

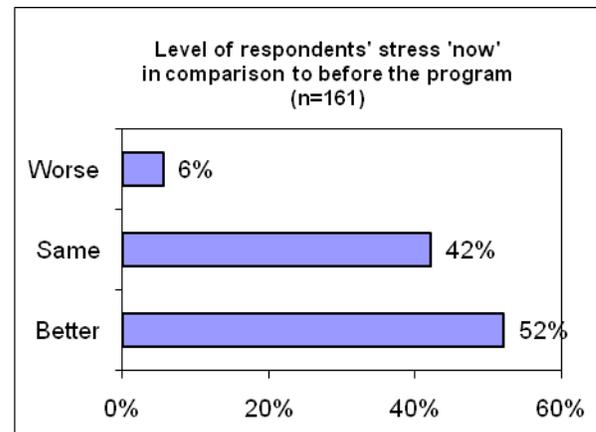
Overview of Outcomes of the Healthy Pest Free Housing Initiative

The primary goal of the Healthy Pest Free Housing Initiative was to improve the health of the public housing residents through improved pest control and reduced use of pesticides

Community Health Advocates provided education to nearly 500 households living in 19 public housing developments. Typically, CHAs attempted a first, interim and final visit, but in more than half of the cases, a final visit was not achieved. Pre and Post intervention data from 171 households was used for this report. All records matched, meaning the exact same households provided both pre and post data. Some forms had incomplete fields and some forms were blank, so the sample size varies by question.

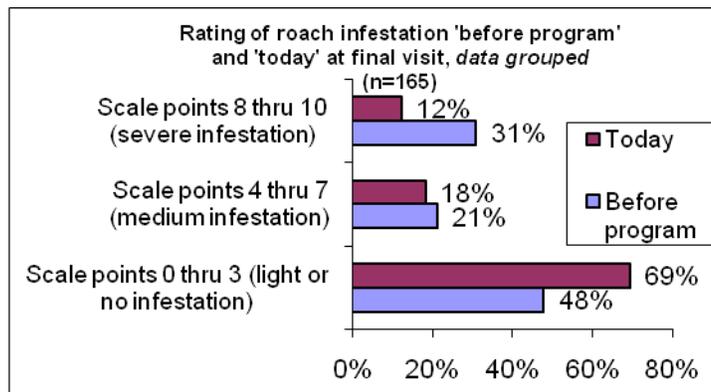
Discussion and Findings

Health and Stress In the 2001 and 2003 Behavioral Risk Factor Surveillance System, close to 33% of respondents living in Boston public housing reported their health status as fair or poor. Of the 163 participants who completed this question, 51% of the residents reported improved health compared to 'before' the IPM program and 45% reported their health was the same as 'before' the IPM program. Among households who reported a family member with asthma, 54% reported that their health was better now than before the program.



According to BRFSS 2001 and 2003, 19% of adult Boston public housing residents reported having current asthma, compared to 9% of other city residents. During the initial visit by CHAs, **31% of the households reported having one or more family members with asthma.**

There is an association between chronic stress and health. Chronic stress has been shown to increase heart rate and blood pressure. 84% of the residents reported their level of stress was better or the same, since the initiation of the IPM program. 52% of those respondents reported that their stress level was better.



Pest Infestation Healthy Public Housing

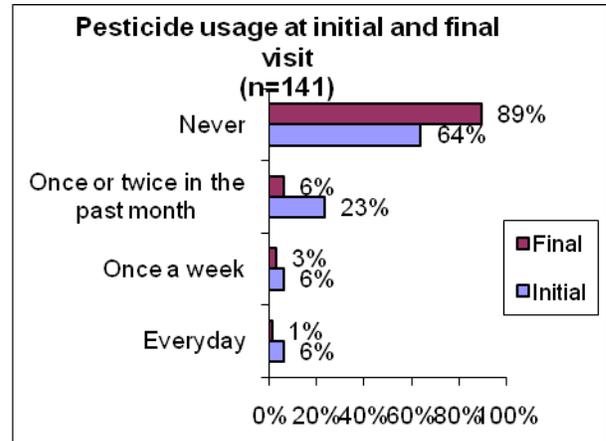
Initiative and other studies have documented the extent of pest infestation, particularly cockroach infestation in public housing. In the first visit by a CHA for the Healthy Pest Free Housing Initiative, **31% of the residents participating reported a severe cockroach infestation.**

This decreased to 12% reporting a severe infestation, at the final visit. 69% reported no to light infestation at the final visit, a 19% increase from baseline visit reports of no to light infestation.

