inspection. TA's were also instructed to proceed with bagging laundry or taking sheets off the bed one item at a time and never to pick up a whole pile of things at once.

Most TA's were aware of the steps to take when they found a needle or other sharp. General instructions were also given. We also had a basic protocol in place for any needle stick or other injuries.

In terms of protecting the TAs and other staff from carrying bedbugs out of the hotel, it was strongly suggested that while on site everyone wore the hooded polypropylene suits and latex gloves provided, taping around the wrists and

ankles and spraying Raid onto our wrists and feet to deter bedbugs from approaching. It was also highly recommended that TAs and other staff shower upon returning home and place their clothes into a plastic bag until they could be laundered.

With respect to protocols developed regarding the re-entering of rooms after treatment, tenants were advised by the Pest Control Manager not to re-enter their rooms for 6-8 hours after spraying, and staff/hotel management were also instructed to enforce this. For those with health problems such as kidney, liver, or respiratory illnesses, as well as women who are pregnant, it is advisable to stay out of treated rooms for 24 hours after spraying. In cases where this is required, accommodations for tenants are provided.

While the health and safety protocols were developed during Phases I and II, it will be important to remain up to date in terms of current recommendations in relation to exposure to bedbugs, exposure to the chemicals used to control them, as well as any changes in protocol around needle stick injuries etc.

10. OVERALL CONCLUSIONS, HIGHLIGHTS AND RECOMMENDATIONS FOR ONGOING WORK

Overall, Phase II was a success in achieving all of its stated objectives to some extent.

Above all, Phase II was successful in treating one large bedbug infested SRO. The peer-to-peer model that was employed was a key factor in the success of the project. Tenants at the Cobalt experienced a significant reduction in bedbug infestation, with bedbug control being achieved in 68% of the units (no bedbugs or bedbug bites for 60 or more days) and levels of infestation in those units still requiring follow up being greatly reduced. 33% of the rooms meeting the 60 day criteria were actually bedbug free for 3 months. Tenants at the Cobalt had high praise for the TA's.

Based on data collection received for comparison purposes these results are excellent.

Overall this was a very challenging working situation with the hotel having close to 100 rooms, 72-81 of which were occupied during the course of Phase II. 399 treatment assistance services were provided. In a period of four and a half days 98 beds were replaced, approximately 3,787 pounds of laundry was sent out, and eight and a half truck loads of garbage was removed. The hotel was 4 floors with twisting stairwells and no elevator and many of the days were quite hot. We ran into the difficulty that the new box-springs did not easily fit up the stairs and handrails had to be removed. We also encountered very cluttered

and heavily infested rooms, a tenant who was in hospice, and a tenant who required emergency medical attention. With support from the Project Manager, the Team Supervisor and the TA's worked very well with all of these challenges.

After having the Team Supervisor and 10-12 TAs working at the Cobalt for four and a half days, there was a vast improvement in the hotel when we returned for the next three rounds of treatment.

Based on the costs for the operational phase, the **cost per treatment assistance service was \$144⁵**. Based on the entire budget which includes the public education workshops and report writing, the cost per treatment assistance service was \$190⁶. For a further breakdown on these costs see **Appendix X**. It should be noted that had full laundry services been provided in Phase II during the 3rd and 4th treatments, the overall cost per treatment assistance service would have been in the range of \$206⁷.

VANDU's expertise and methods of controlling and preventing the spread of bedbugs were expanded in Phase II.

Phase II continued to provide the following training and employment opportunities for VANDU members and local residents:

- 30 TA's were trained and involved in the hands-on work over the course of the project.
- 10-12 TA's took a substantial role in the work done, doing an excellent job.
- 1 VANDU member succeeded in the role of Team Supervisor doing an excellent job leading up to and during the operational phase, working in a hands-on role on site, supervising the TA team, and working closely and cooperatively with the Project Manager, the Pest Control Manager, and staff at the Cobalt.
- 1 TA was trained as a Laundry Coordinator and did an excellent job in this role.
- 4 members of VANDU and 1 TA assisted with the Public Workshops, doing an excellent job.

In Phase II the TA's and Team Supervisor successfully prepared rooms, provided laundry services and garbage removal, and replaced beds in relation to twice as many room preparations in a hotel twice the size of those worked in in Phase I.

Phase II successfully tested the capacity of local service providers such as the local laundromat, local garbage removal and a local pesticide company, to

⁵ Phase II operational phase = \$57,570.84 / 399 treatment assistance services.

⁶ Phase II entire budget = \$75,685.50 / 399 treatment assistance services. For Phase I the comparable figure was \$379/treatment assistance service. The cost per treatment assistance service decreased by 50% when twice as many treatment assistance services were provided.

⁷ Estimated entire budget for Phase II adjusted up for additional laundry services = \$82,185.50 / 399 treatment assistance services.

provide services in relation to twice as many room preparations in a hotel twice the size of those worked in in Phase I.

A follow up was completed on one of the Phase I hotels. The Project Manager spoke with a manager at IPM, the pest control company used at the Walton before, during and after Phase I. The Walton was heavily infested before the operational phase of Phase I. Approximately 15 months after the operational phase at the Walton the positive results achieved were holding with a monthly treatment plan. The Pest Control Manager remembered VANDU immediately and stated that working at the Walton with VANDU was the best experience they had had in providing bedbug treatment in the DTES and that it was the best preparation he's seen in that area. He also stated that the hotel has been much better since that treatment and that on average treating 4-5 rooms each month keeps the bedbugs under control.

The pilot also included a very successful and well received education campaign directly reaching the tenants of the Cobalt and over 100 members of the community. Between the tenants at the Cobalt and public workshop attendees approximately 200 people received direct education. In keeping with the benefits of peer based education, this knowledge will spread to others in the community. Participants were very engaged at the workshops and overall feedback on the workshops was excellent.

