



**STAFF REPORT
ACTION REQUIRED**

Bed Bug Control Strategy Update

Date:	July 20, 2011
To:	Board of Health
From:	Medical Officer of Health
Wards:	All Wards
Reference Number:	

SUMMARY

Incidents of bed bug infestations in the City of Toronto continue to be reported to Toronto Public Health (TPH) from across all social and economic strata, but they are especially problematic for the City's most vulnerable populations who lack financial resources and/or face physical or mental challenges.

Toronto Public Health has been proactive in addressing bed bug infestations through the establishment of the Toronto Bed Bug Project (which includes city and community stakeholders), and within city government through the creation of the Toronto Bed Bug Working Group (TBBWG). These structures help to support an integrated response to bed bug infestations in the City of Toronto, including the TPH-Toronto Community Housing Corporation (TCHC) Pilot Project, which has helped to inform the development of best practices in the prevention, assessment, identification, and treatment of bed bugs in multiunit residential buildings.

Toronto Public Health has a very limited funded mandate for bed bug control and has been carrying out the majority of its bed bug work using staff and other resources temporarily reallocated from other mandated public health services. Both TPH and the City of Toronto have been actively seeking sustainable provincial funding to support the continuation of bed bug control activities.

In 2011, City Council approved one-time municipal funding in the amount of \$87,000 to be allocated to TPH for the integrated bed bug response strategy. This funding is allocated to support labour intensive unit preparation and cleaning.

Also in 2011, TPH was successful in obtaining a commitment from the provincial government for on-going base funding (\$255,060 annually) for three new Public Health

Nurse positions to support bed bug control. The provincial government also committed to providing additional one-time funding in the amount of \$1,216,518 for the bed bug control strategy, which is to be spent by March 31, 2012. The latter is being provided as part of the Government of Ontario's recently announced Provincial Bed Bug Support Fund. City Council approval is required for the use of this funding.

The majority of this new funding is at this point available on a time-limited basis. In view of 2012 operating budget pressures flowing from the direction to reduce public health resources by 10%, the continued reallocation of public health resources to an unfunded program is unsustainable. It is therefore recommended that future bed bug control activities be limited to that which can be supported by dedicated provincial and municipal funding.

This report provides the Board of Health with an update on the direction provided to the Medical Officer of Health at its November 22, 2010 meeting, as well as:

1. The TPH-Toronto Community Housing Corporation (TCHC) Bed Bug Pilot Project partnership;
2. The 2011-2012 TPH Bed Bug initiative and integrated response strategy to combat bed bugs (in partnership with the Toronto Bed Bug Working Group);
3. New provincial and municipal bed bug funding; and
4. Ontario Agency for Health Protection and Promotion (now operating as Public Health Ontario)¹ activities related to scientific evidence on the health effects of bed bug infestations and options for province-wide surveillance.

RECOMMENDATIONS

The Medical Officer of Health recommends that:

1. The Medical Officer of Health report in June 2012 on progress of the 2011-2012 bed bug integrated response.
2. The Board of Health request the Minister of Health and Long Term Care to provide a clear commitment to on-going base funding for all components of the bed bug control strategy.
3. The Board of Health direct the Medical Officer of Health to provide Toronto Public Health's bed bug control services in accordance with approved dedicated provincial and municipal funding
4. This report be forwarded to the Deputy City Manager (A), Cluster A, the Toronto Bed Bug Working Group, the Chief Executive Officer TCHC, the Executive Director Municipal Licensing and Standards, and the General Managers of Toronto Employment and Social Services, Shelter Support and Housing

¹ Note: The Ontario Agency for Health Protection and Promotion is transitioning to a new brand/name: Public Health Ontario

Administration, Toronto Office of Partnership, the Chief Medical Officer of Health, the Minister of Health and Long-Term Care, the Association of Local Public Health Agencies (alPHA), and Public Health Ontario.

Financial Impact

Other than the above mentioned (and previously approved) budgetary amounts, there are no financial impacts for 2011-2012.