Residents reported much lower rates of severe mouse infestation, at the first visit, but improvements were still noted. At the first visit, 6% of residents reported a severe mouse infestation. This decreased to 2% at the final visit. There were improvements in the number of residents reporting a medium mouse infestation and among those reporting a light infestation, 83% reported light mouse infestation at the first visit and this increased to 90% at the final visit.

Pesticide Use:

Due to high rates of pest and rodent infestation, residents, out of desperation, turn to legal, restricted use and illegal pesticides to eliminate cockroach and rodents from their homes. Exposure to pesticides has been linked to learning, developmental, and behavioral problems. Pesticide use was common among the households with, 6% reporting daily use of pesticides at the first visit. There was a 25% increase from the first visit to the final visit, among those that reported **never** using pesticides in the past month, The most common pesticide used was Raid – a spray, legally purchased by consumers, reported by 67% of the households that used pesticides.

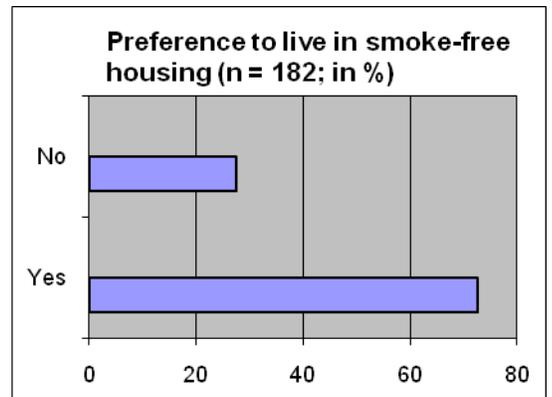


Tobacco use:

Residents of Boston Housing Authority smoke at higher rates (28%) than other residents (17%) (*Boston BRFSS, 2009*) Secondhand smoke or environmental tobacco smoke is the smoke from a burning cigarette that a non-smoker is exposed to. Secondhand smoke contains more than 50 cancer-causing chemicals. Secondhand smoke exposure can cause heart disease and lung cancer in nonsmoking adults and is particularly hazardous to children, causing sudden infant death syndrome (SIDS), respiratory problems, ear infections and asthma episodes.

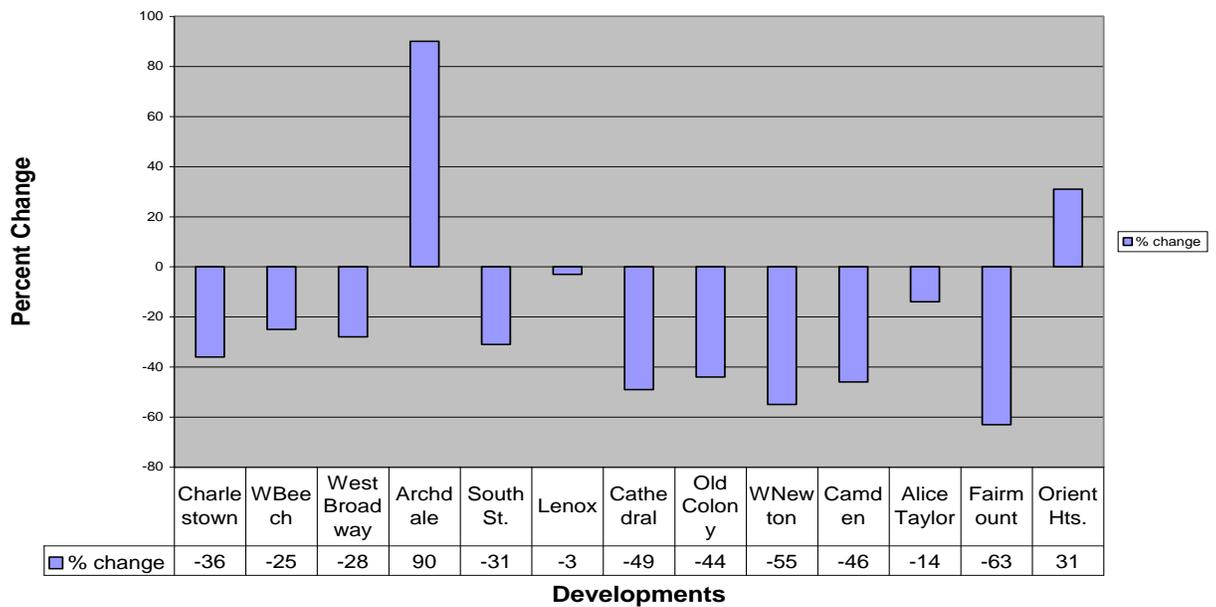
Residents were asked 1) whether they considered second hand smoke a health risk to themselves or their family; 2) whether they had experienced smoke drifting into their apartment from another unit or outside; and 3) whether they would prefer to live in a smoke-free unit.

