

# Bed Bugs

Bed bugs are small, wingless, oval-shaped insects that bite and feed on humans and animals, primarily at night.<sup>1</sup> When bed bugs bite humans it can cause an allergic reaction and itchy welts similar to mosquito bites, however they are not known to transmit infectious diseases to humans.<sup>1</sup> Bed bugs can be found in homes, apartments, hotels and other residential and public buildings, and can be carried into the home on objects such as luggage, furniture and clothing.<sup>1</sup> Inspecting hotel rooms for bed bugs and avoiding purchasing second-hand furniture or bedding can help reduce the risk of bringing bed bugs into the home.<sup>1</sup>

**Purpose of Health Indicator Report:** To provide information on the prevalence, impact and knowledge of bed bugs in Halton Region

**Data Source:** Rapid Risk Factor Surveillance System (RRFSS)<sup>2</sup>

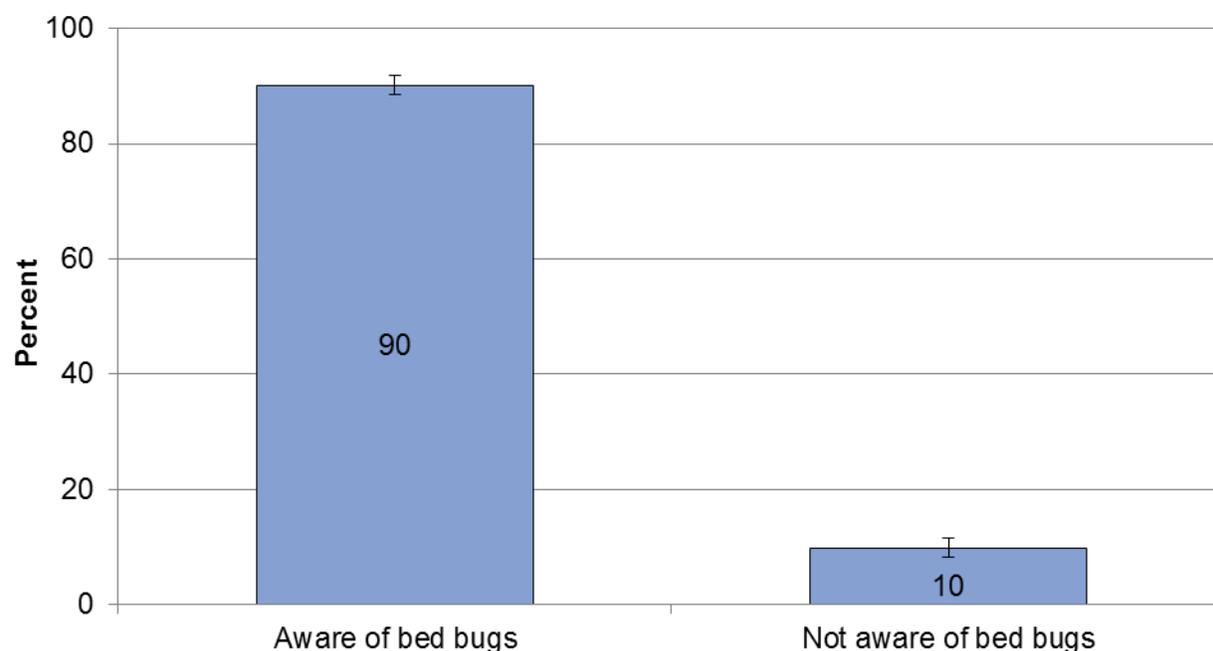
**Data Collection Period:** May 2011-April 2012

*For more information on definitions, statistical significance, data interpretation and limitations in this report, see the [data notes](#) section on the last page.*

## Bed Bug Awareness and Prevalence

### Overall Findings:

- In 2011/2012, 90% ( $\pm 2$ ) of adults aged 18 and over in Halton Region reported that they were aware of bed bugs and 10% ( $\pm 2$ ) reported that they were not (**Figure 1**).
- In 2011/2012, 0.8% ( $\pm 0.5$ )\* of households in Halton reported having bed bugs in their home in the past 12 months (data not shown).
- In 2011/2012, there were no statistically significant differences by sex, municipality or education in the percent of Halton adults aged 18 and over who reported that they were aware of bed bugs (data not shown).