DECISION HISTORY

There is a history of reports, decisions and recommendations made by the Board of Health regarding bed bug control and response dating back to 2008. The history of reports and decisions details the extensive efforts made by the City to secure the funding needed to address bed bug infestations affecting Toronto residents, including the City's most vulnerable populations.

February 2008:

A report was submitted to the Board of Health regarding the growing concern about bed bug infestations in Toronto.

The Board of Health recommended that the Government of Ontario be approached for dedicated funding to support bed bug control initiatives in the city. In addition, the Board of Health requested the Medical Officer of Health to establish an Action Committee, and include representation from other City of Toronto divisions, housing providers, health care organizations, social services, community groups, representatives of landlords and tenants and other key stakeholders. The Action Committee was tasked with developing a comprehensive action plan to reduce bed bug infestations in the City of Toronto with particular emphasis on vulnerable populations.

In response to this request, a Bed Bug Forum was held in March, 2008 and was attended by representatives of internal and external stakeholders. This forum led to the establishment of the Toronto Bed Bug Project (TBBP), which focussed on coordinating existing bed bug control initiatives and expertise, the creation of partnerships and the development of action plans to achieve maximum effect within existing resources.

Following the February 2008 meeting, the Board of Health requested the Government of Ontario incorporate the issue of bed bug infestations in its Poverty Reduction Strategy.

November 2008:

A report was submitted to the Board of Health which recommended reiterating the request to the Government of Ontario to fund bed bug control initiatives for vulnerable populations as part of the province's poverty reduction strategy.

In addition to this recommendation, it was recommended that:

- City Council provide one-time emergency funding of \$75,000 gross and net in the Toronto Public Health 2009 Operating Budget to assist vulnerable adults who do not qualify for Ontario Works (OW) and Ontario Disability Support Program

- (ODSP) support, to purchase services to prepare their residences for bed bug pesticide treatment;
- Request the General Manager, Shelter Support and Housing Administration, to request funding for the expansion of the Bug and Scrub initiative, as part of the 2009 Operating Budget process;
 - Refer this report to the Budget Committee for consideration during the 2009 operating budget process; and
 - Establish a Bed Bug Advisory Group of three members of the Board of Health to work with TPH staff on issues related to bed bug control prior to the next report update and referred the report to the Greater Toronto Apartment Association, Municipal Licensing and Standards, the Ontario Non-Profit Housing Association and Toronto Community Housing for information.

Following this meeting, the Board of Health requested the Government of Ontario to fund bed bug control initiatives for vulnerable populations as part of its Poverty Reduction Strategy.

November 2009:

In November 2009, the Medical Officer of Health provided an update to the Board of Health on bed bug control initiatives, which underscored the extent of the bed bug problem and the on-going support (resources) required to sustain the initiatives.

In addition, the Board of Health requested the City Manager to recognize bed bug control as a City-wide program and to appoint a City-wide project manager to lead the initiative. The Deputy City Manager established and chaired the TBBWG, which included broad representation from City government including TPH.

The Board of Health submitted a subsequent request to the Government of Ontario to incorporate the issue of bed bug infestations as part of its Poverty Reduction Strategy.

June 2010:

On behalf of the TBBWG, the former Deputy City Manager submitted a business case to the provincial government titled, "Opportunity to Invest in Best Practice Solutions to Address Health Impacts of Bed Bug Infestations in Toronto". The business case outlined the impact of bed bug infestations (including health impacts); the unique challenges experienced by vulnerable populations in preparation and treatment of bed bug infestations, a strategy to combat bed bug infestations and these challenges; and a comprehensive multi-year budget and request for on-going provincial funding.

September 2010:

The Toronto Bed Bug summit was held (hosted by provincial MPP Mike Colle). At this forum, several recommendations were made regarding bed bug control and funding needs. In response to these recommendations, the province announced its Bed Bug Support Fund, which made available up-to \$5 million in one-time funding (2011-12) to Boards of Health across Ontario.