The feedback on the public workshops was very good to excellent and attendees were generally very engaged. 77% of the workshop attendees had been directly affected by bedbugs, including having to throw away personal belongings, hospitalization, lack of sleep, job loss, deciding to live outside and serious health problems from the bites. 98% stated that more workshops would be useful. The average response to how informative the public workshops were on a scale of 1 to 5 was 4.11 (very informative to excellent). The average response to whether the workshop kept their attention on a scale of 1 to 5 was 4.01 (very much so to excellent).

The most frequent response to the most important thing learned at the workshops was the prevention and control measures.

Approximately 800 information sheets were distributed at the two information sessions and leading up to and during treatment at the Cobalt. Approximately 550 flyers and 110 brochures were distributed in the two large public education workshops.

One of the goals of Phase II was to be able to pass more responsibilities to the Team Supervisor(s). This has not been possible. VANDU is developing a social enterprise to offer treatment assistance services. The experience so far has shown that besides the TA's who are volunteers, the main positions required will be a Business Manager, a Project Coordinator, 1-2 Team

Supervisors and a Laundry Coordinator. The goal is to keep as many people from VANDU as possible in key positions, though it will very likely be necessary to hire a Project Coordinator and at least one Team Supervisor from outside of VANDU, at least at the outset, to stabilize the delivery of services, while working with 1 Team Supervisor, a Laundry Coordinator and TA's from the VANDU membership and DTES community as much as possible.

Phase II included:

- training sessions with the Team Supervisor and TAs;
- information sessions with tenants - 2 information sessions reached 77 tenants plus the owner and operators of the Cobalt and operators from about 3 other SRO's;
- tenant surveys - 180 were conducted in total;
- provision of ongoing information and notices to tenants - approximately 1200 notices and flyers were delivered in total, with notices delivered at least 48 hours in advance; and
- two large public workshops - these reached at least 110 people in the community with information on control and prevention of bedbugs etc.

With treatment of this large SRO and the continued education campaign, an impact was made on reducing the spread of bedbugs through the DTES, reducing the risk of re-infestation in treated buildings, and increasing awareness about controlling the spread of bedbugs in the community.

The following highlights provide more detail on some of the findings and key lessons learned in Phase II:

- Phase I demonstrated the importance of treating the entire building at least twice. In Phase II, we found that there are situations where it will be necessary to treat the entire building up to 4 times to achieve a significant reduction in the levels of infestation.
- In both Phase I and Phase II, significant improvements were made in terms of reducing bedbug infestation and improving the cleanliness of individual units, as well as the cleanliness of the entire building.
- Bedbug infestation is currently described as a nuisance pest of health significance. For those who are already often dealing with addiction, compromised immune systems, mental health issues and/or poverty, the health impacts of living with bedbugs can be quite significant.
- In situations at the more difficult end of the spectrum (larger hotels, severe infestation, etc) the assistance of the City of Vancouver and Vancouver Coastal Health will be necessary.

- In terms of an ongoing maintenance plan it is very important that the staff consult with a Pest Control Manager to implement a regular treatment plan and also monitor the rooms to ensure that there is not an unreasonable amount of personal belongings accumulating.
- At the end of the process the main staff person at the hotel reported only 1 room where he needed to continue to work with the tenant to decrease personal belongings which she was beginning to accumulate again. This is in comparison to 10-15 very cluttered rooms at the outset.
- 94% of tenants stated it helped to have VANDU. By the end of the process 93% stated they could detect bedbugs and 85% could prepare a room. 91% found the information provided useful and adequate.
- 12 TA's were trained before the work began. Approximately 30 TA's were trained and worked at least one day during the entire process. A team of 1 Team Supervisor, 1 Laundry Coordinator and 10 TA's was adequate to prepare approximately 25 rooms/day in a challenging environment.
- The Project Manager met with the Team Supervisor and TA's each day for breakfast for the 12 full days worked in the Cobalt. This was an excellent opportunity for everyone to start the day with a good meal and to connect with each other before beginning the formal shift.
- The peer based model was key to the success of this project. The ability of the Team Supervisor and TAs to interact and work well with each other and the tenants to provide strong peer-to-peer support was generally excellent.
- Tenants in the DTES are generally very comfortable and willing to work with VANDU members and VANDU members are also very comfortable and able to work with the tenants. The Team Supervisor and TA's displayed strong skills in working with tenants in a number of challenging situations including helping tenants to part with excess personal belongings, working with tenants who were not initially agreeable to the process, working with tenants with active addiction issues and mental health issues, working with sensitive situations such as instructions from a tenant in hospice and medical emergency situations.
- The educational and awareness building parts of the project continued to be extremely important and successful. When tenants were asked if they knew how to help prevent re-infestation and what they were doing in that regard, almost all responded that they were decreasing the number of visitors and decreasing and monitoring the amount of items brought in.

- As little as 5 minutes in a dryer on medium heat will kill all stages of bedbugs.

The following recommendations are made for ongoing work of this nature:

1. Expanding the provision of these services to a level where they will have a significant impact will require strong business management. To this end, VANDU has been developing a social enterprise to offer treatment assistance services.
 - In the early stages of stabilizing the provision of treatment assistance services, a Project Coordinator and probably at least one Team Supervisor should be hired from outside the VANDU membership.
2. Ensure that the City of Vancouver and Vancouver Coastal Health Authority have active roles in an ongoing bedbug maintenance program.
 - Work with the City of Vancouver and Vancouver Coastal Health from the outset to enlist hotels where the service is very much needed but who might otherwise not enlist.
 - Work with the City of Vancouver, Vancouver Coastal Health and the Pest Control Manager as necessary from the outset to ensure as much co-operation as possible with the owner/operators and to more strategically focus pre-treatment preparations (ie. begin work with those tenants who may have been accumulating excessive amounts of personal belongings as early as possible).
 - In situations on the more difficult end of the spectrum, ideally the City of Vancouver and/or Vancouver Coastal Health would be a regular periodic presence during the process and for a period of time afterwards to ensure that requirements and recommended practices are more likely to be followed.
3. Continue using a Letter of Understanding, signed by the owner/operators outlining the benefits of the service as well as the expectations for compliance and cooperation with the project or develop a Memorandum of Understanding or a basic contract for ongoing work.
4. Ensure that advance planning and logistics are tailored to the delivery of services to the specific location, the staff, and the tenants. Successful treatment also requires working effectively with the pest control company,

and major providers of supplies and services (the Laundromat, the bed replacement company and garbage removal company etc.).