**Figure 1: Bed bug awareness, adults aged 18 and over, Halton Region, 2011/2012**

## Age:

- In 2011/2012, younger adults in Halton were less likely than older adults to report that they were aware of bed bugs (see **Figure 2**). This difference was statistically significant when comparing adults aged 18-24 [74%(±12)] to all other age groups.

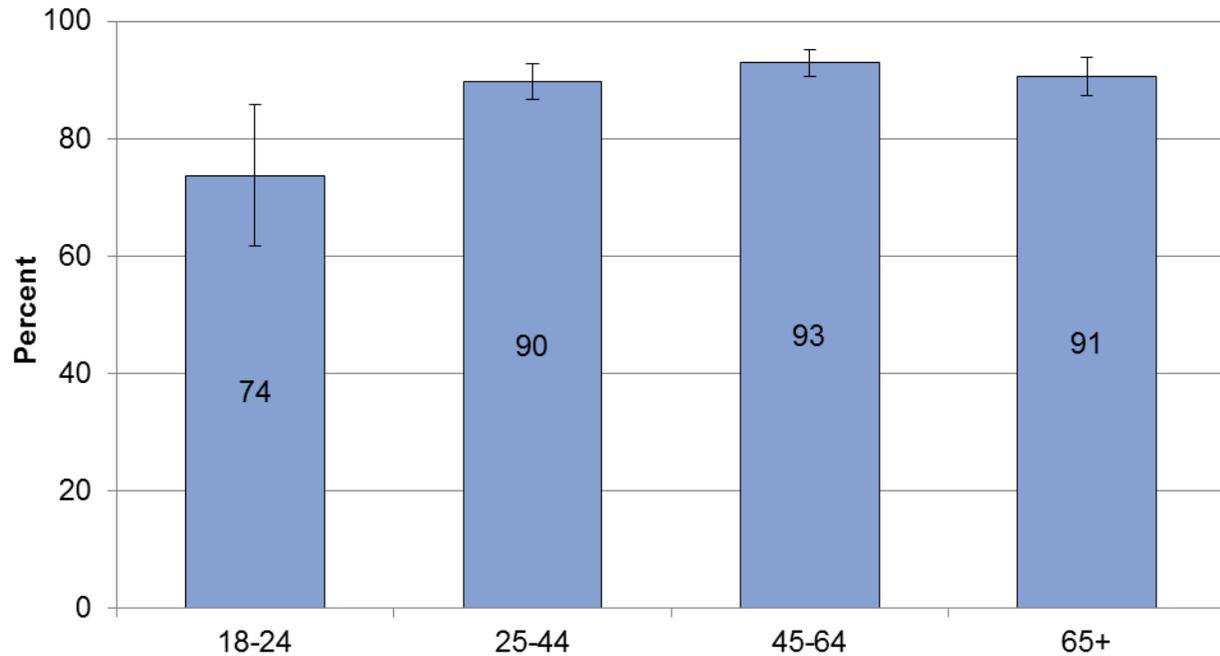


Figure 2: Percent of adults aged 18 and over who are aware of bed bugs, by age, Halton Region, 2011/2012

## Income:

- In 2011/2012, the percent of adults aged 18 and over in Halton who reported that they were aware of bed bugs increased as income increased, however this difference was not statistically significant (**Figure 3**).