November 2010:

In November 2010, the Medical Officer of Health provided an update to the Board of Health on bed bug control initiatives to date. The Board of Health amended the report presented at the November 2010 meeting to include the following decisions and directions:

- Support the previous request by the City of Toronto to the Province of Ontario for funding;
- Request the Medical Officer of Health to work with the City Manager to explore appropriate options for City funding for bed bug control initiatives as part of the City's 2011 Operating Budget; and
- Request the Medical Officer of Health to report to the Board of Health with a status report on the TPH-TCHC Pilot Projects, and recommendations for further advancing the Toronto Bed Bug Strategy.

Background Information

2008: HL12.4 – Bed Bug Issues in Toronto – Staff Report

(<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2008.HL12.4>)

HL19.8 - Toronto Bed Bug Project Update - Staff Report

(<http://www.toronto.ca/legdocs/mmis/2008/hl/bgrd/backgroundfile-17412.pdf>)

2009: HL26.6 - Toronto Public Health's Response to Bed Bugs - Staff Report

(<http://www.toronto.ca/legdocs/mmis/2009/hl/bgrd/backgroundfile-25109.pdf>)

2010: Toronto Bed Bug Project - 2010 Update - Staff Report

(<http://www.toronto.ca/legdocs/mmis/2010/hl/bgrd/backgroundfile-33847.pdf>)

Communications

2008: (February 24, 2008) E-mail from Cathy Crowe, Street Nurse, Sherbourne Health Centre (HL.Main.12.4.1)

(February 26, 2008) Letter from Councillor Paula Fletcher, Ward 30 - Toronto-Danforth (HL.Main.12.4.2)

(February 26, 2008) Submission from Beth Pelton, Street Health Nurse (HL.Main.12.4.3)

Letter from Councillor Moscoe, Ward 15 - Eglinton-Lawrence

(<http://www.toronto.ca/legdocs/mmis/2008/hl/bgrd/backgroundfile-17413.pdf>)

(November 11, 2008) letter from Frances Zaretsky (HL.New.HL19.8.1)

2009: (November 16, 2009) Letter from Councillor Paula Fletcher, Ward 30 - Toronto-Danforth (HL.New.HL26.6.1)

2010: (November 19, 2010) Letter from Councillor Paula Fletcher, Ward 30 - Toronto-Danforth (HL.New.34.4.1)

(<http://www.toronto.ca/legdocs/mmis/2010/hl/comm/communicationfile-18502.pdf>)

(November 19, 2010) Letter from Ann Dembinski, President, CUPE Local 79 (HL.New.34.4.2)

(<http://www.toronto.ca/legdocs/mmis/2010/hl/comm/communicationfile-18503.pdf>)

ISSUE BACKGROUND

As with many major cities in North America (including New York, Chicago, and Cincinnati), Toronto continues to experience a resurgence of bed bug infestations in all areas of the community (including hospitals, shelters, private residences, social housing, hotels and motels, and private residences). As with the experience of other cities and jurisdictions, the City of Toronto, and specifically TPH, continues to receive a significant number of requests for support, advice and service regarding bed bugs from all members of the public regardless to their economic or social means. While bed bug infestations are being seen in many sectors of the community, the most severe impact of bed bug infestations continues to be encountered in the City's vulnerable populations.

Members of Toronto's most vulnerable populations (low-income, seniors, persons with disabilities and mental health issues) often face physical and/or mental challenges to undertaking the labour intensive unit preparation, and do not have the financial resources to pay for costly unit treatment and furniture replacement. Many are left to deal with psychosocial affects of infestation including social stigmatization and isolation as a consequence.

Human Health Impacts of Bed Bugs:

As previously reported to the Board, the vast majority of individuals exposed to bed bug infestations do not present with any clinical signs or symptoms other than perhaps a slight redness around the area of the bed bug bite. In some cases however, the presence of raised nodules and itchiness can result in bacterial infections from the scratching of these sites, which may then lead to cellulitis. In very rare cases, individuals have also presented with allergic reactions, asthma and anemia.