5. Provide clothes for tenants or have a list of places they can get clothing until their laundry is returned.
6. When a building is targeted for bedbug treatment it is important that all rooms in the building be treated and re-treated as required. In terms of obtaining access to all rooms, it is necessary to meet the legal requirements for keeping tenants properly informed of inspections and treatment days. It is also important to work as cooperatively as possible with tenants, owners and the pesticide companies.
7. Bedbug control programs in the DTES should have peer to peer and educational components. With respect to preventing the re-infestation and/or spread of bedbugs, working one on one with tenants in buildings being treated and conducting public workshops is key. Education, prevention and early detection are essential to halting the spread of bedbugs.
8. It is important for both tenants and owners to be actively involved in prevention and maintenance efforts. For tenants this entails cooperating with necessary treatments, decreasing the number of visitors, and decreasing and monitoring the amount of items brought in. For owners it entails providing proper and consistent treatment, monitoring rooms to make sure that there is not an unreasonable amount of personal belongings accumulating, using bedbug proof furniture as much as possible (ie. replacement beds that are bedbug resistant, mattress and box spring encasements, plastic chairs, furniture and beds with metal frames), and being careful not to recycle infested mattresses.
9. The following are recommendations for tenants for control and prevention:
 - Tenants need to tell the staff/owners about the problem and be prepared to show signs of bedbug infestation ie fecal spotting, bites and/or a specimen if possible.
 - Tenants should be prepared to join together with other tenants and follow up concerns in writing if they are not being addressed.
 - Tenants need to monitor what is being brought home and keep personal belongings to a reasonable limit.
 - Second hand items and items found in alleys or dumpsters are always suspect and should be avoided if possible unless they can be laundered and/or thoroughly inspected.
 - Tenants should as much as possible keep clothing or infested items in plastic bags and keep things as clean and tidy as possible.
 - Tenants should keep a reasonable limit on the number of visitors.

- Tenants who are concerned that a visitor might be carrying bedbugs should make sure they don't sit on the bed or other soft furniture.
- Tenants who are concerned about visitors carrying bedbugs should ask them to put their clothing and personal items in a plastic bag, give them a change of clothes and ask them to take a quick shower if they will be staying any length of time or are overnight guests.
- Tenants should put their clothes in a plastic bag until they can launder them and have a shower upon returning home after visiting somewhere they know has bedbugs or likely has bedbugs.

10. The following are recommendations for landlords for control and prevention:

- Where there has been an ongoing bedbug problem or as a preventative measure, carpeting should be avoided and/or there should be a plan to replace what is there. It is best to speak with a Pest Control Manager about your own specific situation but for example, surfaces that do not provide hiding places for bedbugs and that can be wiped down are best.
- On-site washers and dryers (or at least dryers) could be a major contributor to keeping bedbug infestation under control and decreasing the costs of ongoing treatment.
- Landlords need to monitor the amount of personal belongings of tenants.
- Landlords need to monitor what tenants are bringing home.
- Landlords should repair obvious things like holes in the wall or cracks in the floor, eliminating obvious places where bedbugs can hide.

11. In many situations ongoing treatment will be needed to truly control the infestation of bedbugs. Once comprehensive treatment is completed, buildings treated for an extensive bedbug problem should implement a maintenance plan with a Pest Control Manager for ongoing treatment.

Appendix A – Letter of Understanding

LETTER OF UNDERSTANDING RE VANDU BEDBUG PILOT PROJECT: PROVISION OF SERVICES AND ACKNOWLEDGEMENT OF RESPONSIBILITIES

June 13, 2007

To: Paul Sahota
Owner, Cobalt Hotel
917 Main Street
Vancouver BC V6A 2V8
604-261-0501

Dear Mr. Sahota

This letter summarizes the understanding we have reached regarding the provision of services and acknowledgement of responsibilities under the VANDU Bedbug Pilot Project. The pilot project is funded by the Vancouver Agreement, the Ministry of Employment and Investment, Vancouver Coastal Health Authority, and the City of Vancouver. To be certain this letter accurately reflects our understanding, please review the items below and indicate your understanding and agreement by signing on the signature line below.

- A. The operational phase of this agreement (preparation for pesticide spraying and up to three rounds of pesticide spraying) will commence on June 12, 2007 and will terminate before November 1, 2007 unless extended or replaced by written mutual agreement. Beyond these dates you will make your best efforts to maintain and expand upon the improvements to the Cobalt Hotel.
- B. The Cobalt Hotel will be treated for bedbugs by a professional pesticide company up to three times commencing on July 2, 2007. Payment for the services of the pesticide treatment is the responsibility of the Cobalt Hotel. Richard Lorenzen of DTES Pest Control has been contracted to provide these services.
- C. VANDU will provide services in conjunction with pesticide spraying to enhance the effectiveness of the pesticide treatment for bedbugs. The services to be provided by VANDU include:
 - Education and information to tenants in the form of flyers and information sessions about bedbugs, what to expect with pesticide spraying for bedbugs, how to prepare a room for pesticide spraying, and ways to prevent re-infestation;
 - Survey of tenants to determine their needs in relation to pesticide spraying, ie do they need a new bed, how much laundry do they have, how much help do

they need, whether they have a place to go during the spraying or any special needs;

- Hands on assistance with tenant room preparation and preparation of laundry for professional cleaning;
- Removal of garbage and infested beds and furniture from tenant's rooms;
- Delivery of new beds as necessary, and
- Follow up evaluation of the Cobalt Hotel which includes surveys with both tenants and managers once the pesticide spraying phase is completed.