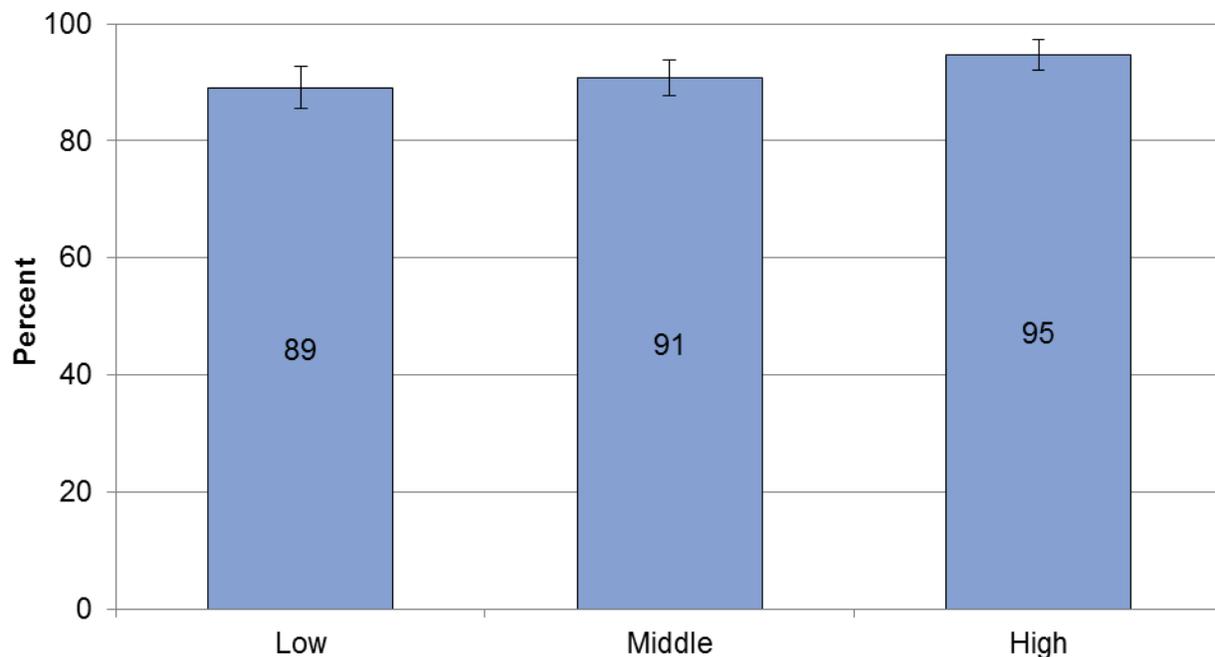
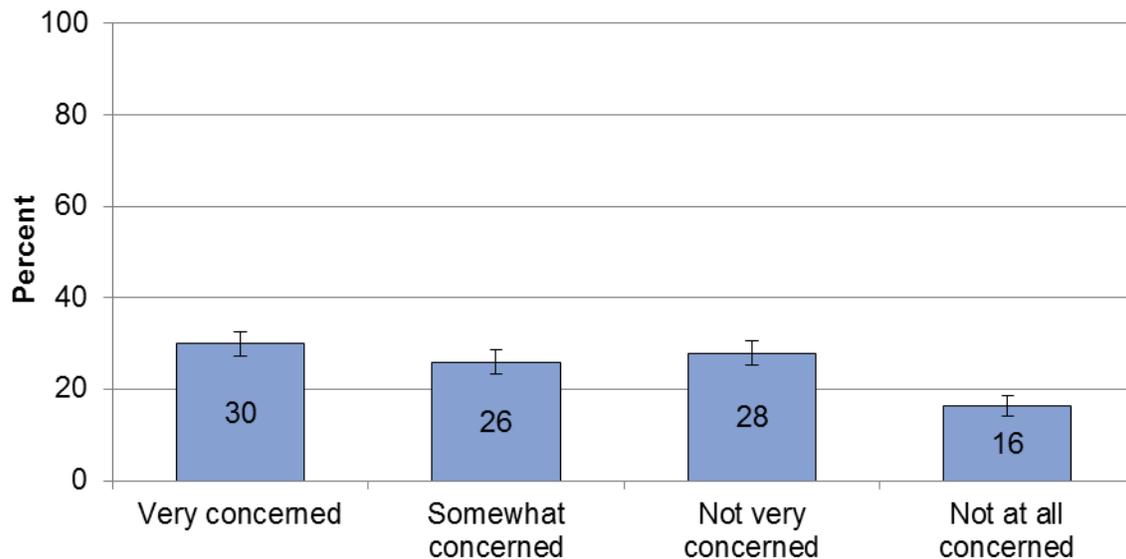