A scientific literature review conducted by Public Health Ontario documents many studies exploring the possibility of bed bugs transmitting diseases. To date, while evidence of viruses have been found in bed bugs in a number of studies (e.g. DNA of hepatitis B virus in the body cells of bed bugs), the ability to transmit disease has not been documented.²

A recent study (letter published in the US Centres for Disease Prevention and Control's *Emerging Diseases Journal*. June, 2011), found that bed bugs taken from three low-income patients treated at a Vancouver hospital carried antibiotic-resistant bacteria, including multidrug-resistant *Staphylococcus aureus* (MRSA) and vancomycin-resistant *Enterococcus faecium* (VRE).³ While this single study does not document transmission of these diseases, further research in this area is needed.

The psychosocial impact of bed bug infestations remains the most significant human health concern when dealing with vulnerable populations. The frail elderly, people living with mental and physical challenges, and low income individuals and families are most

² Chen, H and Copes, R. "A review on bed bugs: epidemiology, health effects and surveillance activities," Ontario Agency for Health Protection and Promotion. 2011.

³ Lowe CF, and Romney MG: "Bedbugs as vectors for drug-resistant bacteria [letter]," *Emerging Infectious Diseases Journal*, 2011 May

impacted. Issues of social isolation, stigmatization and anxiety are frequently encountered by TPH staff when assisting vulnerable clients to deal with infestations. These individuals have difficulty in accessing resources and assistance, and the financial means for treatment on their own. The end result is often chronic or reoccurring infestations, which not only continues the cycle of isolation and psychosocial effects, but the proliferation of bed bug infestations in other community settings. For these reasons, the City of Toronto's bed bug initiatives primarily focus on this sector.

COMMENTS

2010 Achievements:

In the City of Toronto, the control of bed bugs has been a city-wide initiative involving many divisions and key internal and external stakeholders and community groups. The creation of the multi-stakeholder Toronto Bed Bug Project (TBBP) in 2008 resulted in the development of a number of researched and informed public information resources (fact sheets and web site), as well as tools and best practices related to the identification, treatment and mitigation of bed bug infestations

Through a coordinated effort, TPH has been a leader in Ontario through the range of services it has developed and provides to the public regarding bed bugs. These include:

- Creating a bed bug website (<http://www.toronto.ca/health/bedbugs>) as a source of information, tips and tools for the public in the prevention, and treatment of bed bug infestations;
- Developing and distributing fact sheets based on up-to-date information;
- Providing bed bug identification services (TPH staff assess bugs brought in by the public to confirm whether it is a bed bug or other pest);
- Providing information over the phone to those members of the public who have inquiries regarding bed bugs and infestations;
- In cases where individuals are facing chronic and/or recurring infestations, TPH offers a range of on-site services up to and including inspections and assessments, coordination of supports such as unit preparation/extreme cleaning, linkages to social supports, and where necessary, orders under the Health Protection and Promotion Act; and
- Providing education and outreach services for tenant groups, landlords, community groups, employees, employers, etc.

Despite resource challenges and limitations, in 2010, Toronto's bed bug control strategy resulted in a number of accomplishments in combating infestations. These include, but are not limited to:

- Responded to more than 2000 requests for service;
- Provided education and outreach to more than 2000 residents;
- Undertook more than 3500 apartment unit assessments:
- Assisted 110 vulnerable residents with unit preparation/extreme cleaning;
- Over 90,000 hits on the web site, and more than 1980 people completed an online survey regarding bed bug infestations (501 people identified as homeowners, 1306 identified as tenants and 41 identified as landlords);
- Developed 13 bed bug information and best practice fact sheets;
- Received and distributed over \$25,000 worth of donated mattress encasements for those who cannot afford these materials;
- Over 6,000 units (vulnerable clients) were sealed during unit refurbishment;
- Replacement of common area carpeted floors that can harbour bed bugs with solid surfaces that can be cleaned with floor scrubbers in 12 multi-residential buildings;
- Started a loaner vacuum program to assist tenants in preparing their apartments for treatment;
- TCHC, in partnership with TPH, developed an illustrated brochure on preparing apartments for cleaning; and
- Completion of the TPH-TCHC Pilot Project Partnership.