D In order for the provision of services to be effective, the Management/Owners of the Cobalt Hotel are required to cooperate fully with having the entire building prepared and sprayed up to three times. The responsibilities of the Management/Owners of the Cobalt Hotel include:

- Providing tenants with notice required under the Residential Tenancy Act so that VANDU and the pesticide spray company are able to obtain access to all rooms for proper preparation and spraying and assistance with this as necessary;
- Providing an on site room for the storage of VANDU room preparation supplies over the course of the operational phase;
- As necessary, assisting with the process of communication with tenants and the coordination of evacuation on the days when spraying takes place; and
- Making every reasonable effort to maintain and build upon the success of this project, for example, by making sure that the new replacement beds provided remain in the rooms, by maintaining the cleanliness of the building, by making best efforts to monitor what is brought into the hotel so that infested furniture and items are not re-introduced, by making an effort to take up the carpets over time and by making other improvements to prevent re-infestation.

E You and/or your on-site managers will be available by telephone or in person as necessary to ensure the success of this project.

Sincerely,

Anne O'Neil, Project Manager – VANDU Bedbug Pilot Project
(contact info)

I acknowledge and agree to the terms and conditions set forth above.

Paul Sahota, Owner of the Cobalt Hotel
(contact info)

Appendix B – VANDU: The Bedbug Pilot Project Phase II: An Effective Process to Control Bedbugs in the Downtown Eastside

In Phase I of the Bedbug Pilot Project we developed, tested and evaluated a more effective community based process to reduce the infestation of bedbugs in Vancouver's DTES.

Bedbugs are tiny and resilient and difficult to detect. They spread quickly before people realize they are infected. The problem of bedbugs infecting single room occupancy hotels in our neighbourhood has persisted despite premises being sprayed and re-sprayed with pesticides.

VANDU has developed a neighbour-to-neighbour campaign to assist tenants in ridding their premises of pests. VANDU provides trained "tenant assistant" volunteers who educate tenants about bedbug treatment and prevention, assist with the detection of bugs, and help prepare rooms including preparing laundry to be done professionally and replacing beds where necessary.

We work with the spray company, the tenants, and the owner of the hotel to coordinate the treatment assistance services. Leading up to the pesticide spray days we will be on site to assist tenants in getting their rooms ready and to answer questions and provide information about the process.

We provide a stipend for tenants to leave their rooms for 6 to 8 hours while their rooms are sprayed. Prompt garbage removal is also arranged so that the removed furniture is not left in alleys where others could bring it home to infect their rooms.

Pesticide spraying will begin on July 2nd. VANDU will be on site beginning June 21st to prepare for pesticide spraying. The entire building will be sprayed up to three times.

VANDU, the Vancouver Area Network of Drug Users, is a group of users and former users who work to improve the lives of people who use illicit drugs through user based peer support and education.

For more info call Elvis Houle @ 604-782-6665 or Anne O'Neil @ 604-724-6665 or VANDU @ 604-683 6061.

Appendix C – The Role Of VANDU Volunteer Tenant Assistants

VANDU Tenant Assistants assist tenants who have bedbugs in their rooms. Tenant Assistants help with preparing rooms for pesticide spraying, getting laundry done professionally, and replacing infested beds.

The pesticide company employees are trained and certified to apply pesticides. On the day of pesticide spraying tenants must leave their rooms for 6-8 hours. We provide tenants with a stipend for the day and also a place to go if that is needed.

The first round of Pesticide spraying will be from Monday July 2nd – Thursday July 5th beginning on the top floor of the Cobalt Hotel. One floor will be done each day.

VANDU volunteers will be on site periodically to help prepare for the spray starting on Thursday June 21st. Room preparations will begin on the top floor on Sunday July 1st. VANDU Tenant Assistants will assist with:

1. preparing your clothes and bed linens for laundering by putting them in sealed plastic bags --a bonded laundry will be washing them and returning them
2. throwing out anything unwanted
3. removing belongings from furniture, tables, wardrobes and closets that will be sprayed.
4. moving all furniture out from the walls and dismantling your bed and other furniture as much as possible.
5. bagging and removing infested mattresses or fabric furniture
6. removing pictures, electrical outlet covers from walls
7. vacuuming your room
8. emptying cupboards in kitchen and bathroom

VANDU, the Vancouver Area Network of Drug Users, is a group of users and former users who work to improve the lives of people who use illicit drugs through user based peer support and education.

For more information call Elvis Houle @ 604-782-6665 or Anne O'Neil @ 604-724-6665 or VANDU @ 604-683-6061

Appendix D – What to expect when your room is treated with pesticides

1. You will need to vacate the premises during treatment. Arrange to be out for 6 to 8 hours after the application of chemicals. VANDU will be checking with tenants about whether they have a place to go for this time.
2. VANDU will provide you with a \$10 stipend for the day you need to be out of your room for pesticide spraying.
3. When you return to your suite please air out your room by opening the windows for at least 30 minutes
4. Avoid vacuuming or damp mopping the edges of the floor for 3 weeks.
5. A follow up spray will be done 2 weeks after the initial spray to kill the eggs. It may also be necessary to do a third spray.

For more information call Elvis Houle @ 604-682-6665 or Anne O'Neil @ 604-724-6665 or VANDU @ 604-683-6014

Appendix E – The VANDU Bedbug Pilot Project

VANDU is a group of users and former users who work to improve the lives of people living with addiction through user based peer support and education.

The Bedbug Pilot Project Phase I developed, tested and evaluated a more effective community based approach to reduce bedbug infestation in Vancouver’s DTES. The main purpose of this project was to improve the lives of people living in Vancouver’s DTES by developing an effective process for reducing bedbug infestation. *Phase II* of the Project tested the peer-to-peer process in a larger hotel.

VANDU provides peer-to-peer assistance through trained “Tenant Assistants” for those whose homes will be treated for bedbugs.

What do Tenant Assistants provide?

1. Information about what to expect during the pesticide spraying process.
2. Support and assistance throughout the spraying process, ie. providing a stipend for the day tenants need to be out of their rooms, making sure people and pets have a place to go during spraying, and making overnight arrangements for people who need to be out of their rooms longer.
3. General clean up of rooms, including vacuuming and getting rid of unwanted items.
3. Moving furniture and beds out from the walls.
4. Removing wall hangings and electrical outlet covers.
5. Removing infested mattresses and having new mattresses delivered.
6. Bagging clothes and bed linen for professional laundering and having clean laundry delivered.
7. Regular garbage removal so that infested items are removed promptly.