Figure 3: Percent of adults aged 18 and over who are aware of bed bugs, by income, Halton Region, 2011/2012

## Bed Bug Concern

### Overall Findings:

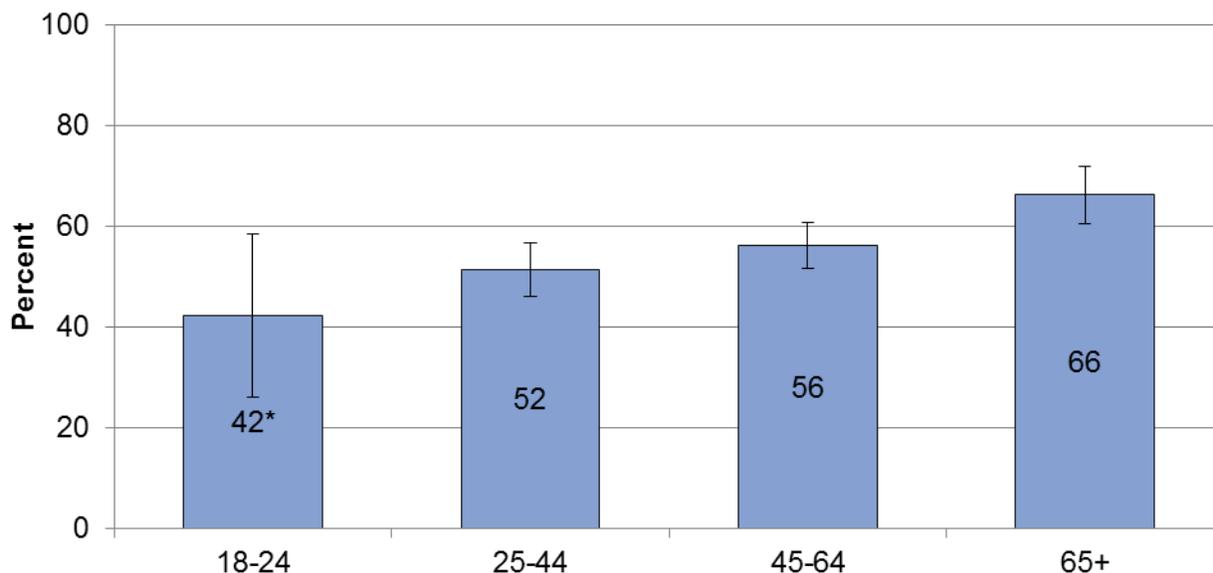
- In 2011/2012, 30%(±3) of Halton adults aged 18 and over who were aware of bed bugs reported that they were very concerned about bed bugs getting into their home, compared to 26%(±3) who were somewhat concerned, 28%(±3) who were not very concerned, and 16%(±2) who were not at all concerned (see **Figure 4**).
- In 2011/2012, there were no statistically significant differences by sex, municipality or education in the percent of Halton adults aged 18 and over who were aware of bed bugs and who reported that they were very or somewhat concerned about bed bugs getting into their home (data not shown).