Status for 2011:

In 2011, TPH is building on the comprehensive and effective approach to bed bug infestation control. In this regard TPH staff continues to provide the full range of services outlined above, and a request to reconvene the TBBWG was made to the Acting Deputy City Manager (June 2011) to support the implementation of the 2011 bed bug control strategy with city partners.

There have been a few challenges in 2011. One of these has been the termination of the "Bug and Scrub" program, which led much of the unit preparation and extreme cleaning work related to infestations affecting vulnerable populations in multi-unit residences. In addition, the internal restructuring of TCHC (a key partner) has resulted in a delay with moving forward on some of the city-wide components of the 2011 bed bug strategy.

An additional challenge is the target population of the bed bug control strategy and activities (vulnerable populations). Many clients have multiple health issues including medical, physical (e.g., disabilities), and mental health issues, and they lack basic necessities (including financial resources and means, food and clothing). This compounds the intensity of the response activities.

For the first five months of 2011, TPH Public Health Inspectors have processed 130 requests for insect identification at the request of the public, conducted 830 unit assessments; and participated in over 60 outreach and educational sessions for residents/tenants, landlords, community and employee groups.

A summary of all 2011 bed bug control activities will be provided through a full report to the Board of Health in June 2012.

Case Examples of the Services Provided to Vulnerable Populations:

The following case examples serve to illustrate the complex impacts of bed bug infestations on vulnerable individuals and the range of supports and services required to deal with them successfully.

Case Example 1:

A request for services was received for a 66 year-old client requiring relocation as their basement apartment was infested with bed bugs and mould. Upon inspection and investigation by a PHI, it was found that the landlord had not complied with public health orders issued.

In addition to dealing with the bed bug infestation, the client had multiple existing health conditions, including arthritis, diabetes, and epilepsy (frequent unpredictable seizures) and is on medications.

The collaborative efforts of the TPH Bed Bug Team resulted in the client relocating to more appropriate housing to meet both their medical and social needs.

Case Example 2:

A request for service was received for a client approximately 50 year-old living in a TCHC residence. The client has had previous bed bug infestations and as a result, experienced very high levels of stress, anxiety, depression, sleep deprivation and intense preoccupation verging on delusions about being infested with bed bugs. A public health nurse assessed the client for depression and Post Traumatic Stress Disorder related to, and heightened by, previous bed bug infestations.

An assessment of the client's unit was conducted by a Public Health Inspector, and the public health nurse coordinated the client's relocation to a different unit to alleviate the medical and psychosocial impacts of past bed bug infestations. Counselling and emotional supports were also coordinated and are being put in place.

Case Example 3:

A request for service was received for a 44 year-old client with dependents, living in a private residential unit. The unit was infested with bed bugs. The public health nurse assigned confirmed the client was not eating, suffered from sleep deprivation, and experienced increased anxiety levels. In addition, the infestation was affecting the client's recovery from cancer.

A PHI monitored the bed bug infestation and ensured appropriate treatment. A public health nurse provided education and some counselling support to assist the client in dealing with the physical and mental stress and health impacts experienced as a result of the bed bug infestation.

The TPH-TCHC Bed Bug Pilot Project Partnership:

Controlling bed bug infestations in multi-unit residential buildings often can present a challenge of re-infestation. This issue is compounded when the multi-unit dwellings house a significant portion of low-income individuals and/or individuals coping with physical and/or mental challenges in their lives.

In order to develop strategies and best practices for combating bed bugs in these environments and supporting the City's most-vulnerable, TPH entered into a partnership

with TCHC on five pilot projects to develop a best practices approach to the assessment, identification and elimination of bed bugs.

The five pilot sites were selected based on location, building characteristics/challenges, demographics, and infestation levels. A general scan was undertaken for each location including the building structure, population characteristics, available social services, landlord/tenant relationships and potential challenges. This information was used to develop building-specific bed bug control plans.