What have we learned?

- Often the whole building needs to be treated with at least 1 follow-up treatment approximately 10 days later.
- Peer-to-peer support and assistance is very important because there is much to be done to prepare a room for spraying, including laundering all clothing, removing infested items, and replacing mattresses when necessary.
- Ongoing monitoring and periodic follow-up treatment will likely be required.
- The process takes strong team work to be effective.
- There needs to be a neighbourhood approach to effective pesticide treatment, combined with education about how to get rid of, and stay rid of, bedbugs.
- We saw a 68% reduction in bedbug infestation in one not for profit heavily infested hotel and a 76% reduction in bedbug infestation in another not for profit heavily infested hotel.

The Pilot was funded by Vancouver Agreement, Vancouver Coastal Health, the Ministry of Employment and Income Assistance and the City of Vancouver with in kind assistance provided by BC Housing. Hotel owners paid for the pesticide treatments.

For more information contact Anne O'Neil, Project Manager, VANDU Bedbug Pilot Projects @ 604-724-6665

Appendix F – The VANDU Bedbug Pilot Project: General Facts About Bedbugs

Identification

Adult bedbugs are brown to reddish-brown, oval-shaped, flattened, and about 1/4 to 1/2 inch long – about the size and color of an appleseed. Their flat shape allows them to hide easily in cracks and crevices. Their body becomes more swollen and darker red after a blood meal. The adults have small, stubby, nonfunctional wing pads. Newly hatched bedbugs are nearly colorless, becoming brownish as they mature. Newly hatched bedbugs have the general appearance of adults. Eggs are white and about 1/32 inch long – about the size of two pen dots on a page.

Habits

Bedbugs are fast moving, mostly nocturnal, blood-feeders. They usually feed at night when their host is asleep. When they bite, they inject an anaesthetic that numbs the skin and an anticoagulant that helps them obtain blood. Young bedbugs usually feed within three minutes, whereas a full-grown bedbug can take up to fifteen minutes to feed.

Bedbugs usually hide during the day in dark, protected sites. They seem to prefer fabric, wood, and paper surfaces. They usually hide in close proximity to the host (within 15 to 20 ft.), although they can travel further distances. Initially bedbugs can be found in the seams and folds of mattresses and bed linens, later spreading to other places.

In heavier infestations, they may also occupy hiding places further from the bed. They may hide in window and door frames, electrical boxes, floor cracks, baseboards, furniture, and under wall-to-wall carpeting. They can also be found behind pictures and wall hangings, as well as in drapery pleats, loosened wallpaper, cracks in plaster, and ceiling moldings.

Tell-tale Signs (we may not see the actual bedbugs)

A bedbug infestation can be recognized by blood stains or brownish-red spots (fecal spotting) on sheets and mattresses, bed clothes, and walls. Fecal spotting, eggshells, and shed skins may be found in the vicinity of their hiding places. With severe infestations a sweet, musty odor may also be present.

SOME FREQUENTLY ASKED QUESTIONS ABOUT BEDBUGS

Does a place have to be dirty or unsanitary to have bedbugs?

No. Bedbugs can survive and thrive anywhere they have a place to hide from light and a periodically present host. Bedbugs have been found in five star hotels, hospital waiting rooms, university dorms, schools, movie theatres and health clubs.

What are the main effects of bedbug infestation?

A proliferation of bedbugs is an unacceptable living condition, though bedbugs are not thought to transmit disease. Having a bedbug infestation often causes a great deal of stress, anxiety and insomnia. Also bedbug bites can lead to secondary infections requiring medical attention.

What do they look like?

Adult bedbugs are about ¼ to ½ an inch long. They are about the size and color of an appleseed. They are generally flattened. After feeding they are more puffed up. Before becoming adults they go through 5 stages and are smaller and lighter in color.

What are some other traits and habits of bedbugs?

They are flightless, although they can crawl over floors, walls and ceilings. Their only source of nutrition is blood. They feed mainly on humans, although they can also feed on livestock, rodents and pets. They usually hide during the day and come out at night.

How do we know if we have them?

Bedbugs are sometimes very difficult to detect. People will often know they have them because of the bites. They also leave “fecal spots” along mattress seams and box-springs. With severe infestation there can be a musty or sickly sweet odor.

What are “fecal spots”?

Fecal spots are brownish-red spots of digested blood. Fecal spotting will often be found along mattress seams, bed frames and box springs, as well as on bed clothes and other clothing. Once the infestation has reached a certain level, the fecal spotting will often appear in clusters.

The Pilot was funded by the Vancouver Agreement, Vancouver Coastal Health, the Ministry of Employment and Income Assistance and the City of Vancouver, with in-kind assistance provided by BC Housing. Hotel owners paid for the pesticide treatments.

For more information contact Anne O’Neil, Project Manager, VANDU Bedbug Pilot Projects @ 604-724-6665

Appendix G – The VANDU Bedbug Pilot Project: Elimination and Control of Bedbugs

Control

Control of bedbugs is best achieved by following an approach that involves multiple tactics such as preventative measures, regular inspection, vacuuming and sanitation, repair of cracks and crevices in flooring, general elimination of hiding places, creating barriers, and application of professional pesticide chemicals to targeted sites. There is evidence that putting clothing in the dryer on at least medium heat for at least 5 minutes may be sufficient to kill all stages of bedbugs. Heavy infestations are best handled by a licensed pest management professional.

Prevention

Probably the most important thing is to be careful about visitors and the items we bring into our homes. When we have visitors who may be carrying bedbugs we can ask them to put their belongings in plastic bags, have a quick shower, and give them a clean pair of clothes to wear. Second hand items and items we find in alley ways etc will likely cause re-infestation so we should not be bringing these items home.

Inspection

Inspection efforts should concentrate on the mattress, box spring, and bed frame, as well as cracks and crevices that the bedbugs may hide in during the day or when digesting a blood meal. Other places to check include window and door frames, floor cracks, carpet tack boards, baseboards, electrical boxes, furniture, pictures, wall hangings, drapery pleats, loosened wallpaper, cracks in plaster, and ceiling moldings.