**Figure 4: Bed bug concern, adults aged 18 and over who are aware of bed bugs, Halton Region, 2011/2012**

### Age:

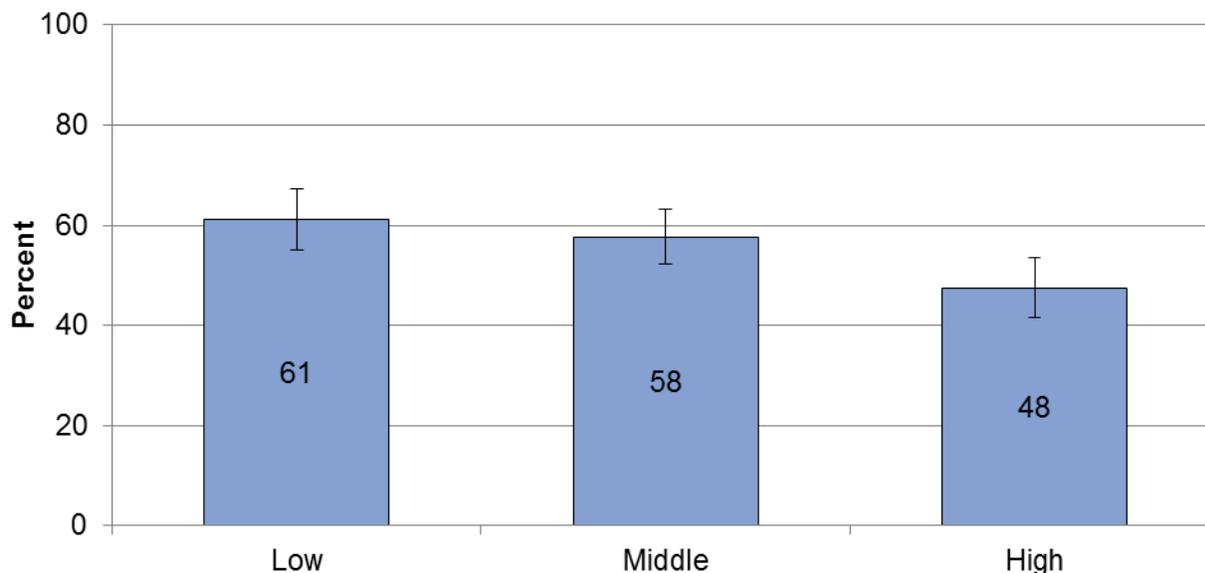
- In 2011/2012, younger adults in Halton who were aware of bed bugs were less likely than older adults to report being very or somewhat concerned about bed bugs getting into their home (see **Figure 5**). This difference was statistically significant when comparing adults aged 18-24 [42%(±16)]\* to adults aged 65 and older [66%(±6)], as well as when comparing adults aged 25-44 [52%(±5)] to adults aged 65 and older.



**Figure 5: Percent of adults aged 18 and over who are aware of bed bugs and are somewhat or very concerned about bed bugs getting into their home, by age, Halton Region, 2011/2012**

## Income:

- In 2011/2012, the percent of adults aged 18 and over in Halton who were aware of bed bugs and who reported being somewhat or very concerned about bed bugs getting into their home decreased as income increased. This difference was statistically significant when comparing adults in the low income group [61%(±6)] to the high income group [48%(±6)] (see **Figure 6**).