Control plans included elements such as tenant and staff education, building audits to determine infestation levels, identification of vulnerable clients requiring assistance, the application of control measures and finally, a follow up audit to determine the effectiveness of the bed bug control initiative.

Project Findings:

A number of lessons were learned through the implementation of the TPH-TCHC Pilot Projects, as unit preparation and treatment can vary from building to building and client to client, depending on environmental, cultural, health and socio-economic factors. The following is an overview of the key findings identified through the Pilot Project:

- An integrated pest management approach is the most effective approach in dealing with bed bug infestations. This approach involves significant preparation work (decluttering, vacuuming, laundering of clothing, moving furniture, etc.) on the part of the tenant before a pest control contractor undertakes pesticide treatments. Tenants require consistent and correct preparation procedures and must be given sufficient time to prepare their units.
- A successful program requires tenant compliance and in this regard, the engagement of the local tenant community is essential. Before the implementation of a building-wide bed bug control plan, it is essential to provide both property management staff and the tenants with information about bed bugs. The information should include how to identify bed bugs, how they are spread and what to do in the event of infestations;
- Monitoring for the presence of bed bugs should be part of an annual apartment unit inspection process to assist in providing early identification and treatment;
- A key component is that landlords or property managers must have knowledge of the level of pest infestations in their building;
- Landlords or property managers must be aware of vulnerable tenants and the supports required by these tenants; and
- A building-wide bed bug control strategy requires funding and human resources. A team effort is required including pest control, the owner or property manager, community representation and social service providers. Staff from the local municipality may also be included.

Based on the above, a number of best practice documents have been developed to combat bed bugs in the City of Toronto. These include:

1. Bed Bug Management Strategy for Multi-Unit Buildings;
2. Steps to Take Preparing an Apartment for Bed Bug Pesticide Treatment;
3. Bed Bug Control Action Plan for Multi-Apartment infestations in Multi-Residential Buildings;
4. Choosing and Working With a Pest Control Company; and
5. Components of Bed Bug Infestation Education and Awareness.

Please see Attachments 1-5 for more details on each best practice. Attachment 6 is a resource produced by TCHC to assist tenants in preparing their units for pesticide treatment.

Thermal Treatment:

Bed bug infestations are typically difficult to combat with "best practice" control measures being labour intensive, intrusive and often costly. To complicate the matter further, bed bugs have built resistance to a wide range of pesticides over the years and today, with the ongoing concerns about public exposure to pesticides, and the elimination of powerful, broad spectrum residual pesticides, there are only a limited range of chemicals licensed for use against this pest. Very few have a lasting residual impact and reports of recurring infestations are common. As a result, there has been a rapid increase in the interest and use of thermal treatments as a tool in the fight against bed bugs.

Thermal treatment approaches have been available in North America for a number of years but only recently have been employed as a bed bug control strategy in Ontario.

Thermal treatments are available in different formats. One option is the installation of portable gas or electric heating units within residential structures to raise the internal temperature of the entire premise or, alternatively, just the areas where the infestation has been detected. A second example is the provision of thermal containers (similar to shipping containers) into which infested furnishings and other possessions are placed for treatment.

Typically the internal temperatures are raised to around 57 degrees Celsius (135 degrees Fahrenheit) which has been shown to kill all stages of bed bugs including the egg stage.

Thermal Treatments in TCHC Premises:

During the course of the Pilot Program, TCHC commenced a thermal treatment program to test the efficiency and suitability of this technology for bed bug treatment. In 2010, twenty-one TCHC apartments and homes were thermally treated.

Feedback was sought from local building superintendents and through follow-up inspections. Of the 21 of units thermally treatment, 5 have required further work. TCHC reports generally positive results from thermal heat treatments as one approach in its attempts to control bed bugs in its housing portfolio.