If you see what you think is a bedbug you can fold a piece of tape over it to show the landlord or pesticide sprayer.

Sanitation

Sanitation measures include frequently vacuuming the mattress and the suite, laundering bedding and clothing on hot cycles, and cleaning and sanitizing frequently. After vacuuming, vacuum cleaner bags should be disposed of in a plastic bag, tied up tightly, and placed into a garbage bin outside your suite. Repair cracks in plaster and glue down loosened wallpaper to eliminate bed bug harborage sites.

Barriers

Mattresses can be enclosed in a zippered vinyl mattress cover for further protection. Running duct tape along the zipper is a good idea as well. Putting the legs of the bed in a jar of water or putting petroleum jelly along the legs of the bed can prevent bedbugs from crawling onto the bed.

SOME FREQUENTLY ASKED QUESTIONS ABOUT WHAT TO DO WHEN WE THINK WE HAVE BEDBUGS

What should I do about the bites?

Although bedbugs are not thought to transmit disease, they are a significant nuisance and can cause stress, anxiety and insomnia. We should seek medical attention if we are having an extreme or unusual reaction, or if it looks like the bites are becoming infected.

Can I get rid of bedbugs myself?

Bedbugs can be very difficult to get rid of. “Over the counter” remedies will not generally work. We have to tell the owner/manager where we live that we think we have them. If we have bedbugs, a pesticide company will need to be called to treat professionally. Be prepared for the owner/manager or pesticide sprayer to do a room inspection and try to assist by getting a few samples and pointing out other signs, ie. fecal spotting.

What can I do while waiting for the spray?

Think in terms of containing the infestation and making a space for yourself that is as bedbug free as possible.

Zippered vinyl mattress covers can be used to contain the infestation and give us some relief while waiting for a spray. They are available for about \$10 at the Army and Navy Store. You can also ask for one through social assistance, letting them know what you need it for. It is a good idea to run duct tape along the zipper once the mattress cover is on your bed.

We have also heard that Lysol bathroom foam spray can kill bedbugs on contact. So it can be helpful to launder or shake out your bed clothes away from your bed, move your bed out from the wall to prevent more bugs from crawling onto it, and spray a circle of Lysol bathroom foam spray around your bed. These measures will not eliminate the need for professional spraying but may help in the meantime.

The Pilot was funded by the Vancouver Agreement, Vancouver Coastal Health, the Ministry of Employment and Income Assistance, and the City of Vancouver, with in-kind assistance provided by BC Housing. Hotel owners paid for the pesticide treatments.

For more information contact Anne O’Neil, Project Manager, VANDU Bedbug Pilot Projects @ 604-724-6665.

Appendix H – The VANDU Bedbug Pilot Project: More on Bedbug Prevention

Don't bring them into your home

They usually come into our homes on items or visitors. Found or second-hand items are suspect. Inspect secondhand beds, bedding, furniture, baggage, and clothing before bringing them into your home. If you are concerned about a visitor carrying bedbugs, you can ask them to put their belongings in plastic bags and tie the bags up while they visit. You can also ask visitors to put their clothing in plastic bags, take a shower, and change into clean clothing that you provide.

Repair and Sanitation

Although having bedbugs is not about whether your place is clean and tidy, they are easier to control when things are clean and in a good state of repair. It is important to thoroughly vacuum floors, furniture, mattresses, pillows, upholstery, and curtains. Focus on creases, buttons, and folds when vacuuming and cleaning. After vacuuming, dispose of the vacuum bag in a tightly sealed plastic bag, and immediately remove it from your home. Keep clothing, bedding and curtains well laundered (hot cycles are better). There is evidence that putting clothing in the dryer on at least medium heat for at least 5 minutes may be sufficient to kill all stages of bedbugs. Caulk cracks and crevices in walls, ceilings, and floors. Paint walls and ceilings where paint is beginning to peel or chip.

Monitoring

Get in the habit of inspecting your home for evidence of a bedbug infestation, and/or allow for the manager/landlord or pesticide professionals to inspect. Look for live bugs in furniture, bedding, behind headboards, in cracks and crevices, and around windows and doors. You may never see the actual bedbugs so keep an eye out for other evidence of bedbugs. Other evidence includes shed skins from molting, eggs, egg casings, and blood stains or dark spots (fecal spotting). With heavier infestations there can be a sickly sweet or musty odor.

Other Preventative Techniques

Think "bedbug free" in terms of furniture and beds – ie. metal frames for beds & plastic chairs. Move your bed a little ways out from the wall. Cover bed legs with a gel or Vaseline and/or place the legs of your bed in small containers of liquid to prevent bedbugs from climbing from the floor to the bed. Diatomaceous earth preparations can also be a good preventative.

The Pilot was funded by the Vancouver Agreement, Vancouver Coastal Health, the Ministry of Employment and Income Assistance, and the City of Vancouver, with in-kind assistance provided by BC Housing. Hotel owners paid for the pesticide treatment).

For more information contact Anne O'Neil, Project Manager, VANDU Bedbug Pilot Projects @ 604-724-6665.

Appendix I – When your room is treated with pesticides

When your room is treated with pesticides

1. After the initial spray treatment you will need to be out of your suite for 6hrs. After the follow up dust treatment 8-10 days later, you will need to be out of your suite for 2-3 hours.
2. VANDU will provide you with a \$10 stipend when you need to be out for most of the day and \$5 for when you need to be out for a few hours.
3. When you return to your suite please open the windows and leave for an additional 15 minutes. Leave your windows open for as long as you like after you return to further air out your suite.
4. Avoid vacuuming or damp mopping the edges of the floor /treated areas for 4 weeks after the initial treatment. The treatment will continue to kill bedbugs for up to 30 days so it is very important not to wipe up or wet the treatment materials.
5. The main purpose of the follow up treatment is to kill the eggs that will have hatched since the first treatment. It may also be necessary to do additional treatments in some circumstances.

