Pests and Pesticides in New York City

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Bureau of Office of Environmental Surveillance and Policy
Sources of Data in this Presentation

- Community Health Survey (CHS)
  - DOHMH random digit dial survey (n ≈10,000)
  - 2003: Cockroaches, personal pesticide use, and asthma
  - 2004: Interior and exterior rodents, and asthma

- NYC Housing and Vacancy Survey (HVS)
  - US Census, NYC Housing Preservation & Development (n ≈15,000)
  - 2002: Interior rodents, building disrepair, and asthma
  - 2005: Interior rodents, building disrepair

- New York State Pesticide Sales and Use Registry
  - Commercial pesticide use

- NYS Planning and Research Cooperative System (SPARCS)
  - Hospitalizations

- NYC Poison Control Center ToxiCall Data
  - Unintentional exposures
We have cockroaches!

NYC Households Reporting Cockroaches by Income and Race/Ethnicity

<table>
<thead>
<tr>
<th>Income Range</th>
<th>Hispanic</th>
<th>Non-Hispanic Black</th>
<th>Asian &amp; other</th>
<th>Non-Hispanic White</th>
</tr>
</thead>
<tbody>
<tr>
<td>less than $25,000</td>
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</table>
... and rodents in NYC residential buildings

NYC Households Reporting Rodents by Race/Ethnicity and Income

Percent

Hispanic  Non-Hispanic Black  Asian  Non-Hispanic White

Less than $25,000  $25,000 to $49,999  $50,000 to $74,999  $75,000 or more
Commercial pesticide use is common in NYC

Solid Products by Weight in Pounds

- Rodenticides, 354,988
- Insecticides, 293,339
- Herbicides, 153,167
- Fungicides, 29,845
And so is use of off-the-shelf products by residents

NYC Households Using Sprays, Bombs or Foggers by Income and Race/Ethnicity

- less than $25,000
- $25,000 to $49,999
- $50,000 to $74,999
- greater than $75,000

Percent

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Many New Yorkers resort to the use of illegal pesticides.
Rodents in residences are most prevalent in areas where commercial rodenticide use is low.
Cockroaches are most prevalent where household use of sprays/bombs/foggers is highest

Source: CHS 2003
Household tempo use (off-the-street) is greatest where cockroaches are most prevalent

Source: CHS 2003
But pests are best predicted by the condition of homes, not the use or nonuse of pesticides.

<table>
<thead>
<tr>
<th>Housing characteristic</th>
<th>% with rodents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cracks/holes in interior</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>37.6</td>
</tr>
<tr>
<td>No</td>
<td>7.7</td>
</tr>
<tr>
<td>Interior leaks in past year</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>35.8</td>
</tr>
<tr>
<td>No</td>
<td>13.1</td>
</tr>
</tbody>
</table>
Neighborhood as well as household level conditions predict infestation

Percent of households reporting rodents inside building of residence and percent reporting cracks or holes inside home (HVS '05)

$R^2 = 0.8263$
A tale of two Manhattan neighborhoods

- East Harlem
- Upper East Side
<table>
<thead>
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<th></th>
<th>East Harlem</th>
<th>Upper East Side</th>
</tr>
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<tbody>
<tr>
<td>Percent children (0-14) with asthma</td>
<td>25%</td>
<td>8%</td>
</tr>
<tr>
<td>Percent households with cockroaches</td>
<td>54%</td>
<td>12%</td>
</tr>
<tr>
<td>People reporting rodents in home</td>
<td>33%</td>
<td>12%</td>
</tr>
<tr>
<td>People reporting rodents on street of residence</td>
<td>55%</td>
<td>26%</td>
</tr>
<tr>
<td>Percent of households living under 2 times poverty level</td>
<td>61%</td>
<td>12%</td>
</tr>
<tr>
<td>Percent Black (non-Hispanic)</td>
<td>33%</td>
<td>2%</td>
</tr>
<tr>
<td>Percent Hispanic</td>
<td>55%</td>
<td>6%</td>
</tr>
<tr>
<td>Percent owning own home</td>
<td>10%</td>
<td>34%</td>
</tr>
<tr>
<td>Median age of building</td>
<td>1958</td>
<td>1948</td>
</tr>
<tr>
<td>Percent of households reporting cracks and holes in home</td>
<td>18%</td>
<td>12%</td>
</tr>
<tr>
<td>Percent of households reporting leaks</td>
<td>12%</td>
<td>12%</td>
</tr>
<tr>
<td>Percent of households receiving exterminator services</td>
<td>70%</td>
<td>78%</td>
</tr>
<tr>
<td>Pounds of rodenticide per acre applied commercially</td>
<td>4.8</td>
<td>14.5</td>
</tr>
<tr>
<td>Pounds of insecticide per acre applied commercially</td>
<td>1.5</td>
<td>8.0</td>
</tr>
<tr>
<td>Pounds of pyrethroids per acre applied commercially</td>
<td>0.3</td>
<td>1.8</td>
</tr>
<tr>
<td>Percent of households using sprays bombs or foggers</td>
<td>54%</td>
<td>15%</td>
</tr>
<tr>
<td>Percent of households using Tempo</td>
<td>15%</td>
<td>2%</td>
</tr>
</tbody>
</table>
Pesticide-Related Hospitalizations