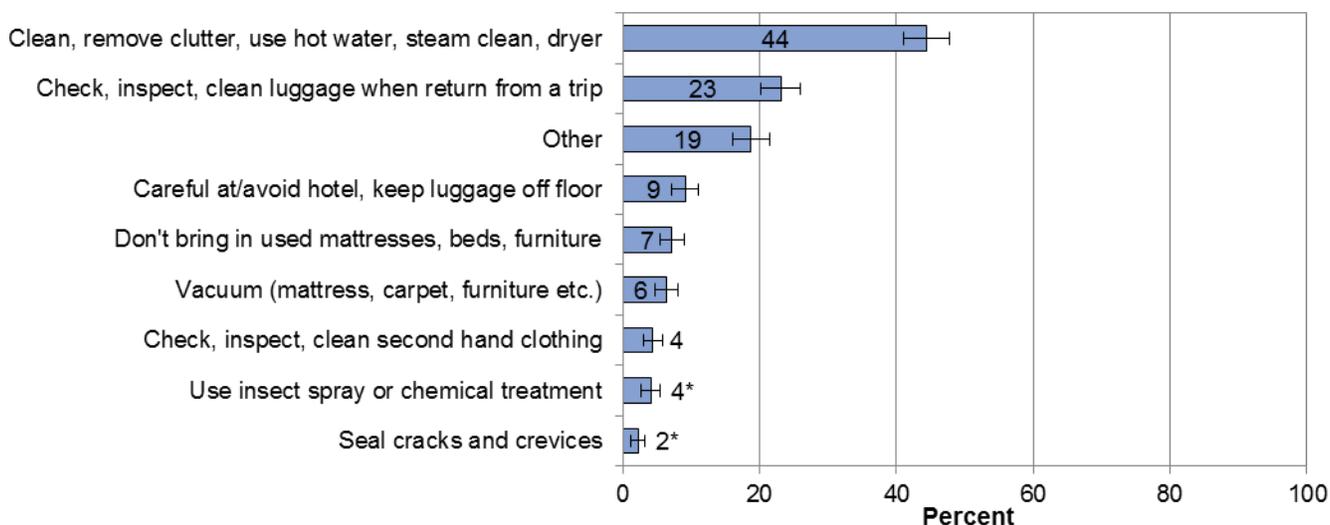


**Figure 6: Percent of adults aged 18 and over who are aware of bed bugs and who are somewhat or very concerned about bed bugs getting into their home, by income, Halton Region, 2011/2012**

## Bed Bug Knowledge

### Prevention Methods:

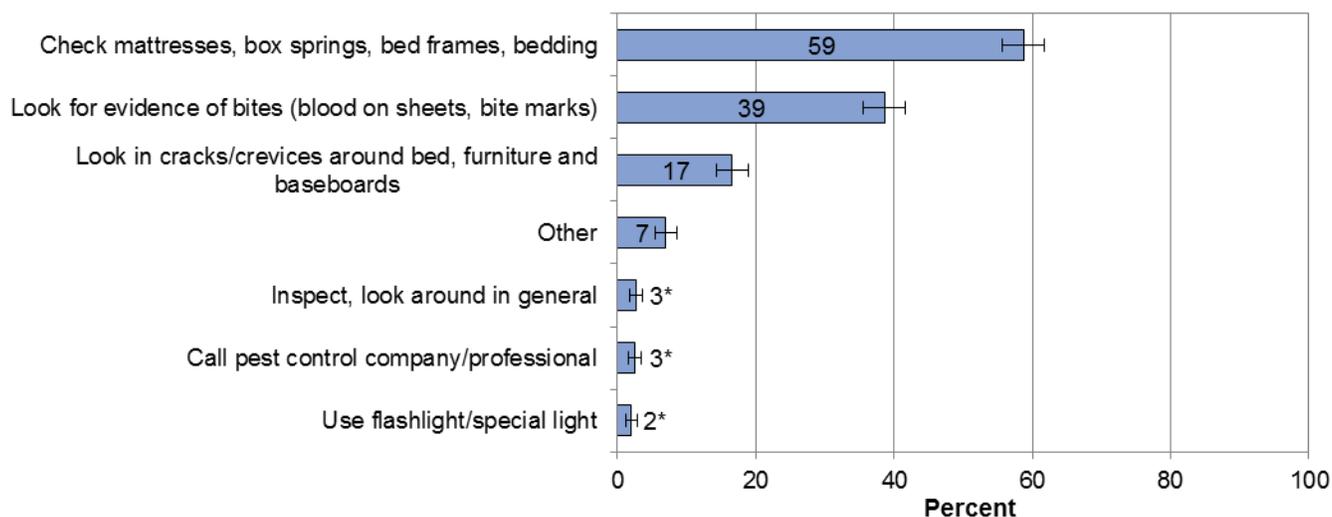
- Health Canada recommends the following to prevent bed bug infestations: remove clutter, vacuum, seal cracks and crevices, check or avoid bringing in used clothing and furniture, take precautions when travelling, and check the home regularly for bed bugs.<sup>3</sup>
- In 2011/2012, the most common methods suggested by Halton adults aged 18 and over for preventing bed bugs were: clean, remove clutter, use hot water, steam clean or use a dryer [44%(±3)], check, inspect and clean luggage when returning from a trip [23%(±3)] and other [19%(±3)] (see **Figure 7**). Other methods included: avoid visiting or sleeping in places that may have bed bugs, being cautious with guests and visitors entering the home, consult a professional, use mattress covers and close doors and windows to the house.