For more information call Anne O'Neil @ 604-724-6665 or Elvis Houle @ 778-991-4574

Appendix J – Initial Tenant Survey

Tenant's Name and Room #

Have you had your room sprayed for bedbugs before? If so when?

Do you think you have bedbugs now?

If so where do you think they are in the room?

Do you think there will be much that needs to be thrown away?

Are you able to bag your own laundry?

How many large bags – 40 lbs – of laundry do you think you have?

Are you able to move your own furniture and vacuum?

Do you have somewhere to go for 6-8 hrs after spraying?

Do you have any pets?

Have you had your bed replaced recently? If so when?

What size/type of bed do you have?

Do you have any medical issues we should know about?

Other pest problems?

Appendix K – Third and Fourth Tenant Survey / Formal Evaluation in September and November, 2007

Tenant's Name and Room #

Did you have much of a problem with bedbugs / other pests before spraying?

If so, on a scale of 1 to 10 how bad were they?

And what about now?

How is the new bed?

Do you think you and your neighbours know how to tell if they/you have bedbugs back?

Did it help to have people available to help with prepping for the spray?

If your friend asked you to help them prepare their room for a bedbug spray would you know how to help?

Do you need more information about detecting bedbugs or what to do if you notice them in your room?

Do you know what to do to minimize the risk of re-infestation? What?

What do you think the owners/management could do to minimize the risk of infestation?

What was best about the overall process for you?

Any suggestions for improving the process?

Any follow up needed here?

Appendix L – Initial Notice

Attention Tenants

The Cobalt Hotel has been chosen for the second VANDU Bedbug Pilot Project. Rooms will be treated for bedbugs beginning the week of July 2nd. A new double bed has been ordered for each unit.

The following is a schedule of preparations leading up to the pesticide spraying:

On Wednesday June 20th at 2pm there will be a tenant **information session** in the bar beside the hotel.

A snack and small stipend will be provided for tenants.

Beginning Thursday, June 21st we will be coming around to rooms to see how we can best assist tenants in preparing for the spraying.

VANDU, the Vancouver Area Network of Drug Users, is a group of users and former users who work to improve the lives of people who use illicit drugs through user based peer support and education.

For more info call VANDU @ 604-683-6061 or Elvis Houle @ 604-782-6665 or Anne O'Neil @ 604-724-6665.

Appendix M – Second Notice

VANDU Bedbug Pilot

Please keep clean laundry in the plastic bags (except for what you need to wear) for up to one month

Room prep's:

4th floor – July 10

3rd floor – July 11

2nd floor – July 12

1st floor – July 13

2nd treatment:

4th floor – July 11

3rd floor – July 12

2nd floor – July 13

1st floor – July 14

A 3rd treatment may be needed for some units.

The Vancouver Area Network of Drug Users is a group of users and former users who work to improve the lives of people who use illicit drugs.

For more information call Elvis Houle @ 778-991-4574 or Anne O'Neil @ 604-724-6665.

Appendix N – Third Notice

VANDU BEDBUG PILOT

We will be at the Cobalt on Friday afternoon, August 3rd to do a check in with tenants on how things have gone since the bedbug treatment and assess whether some suites require a further treatment.

IF YOU THINK YOU MAY NEED A FURTHER TREATMENT PLEASE CALL US SO THAT WE WILL MAKE SURE TO VISIT YOUR SUITE.

Anne O'Neil @ 604-724-6665 or Elvis Houle @ 778-991-4574

The Vancouver Area Network of Drug Users is a group of users and former users who work to improve the lives of people who use illicit drugs.

Appendix O – Fourth Notice

VANDU Bedbug Pilot

Tenant Workshop Thursday, August 16, 2007

2pm in the Cobalt Hotel Bar

\$5 stipend for those in attendance.

THE MAIN FOCUS OF THIS WORKSHOP WILL BE ON PREVENTING A RE-OCCURRENCE OF BEDBUGS. RICHARD LORENZEN, FROM DTES PEST CONTROL WILL BE THERE TO COVER THE BASICS OF PESTICIDE SPRAYING.

For more information contact:

Anne O'Neil @ 604-724-6665 or Elvis Houle @ 778-991-4574

The Vancouver Area Network of Drug Users is a group of users and former users who work to improve the lives of people who use illicit drugs.

Appendix P – Fifth Notice

VANDU Bedbug Pilot

The next treatment will be
Saturday, August 25th for the 3rd and 4th floor tenants
&
Sunday, August 26th for the 1st and 2nd floor tenants.

There will be a follow up treatment the week of September 3rd.

VANDU will be on site to assist with room preparations beginning Friday, August 24th at 1pm and Saturday and Sunday at 9am.

For more information contact:

Anne O'Neil @ 604-724-6665 or Elvis Houle @ 778-991-4574

The Vancouver Area Network of Drug Users is a group of users and former users who work to improve the lives of people who use illicit drugs.

Appendix Q – Sixth Notice

VANDU Bedbug Pilot

Please keep clean laundry in plastic bags (except for what you need to wear) for up to one month – end of September.

Please keep dirty laundry in plastic bags until you can have it laundered on hot cycles

There will be a follow up treatment for bedbugs the week of September 3rd. We will provide more information closer to that time.

The Vancouver Area Network of Drug Users is a group of users and former users who work to improve the lives of people who use illicit drugs.

For more information call Elvis Houle @ 778-991-4574 or Anne O’Neil @ 604-724-6665.

Appendix R – Seventh Notice

VANDU Bedbug Pilot

VANDU will be on site for room preparations at

9am

Monday, September 3rd for 3rd and 4th floor tenants

&

9am

Tuesday, September 4th for 1st and 2nd floor tenants.

You will need to be out of your suite from about 11:30am until about 4:30pm. We will provide a \$5 stipend for the time you need to leave your room.

Anne O'Neil @ 604-724-6665 Elvis Houle @ 778-991-4574

The Vancouver Area Network of Drug Users is a group of users and former users who work to improve the lives of people who use illicit drugs.