Advantages:

- Thermal treatment is an option for people with chemical sensitivities and where chemical use is undesirable such as in health care facilities;
- Far less preparation is required for thermal treatment than other methods;
- All stages of bed bugs, and their eggs, can be eliminated in a single treatment. No additional visits, preparation and vacating periods are required;
- Eliminates pesticide-resistant bed bugs;
- Thermal treatments are 100% non-toxic, pesticide and chemical-free;
- Thermal treatments penetrate deep into furniture, walls, floors and ceilings, and other areas where bed bugs may hide;
- If applied properly, this approach kills the bed bugs within the problem area/unit, without driving them into neighbouring units; and
- Won't leave behind any visible residue or odour.

Disadvantages:

- This approach requires the use of trained professionals who deploy specialised equipment. Consequently, this is a more expensive alternative to pesticide treatments;
- The process requires the vacating of the premises for at least a full day. Alternative accommodation for residents and their pets may be a limiting factor in the use of this technology;
- If inappropriately applied, this technique could drive bed bugs out to neighbouring units and or could cause property damage. Reports of house fires have been received where inappropriate techniques were deployed; and
- An important limitation to note is that thermal treatment is not always an option in hoarded units as adequate space for the necessary equipment may not be available and heat penetration may not be sufficient.

Despite some of the disadvantages identified with employing the use of thermal treatment, it remains useful alternative treatment where appropriate.

Surveillance and Reporting Requirements:

As a condition of funding provided by the province, TPH is required to collect data on the degree and severity of bed bug infestations and the populations and settings most impacted. This information, as well as a description of activities implemented/delivered to date, and details on the successes and impact of the control activities, is to be reported to the province.

Reporting on the activities, services and accomplishments of this strategy will also support a greater understanding of the issues the City of Toronto and its residents are facing regarding bed bug infestations and the impacts on health and well-being.

TPH staff anticipates that the data collected and reporting requirements will help further develop best practice approaches, and enhanced monitoring/identification of bed bug infestations in vulnerable communities. This in turn will help inform a strong business

case to help advocate and potentially leverage sustainable funding for City-wide bed bug control activities beyond 2011 from the province.

In addition to the funding made available to health units, the province developed a web based communications and education strategy (www.bedbugsinfo.ca). As part of its overall strategy, the Ministry of Health and Long-Term Care also requested Public Health Ontario to undertake a scientific literature review covering the epidemiology and health effects of bed bugs. Public Health Ontario also put forward a series of options (10) for the surveillance of bed bug infestations for public health policy consideration and decision-making.

Surveillance options range from developing a provincial bed bug registry (which many cities in the United States have in place, including Cincinnati, Chicago and New York City), to routine province-wide surveys, to surveillance based on the number of calls received by local public health units and/or pest control companies, or through the existing self reporting bed bug registry. Public Health Ontario's document can be found at: <http://www.oahpp.ca/services/environmental-and-occupational-health.html>.

As bed bugs are not reportable under any legislation (provincially, nationally or internationally), understanding the full scope of problem, scientifically assessing the burden of infestations (as well as the health risks), and effective control and management strategies is difficult.

Establishing a surveillance system would help address these challenges and further support local bed bug control strategies. It would also allow for health units and municipalities to better plan, align and allocate resources (including response activities, funding and staffing allocations); as well as evaluate the programs and services already in place. TPH encourages the Ministry of Health and Long-Term Care to consider the surveillance options put forward by Public Health Ontario, and to proceed with developing a province-wide public health policy regarding bed bug surveillance in Ontario.

2011-12 Key Bed Bug Activities

Inspection, Education and Surveillance:

TPH has established a dedicated Bed Bug Team created through temporary reallocation of existing resources. This team includes three PHIs (recently temporarily increased to six) and three public health nurses, and is responsible for bed bug identification, inspections, assessments, education and outreach, supportive service assessments and referral activities.

Extreme Cleaning/Unit Preparation Supports for Vulnerable Clients:

Unit preparation and extreme cleaning is critical in any bed bug control program for vulnerable residents. This is a costly, labour intensive component of an integrated pest management strategy and requires adequate funding. This funding is currently made available through the City's \$87,000 one-time funding commitment in 2011.