**Figure 7: Methods to prevent bed bugs suggested by Halton adults aged 18 and over, Halton Region, 2011/2012**

## Checking for Bed Bugs:

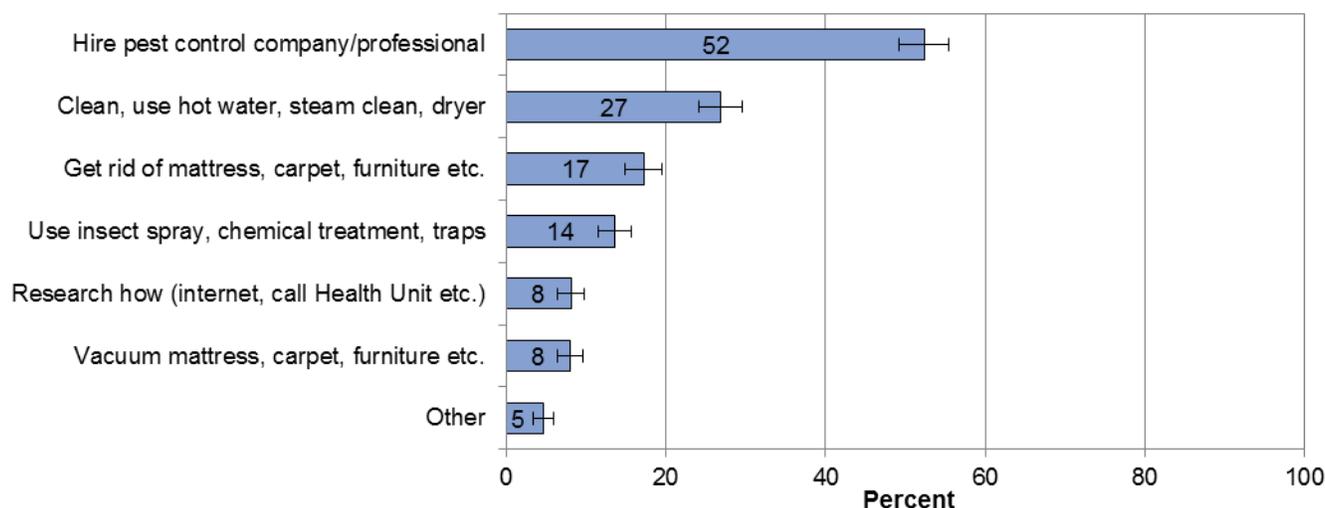
- Health Canada recommends the following to check for bed bugs in the home: use a flashlight, use a card to scrape along mattress seams and other crevices, check electrical outlets and furniture, check for bed bug droppings, and check bed linens, mattresses, box springs, baseboards, carpets and rugs.<sup>3</sup>
- In 2011/2012, the most common methods suggested by Halton adults aged 18 and over to check for bed bugs in the home were: check mattresses, box springs, bedframes and bedding [59%(±3)], look for evidence of bites [39%(±3)] and look in cracks and crevices around the bed, furniture and baseboards [17%(±2)](see **Figure 8**).