Appendix S – Eighth Notice

***VANDU
Bedbug Pilot***

Beginning on Monday, September 17th at about 12 noon we will be visiting tenants to find out how the process was for you and whether you are rid of bedbugs. As necessary we may come back through the week of September 17th.

We will provide a \$5 stipend for your time in providing this evaluation.

If you have any questions or concerns please contact Anne O'Neil @ 604-724-6665

The Vancouver Area Network of Drug Users is a group of users and former users who work to improve the lives of people who use illicit drugs.

Appendix T – Ninth and Tenth Notices

PUBLIC WORKSHOPS

on

BEDBUGS

Thursday, Oct 4th & Friday, Oct 12th
12 noon–2pm at VANDU
380 East Hastings St

WHO SHOULD ATTEND?

Tenants and members of the general public

SRO Hotel Owners and Managers

DTES non-profits and service providers

Children are welcome

Light lunch/refreshments provided

Small stipend available for tenants to attend 1 of the workshops

A panel presentation covering the following topics:

Anne O’Neil, Project Manager, VANDU Bedbug Pilot Projects will provide an overview of the community-based process developed; general facts about bedbugs; and tips on prevention and control

Martha Lewis, Executive Director, Tenant Resource & Advocacy Centre will provide an overview of the rights and responsibilities of tenants and owners

Richard Lorenzen, Certified Pest Control Manager, DTES Pest Control will provide information on what to expect with pesticide treatment; and the benefits of a community-based process for bedbug control

The VANDU Bedbug Pilot Projects successfully developed, tested and evaluated a community-based process to reduce bedbug infestation in Vancouver’s DTES. The Pilot was funded by the Vancouver Agreement, Vancouver Coastal Health, the Ministry of Employment and Income Assistance, and the City of Vancouver. In-kind assistance was provided by BC Housing. Hotel owners paid for the pesticide treatments.

For more information contact:

Anne O’Neil, Project Manager, VANDU Bedbug Pilot Projects @ 604-724-6665

Appendix U – Eleventh Notice

***VANDU
Bedbug Pilot***

On Monday November 5th and Tuesday November 6th at about 1pm we will be at the Cobalt to do a further follow-up on whether you are rid of bedbugs.

We will provide a \$5 stipend for your time in providing this evaluation.

If you have any questions or concerns or will not be available during the times above please contact Anne O'Neil @ 604-724-6665

The Vancouver Area Network of Drug Users is a group of users and former users who work to improve the lives of people who use illicit drugs.

Appendix V – VANDU Bedbug Pilot Projects Brochure (Information Contained)

The VANDU Bedbug Pilot Projects have developed, tested and evaluated an effective community based process to reduce bedbug infestation in Vancouver's Downtown Eastside. The process has been successfully tested in a mid-sized non-profit hotel, a mid-sized for profit hotel, and a larger for profit hotel.

Many single room accommodation hotel owners are repeatedly paying for pesticide spraying that is ineffective. The *VANDU* approach offers management and coordination of the necessary preparations leading to more successful pesticide treatments.

There is much to be done to prepare for pesticide treatment. Effective room preparation, including services such as bed replacement, professional laundering and garbage removal, are key to the success of the pesticide treatments.

A Project Manager worked directly with the owners and operators of the hotels, the pesticide companies, the Ministry of Employment and Income Assistance, the City of Vancouver, and Vancouver Coastal Health to coordinate and over-see the delivery of effective treatment assistance services.

Trained Tenant Assistants provided information and support for tenants during the pesticide treatment process and room preparation services, which included cleaning, vacuuming, and garbage disposal.

Tenants and Hotel Owners received the following benefits:

- A significant decrease in the rate of bedbug infestation
- A cleaner hotel and cleaner rooms
- Removal of infested mattresses and furniture
- Replacement beds
- Professional laundry services for each tenant

Tenants also received the following benefits:

- A stipend for the days they needed to be out of their rooms
- A place to go during pesticide treatment if necessary and overnight arrangements for people who needed to be out of their rooms longer

What did we learn?

- Often the whole building will need to be treated at least twice.
- The entire process takes strong teamwork.

- Effective management and coordination of the delivery of treatment assistance services and peer to peer support are key to successful pesticide treatment.
- A neighbourhood wide approach, combined with a public education campaign, is essential to bringing the current epidemic under control.

VANDU is a group of users and former users who work to improve the lives of people who use drugs through user based peer support and education.

The *VANDU Bedbug Pilot Projects* were funded by Vancouver Agreement, Vancouver Coastal Health, the Ministry of Employment and Income Assistance and the City of Vancouver, with in kind assistance provided by BC Housing. Hotel owners paid for the pesticide treatments.

For more information contact:

Anne O'Neil
Project Manager
VANDU Bedbug Pilot Projects
604-724-6665

Appendix W – Written Evaluations for Public Workshops, October 2007

(1) Are you or have you been affected by bedbugs? If so, how?

(2) What was the most important thing you learned today?

(3) Are there other things you would like to see the workshop about bedbugs cover? If so, please let us know.

(4) Do you think more information and workshops would be helpful in this community?

(5) Did you find the workshop informative?

- 1 – not at all
- 2 – somewhat informative
- 3- moderately informative
- 4 – very informative
- 5 – was excellent

(6) Did the presentation keep your attention?

- 1 – not at all
- 2 – somewhat
- 3- moderately
- 4 – very much
- 5 – was excellent

(7) Do you have any suggestions for how to improve the workshop?

Appendix X – Further Breakdown on Costs

	Cost per treatment assistance service (\$57,570.84 / 399)	Costs per large public workshop (\$7,428.33 / 2)	Cost for Report Writing/ Steering Committee Preparation & Project Completion
Project Management	\$46	\$2,170	\$8,715
Team Supervisor	\$5		
Equip & Supplies	\$9	\$309	\$41
Garbage Disposal	\$6		
Tenant Assistants	\$9	\$170	\$60
Replacement Beds	\$47		
Laundry	\$10		
Tenant Activities	\$6	\$225	\$190
Book keeping	\$6	\$840	\$1,680
TOTAL	\$144	\$3,714	\$10,686