- 45% of the residents reported that second hand smoke within the housing was a health concern
- 67% said they would prefer to live in a smoke free environment.



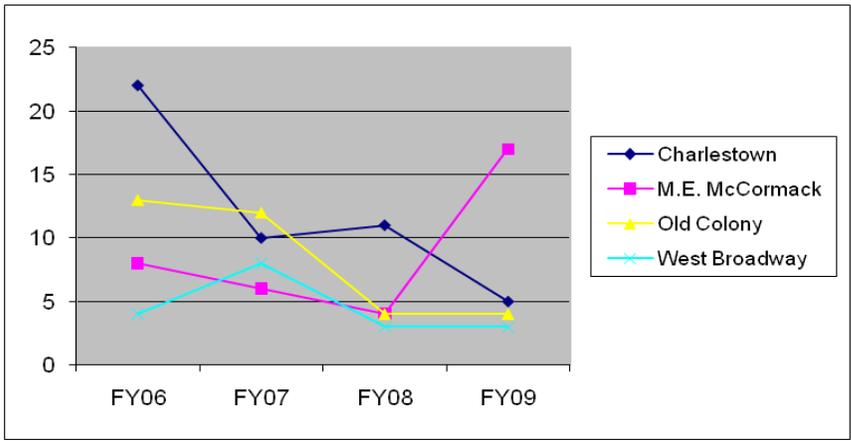
The Healthy Pest Free Housing Initiative also aimed to show that implementing an Integrated Pest Management Program was a feasible, positive change for the Housing Authority. The Chart below compares pest work orders before and after the implementation of the IPM program. On average, the pest work orders declined an average of 36%. In some developments, complaints decreased over 60%. The data are also skewed by increased work orders in two developments – Archdale and Orient Heights. At Archdale, the manager mistakenly filed a work order for each unit that received an inspection (note: at the beginning of the contract the pest control professional attempts to inspect every unit regardless of whether there is a known pest problem. At Orient Heights, the contract only ran a few months, reinforcing another lesson learned through the initiative: Contracts of less than one year are often not very effective.

Chart II: Percent change in Average Number of Pest Work Orders from Pre-IPM to IPM

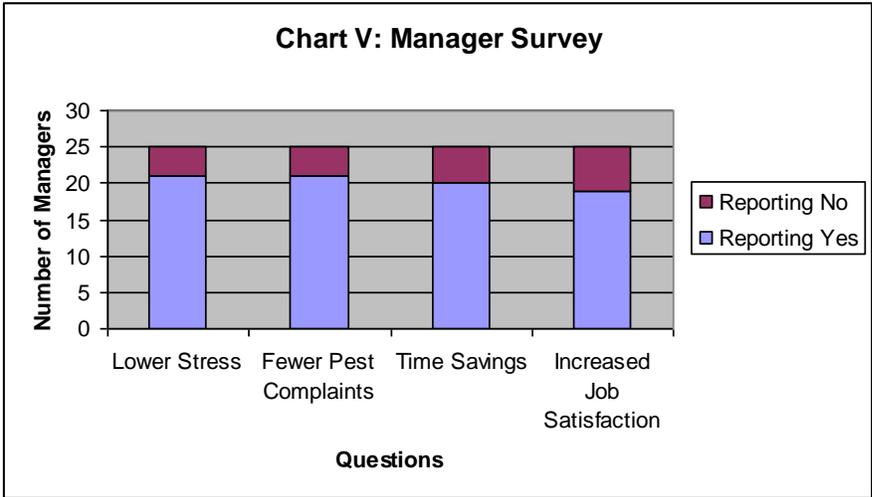


Reduced pest complaints also translated into fewer citations for housing code violations. The chart below illustrates the drop in violation notices. At one development, M. E. McCormack, the complaints spike up in the fourth year, which probably reflects construction work being done in 2009 that was disturbing pest populations.

	FY06	FY07	FY08	FY09
Charlestown	22	10	11	5
M.E. McCormack	8	6	4	17
Old Colony	13	12	4	4
West Broadway	4	8	3	3



Fewer pest complaints and housing code violations/citations also benefitted site managers who reported improvements as a result of implementing a successful IPM program. Managers had more time for other things, lower stress and higher job satisfaction.



Finally, HPFHI, through its partner at the Boston University School of Public Health completed a cost analysis to determine what the IPM program cost the BHA. As was expected the costs did rise though more than was anticipated. Still, the BHA decided that the benefit outweighed the cost, and expanded the IPM program to all 64 BHA developments totaling more than 11,000 units.