**Figure 8: Methods to check for bed bugs suggested by Halton adults aged 18 and over, Halton Region, 2011/2012**

## Removing Bed Bugs:

- Health Canada recommends the following to remove bed bugs from the home: hire a professional, steam, wash and throw out items, vacuum and use pest control products that have been approved and registered by Health Canada.<sup>4</sup>
- In 2011/2012, the most common methods suggested by Halton adults aged 18 and over to remove bed bugs from the home were hire a pest control company/professional [59%(±3)], clean using hot water, steam clean or use the dryer [27%(±3)] and get rid of any infested mattresses, carpet or furniture [17%(±2)] (see **Figure 9**).



**Figure 9: Methods to remove bed bugs suggested by Halton adults aged 18 and over, Halton Region, 2011/2012**

## Data Notes:

### Definitions:

**Bed bugs** are small insects that bite and feed on humans and animals, primarily at night.

### Statistical Significance:

A **95% confidence interval (CI)** refers to the range of values that has a 95% chance of including the true estimate. 95% CI's are reported in brackets or presented as "I" shaped bars in the graphs. A large CI means that there was a large amount of variability in responses or the sample size for the category was small. When CIs do not overlap between 2 or more groups (e.g., when comparing males and females) it means that the differences between the groups are **statistically significant** and unlikely to be due to chance alone. Since overlapping confidence intervals are used to determine statistical significance, p-values are not calculated. This is a conservative approach ( $\alpha < 0.01$ ) which is more appropriate when multiple comparisons are being made, such as in this report.

### Data Interpretation:

**Income** is based on the ratio of each survey respondent's annual household income level to the low income cut-off (LICO, 2011) corresponding to their household size, and community size. The low income group are those in the lowest 30% of income ratios, the middle income group are those in the 31st-70th% of income ratios and the high income group are those in the top 30% of income ratios. Respondents who did not know or refused to provide their income were excluded from the analysis.

**Coefficient of variation (CV)** refers to the precision of the estimate. When the CV is between 16.6 and 33.3, the estimate should be interpreted with caution because of high variability and has been marked with an asterisk (\*). Estimates with a CV of 33.3 or greater are not reportable and have been marked with double asterisks (\*\*) in the graphs and tables.

**Household (HH) weights** were used for any questions related to individuals. The HH weight adjusts for the fact that an adult in a larger HH is less likely to be selected than an adult in a smaller HH.

### Limitations:

RRFSS results are self-reported and may not be recalled accurately. Individuals not living in households (such as those in prison, hospitals, or the homeless) were excluded. Individuals who live in a household without a landline telephone are also not reached through RRFSS (over 21% of all Canadian households, and 61% of Canadian households under 35 years old<sup>5</sup>). As a result, the percentages may not represent the true estimates for the general population.

Rounded estimates were used for the presentation of data, thus estimates may not total 100 percent. Rounded CI's were used for the presentation of data; however, non-rounded CI's were used to determine statistically significant differences.

Adults who were not aware of bed bugs were excluded from analysis in the bed bug concern section.

Don't know and refused responses were excluded from the analysis.

Data from 2011 and 2012 were combined to obtain a full year of data.

### References:

1. Halton Region. n.d. Bed Bugs. Accessed August 2014
2. Rapid Risk Factor Surveillance System. (<http://www.rfss.ca/>)
3. Health Canada. 2013. Bedbugs—How Do I Prevent an Infestation? Accessed August 2014 from <http://www.healthycanadians.gc.ca/health-sante/environment-environnement/pesticides/bedbugs-punaisses-prevent-prevenir-eng.php>
4. Health Canada. 2014. Bedbugs—How do I Get Rid of Them? Accessed August 2014 from <http://www.healthycanadians.gc.ca/health-sante/environment-environnement/pesticides/bedbugs-punaisses-rid-elimine-eng.php>
5. Statistics Canada. 2014. The Daily: 2013 Residential Telephone Service Survey. Accessed June 2014 from [http://www.statcan.gc.ca/daily-quotidien/140623/dq140623a-eng.htm?WT.mc\\_id=twB5172](http://www.statcan.gc.ca/daily-quotidien/140623/dq140623a-eng.htm?WT.mc_id=twB5172)

**Last Revised: August 21, 2014**