Currently, on a case-by-case assessment basis, support is being provided for extreme cleaning/unit preparation for vulnerable clients. In each case, three quotations are obtained and a Purchase Request completed for a Departmental Purchase Order. TPH is actively working with Purchasing and Materials Management Division to establish a vendor list to streamline future extreme cleaning/unit preparation purchasing.

Extreme Cleaning Capacity:

The strategy includes outreach to other community extreme clean service providers to develop capacity within the City of Toronto for this important service for vulnerable clients.

Funding for the 2011-2012 Bed Bug Control Strategy:

Dedicated funding for bed bug control activities and services in 2011-2012 includes a funding commitment of \$1,471,578 from the province (\$255,060 on-going new base; and \$1,216,518 in one-time), and \$87,000 in one-time funding from the City:

Municipal:

As per the Board of Health direction at its November 22, 2010 meeting, appropriate options for City funding were explored as part of the 2011 operating budget process.

On February 23, 2011, City Council approved a one-time funding enhancement of \$87,000 for TPH bed bug control initiatives.

Provincial:

In order to efficiently and effectively respond to what has become a persistent, pervasive, and reoccurring problem for many, sufficient ongoing targeted funding and support for bed bug control initiatives are required. The City of Toronto, under the leadership of the former Deputy City Manager, entered into discussions with the Ministry of Health and Long-Term Care regarding sustainable funding and provided the province with a business case for a city-wide control strategy (June 2010). This business case became the basis for the province allocating funding to Toronto Public Health under the recently announced Provincial Bed Bug Support Fund.

The Ministry of Health and long-Term has committed to providing TPH with \$1,471,578 in provincial funding. This includes \$255,060 in new base (on-going) funding for three new Public Health Nurse full-time equivalent (FTE) positions; and an additional \$1,216,518 in one-time funding (April 1, 2011 - March 31, 2012) for the bed bug control strategy.

The provincial funding commitment is subject to City Council approval. If approved, TPH would allocate \$100,000 of the provincial one-time funding to TCHC, and as previously committed and agreed to, TCHC would match this funding (\$100,000) to develop an in-house youth employment unit preparation team. The balance of the one-time provincial funding would be allocated to TPH bed bug response activities and to other city-wide partnership components of the bed bug strategy.

It is important to note that divisions and agencies within the City, including Toronto Public Health, established the TBBWG to develop partnerships and maximize existing programs and services to respond to bed bug outbreaks and infestations across the City. As a result, these divisions have diverted resources from other programs to support the much needed control strategy.

In Toronto Public Health, three public health inspectors (PHIs) were reassigned to the bed bug strategy on a full time basis in 2010. This has reduced service levels for funded, mandated services such as inspections of pools, spas, and arenas, and has slowed response times for health hazard complaints. These service impacts have been partially offset by one-time 100% provincial funding for safe water and food safety programs.

Furthermore, the temporary reallocation of three public health nurses to bed bug control has resulted in reduced number of staff available to conduct home visits of other vulnerable adults requiring supports, social, medical and mental health services and referrals (including addressing issues of hoarding).

As previously reported to the Board of Health in November 2010, while this approach has provided important services and assistance to residents of Toronto experiencing bed bug infestations (and specifically, vulnerable populations). However, the impact on other mandated services is not sustainable, particularly in view of the expected implementation of budget reductions in 2012.

In this regard, it is recommended that the Medical Officer of Health provide TPH's bed bug control services, at levels which can be supported by approved dedicated provincial and municipal funding.

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Medical Officer of Health

ATTACHMENTS

Attachment 1: Bed Bug Management Strategy for Multi-Unit Buildings

Attachment 2: Steps to Take In Preparing an Apartment for Bed Bug Pesticide Treatment

Attachment 3: Bed Bugs Control Action Plan for Multi-Apartment Infestations in Multi Residential Buildings (integrated pest management approach)

Attachment 4: Choosing and Working With a Pest Control Company

Attachment 5: Topics to Include in Bed Bug Presentations/Educational Sessions

Attachment 6: Bed Bugs: Preparing Your Home for Treatment