Between 2000 and 2003, in New York City:

- 137 people hospitalized for unintentional pesticide exposures
- 47% paid by Medicaid
- 60% due to insecticides, 33% to rodenticides
- 24% under the age of 5 years.
- >$3 million in costs.
Unintentional pesticide exposures

- In 2004, NYC Poison Control Center reported:
  - 1,335 exposures
    - 50% to children 0-5 years
    - 93% occurred in own home
    - 50% from insecticides
    - 34% from rodenticides
The urban context for pesticide use

- In cities with majority renters, and majority multi-unit dwellings, decisions about pest control and pesticide use are generally being made by others.

- Many conditions of housing that are conducive to pests are not within the control of tenants.
What we conclude about pests and pesticides in an urban area

- While higher income neighborhoods get professional pest managers, low income neighborhoods get exterminators.
- Cheap general use pesticides with poor efficacy are products of first, only and continuous resort to too many.
- Savings to landlords are shifted as costs to tenants in the form of purchase of pesticide products and asthma symptoms, and to healthcare payers for managing asthma exacerbations and the consequences of pesticide exposures.
- The supply of licensed applicators is probably too great in NYC and other urban areas.
  - Race to the bottom in price and quality
  - Poor quality pest control is too cheap
  - Professional identity wrapped up in pesticide use
How NYC is responding to State and federal regulatory constraints

- Surveillance of pests and pesticide use
- Attempting to address both supply and demand for safer and more effective pest control
  - Supply
    - Providing seed funding to private pest control companies to carry out and promote IPM in low-income neighborhoods
    - Experimenting with NYC Housing Authority on IPM practices
    - Providing training to licensed applicators on IPM
    - Leading by example with municipal pesticide use reduction and IPM planning (Local Law 37)
  - Demand
    - Landlord, coop board outreach
    - Beefing up health code to define and require pest management, without running afoul of state preemption
    - Public education in low-income communities on safer and better pest management
Outreach and Education

Health Homes

Pests

Pests - including roaches and mice - can be unhealthy. Use safer products. Never use products called “Tempo”, “Tres Pasitos”

Things You Can Do

Deny pests food and water
- Keep your home clean and dry.
- Store food in sealed containers.
- Fix leaks and dripping faucets quickly.
- Empty your kitchen garbage every day.

Deny pests entry and shelter
- Use caulk and plaster to seal holes in walls, floors, and ceilings.
- Reduce clutter, cardboard and new construction

Use safer products: avoid foggers, bombs and sprays.

How to Control Pests Safely

Pests Can Be Controlled

Many New Yorkers live with or near cockroaches, rodents, and other pests. insects and rodents in the home contribute to illness and reduce the quality of life. For example, people with asthma who live in infested homes are more likely to have an asthma attack. And, many people with pests in their homes overuse hazardous pesticides that can cause poisonings and other health problems.

Too many New Yorkers live with...

- Adults in nearly 30% of households (600,000 households) report having cockroaches in their home, and nearly 25% (600,000 households) report seeing mice or rats. In 2002, 5% (200,000 households) report seeing mice or rats. In 2002, 5% (200,000 households) report seeing mice or rats in their home or residential building.

Percent households with cockroaches

- 4%–10%
- 11%–25%
- 26%–60%
- 41%–57%
But more is needed from federal and State regulators

- Higher prevalence of pests and pesticides in Hispanic households demonstrates need for:
  - General use product labeling in Spanish
  - Enforcement to prevent importation, sale and repackaging of illegal products

- Reconsideration of registrations
  - NYC applauds EPA’s proposed rodenticide restrictions.
  - Insecticide bombs/foggers should be kept off store shelves, regardless of active ingredients
Foggers have no place in urban residences or businesses

Roach Bomb Sets Off Blast

By THE ASSOCIATED PRESS
Published: June 26, 2006

An explosion took place in an apartment in Astoria, Queens, when a stove in an apartment in Astoria, Queens, was used to heat a roach fogger. The explosion caused damage to the apartment, but there were no injuries.

FDNY: Roach Bomb Blew Out Windows

NEW YORK -- The New York City Fire Department says a roach bomb exploded in an apartment in Astoria, Queens, blowing out windows and buckling a common wall between two apartments.

There were no injuries.

The explosion occurred in a four-story building at 31-11 Crescent Street. The fire department said it caused a wall to buckle between apartments 2D and 3D, and blew out some windows this morning.
Thanks and further encouragement to EPA and other federal agencies

NYC’s efforts around safer pest control began with small funding from Region II office to launch pilot in NYC public housing.

CDC seed funding for rodent academy began intensive reconsideration of NYC’s approach to rodent control.

EPA, CDC and HUD should strive to provide seed funding to local health departments in all large U.S. cities.
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