



**National Center for
Healthy Housing**

**NEW YORK STATE'S
PRIMARY PREVENTION OF CHILDHOOD
LEAD POISONING PILOT PROGRAM:
YEAR ONE IMPLEMENTATION FINAL REPORT**

Prepared for the New York State Department of Health
Bureau of Community Environmental Health and Food Protection
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FINAL**

EXECUTIVE SUMMARY

Despite substantial progress, childhood lead poisoning remains a major problem, both in New York State and around the nation. Since there is no medical treatment that permanently reverses the neuro-developmental effects of lead exposure, primary prevention (taking action before a child is harmed) is critical to address the problem. Primary prevention marks an important augmentation of the traditional approach, which responds to children who have already been poisoned.

Pilot Year One Goals

1. Identify housing at greatest risk for lead-paint hazards;
2. Develop partnerships and community engagement to promote primary prevention;
3. Promote interventions to create lead-safe housing units;
4. Build Lead-Safe Work Practice (LSWP) workforce capacity; and
5. Identify community resources for lead-hazard control.

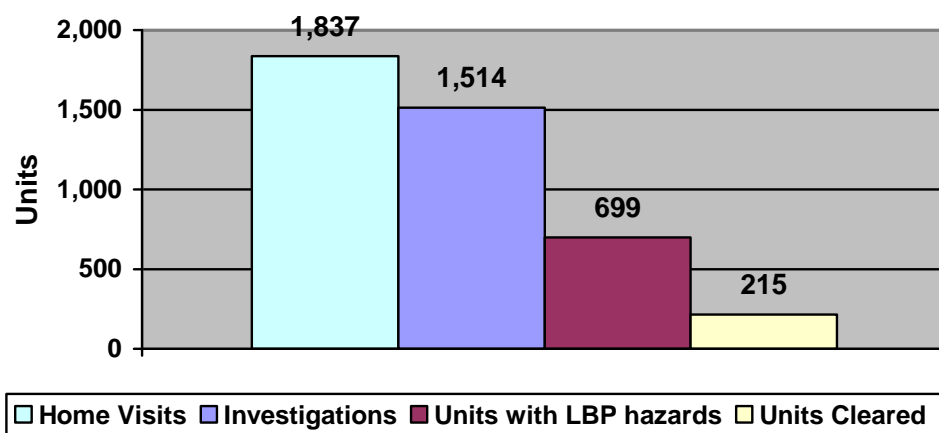
In 2007, New York State began an innovative \$3 million targeted primary prevention initiative (the Pilot). Eight local health departments (Albany County, Erie County, Monroe County, New York City, Onondaga County, Oneida County, Orange County, and Westchester County) received funding. Collectively, these counties accounted for 79 percent of all known cases in 2005 of children age six and under with newly identified elevated blood-lead levels. In December 2008, Governor David A. Paterson announced plans to make the program permanent, based on the lessons drawn from the first year of implementation.

The National Center for Healthy Housing (NCHH) was tasked with providing technical assistance to the State and grantees and evaluating implementation.

Between October 1, 2007 and September 30, 2008 grantees made steady progress toward achieving the goals of the Pilot. Grantees' accomplishments include:

- Reaching 6,290 households through direct outreach and referral, and nearly 26,000 additional individuals through informational meetings and other events. Mass media coverage of these activities reached nearly 250,000 across the eight grantees.
- Conducting home visits for 1,289 children age six and under—those most vulnerable to neuro-developmental damage.
- Referring 582 children for blood-lead testing.
- Investigating 1,514 housing units for lead-based paint (LBP)--699 units had deteriorated paint or LBP dust hazards.
- Creating at least 215 lead-safe housing units, with many more in the pipeline.
- Training 518 property owners, contractors, and do-it-yourselfers in Lead-Safe Work Practices--over 12,000 others were trained through pre-existing agreements between these health departments and other programs.

Figure A. Number of Housing Units at Various Stages in Year One



Source: Grantee quarterly reports

Note: Since most grantees began full implementation of their programs in the third quarter, the full outcome of their efforts will not be known until Year Two, especially the total number of units cleared as lead-safe.

All grantees significantly enhanced their partnerships with other local governmental agencies and community- and faith-based agencies. NYSDOH encouraged grantees to tailor their programs to local needs and conditions, and to experiment with different approaches for education, outreach, targeting high-risk populations, and service delivery.ⁱ

The grantees have succeeded in achieving the vast majority of their work plan goals for the first year. NCHH developed the following recommendations for implementation by new and continuing grantees:

- To streamline the process of gaining access to homes, grantees should expeditiously use the authority granted in 2007 under Public Health Law Section 1370(a)(3) to designate high-risk areas for primary prevention activities and expand designation to other areas as local conditions warrant, unless a local jurisdiction already has such authority.
- Improve GIS mapping capability.
- Build cooperation across programs, including cross-training staff and “closing the loop” on the referrals so that all programs are aware of the outcome of those referrals.
- Address property owner and resident resistance to enable inspections.

ⁱ These strategies are highlighted in Chapters 2-5 of this report, as well as the previously issued *NYS’s Primary Prevention of Childhood Lead Poisoning Pilot Program: Preliminary Results of Year One Implementation* (http://www.health.state.ny.us/environmental/lead/exposure/childhood/primary_prevention/pilot_program/early_lessons/preliminary_results/) and *Early Lessons Learned*.

- Reduce unnecessary delays in remediation by exploring additional administrative strategies, such as Housing Courts, or agreements with local code enforcement offices, prosecutors, and judges.
- Ensure swift referral to the Pilot for investigations when lead hazards are suspected or identified and rapid citation of deteriorated paint when housing code violations are identified.
- Make LSWP training more attractive to contractors and property owners by using incentives, scheduling training at convenient times, and building community demand for these services.
- Increase efforts to coordinate with other public or private housing programs that fund or require lead-related repairs to keep pace with the demand the Pilot is expected to generate in Year Two.

Two reports have been issued on Year One of the Pilot. *Early Lessons Learned* described how the eight counties implemented Pilot activities during the first three quarters of FY 2008 (October 1, 2007 through June 30, 2008). The report detailed barriers encountered in program implementation, discussed strategies grantees developed to address those barriers, and reported on the unique circumstances they encountered. The Appendices to that report contain numerous examples of documents that have accelerated implementation. These can serve as templates for other programs. *NYS's Primary Prevention of Childhood Lead Poisoning Pilot Program: Preliminary Results of Year One Implementation* provided preliminary data on Year One implementation and summarized the challenges and strategies described in more detail in *Early Lessons Learned*.¹

This report reflects the Pilot's progress in implementation through September 30, 2008 (the end of Year One). The report's observations and recommendations are based on NCHH Field Investigators' review of work plans, quarterly and final reports, monthly progress reports and other program documents; interviews with grantees; joint site visits with NYSDOH staff; and, participation in conference calls and meetings hosted by NYSDOH through September 2008.

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GLOSSARY AND ABBREVIATIONS

BLL	Blood-Lead Level, a measure of concentration of lead in blood.
CDBG	Community Development Block Grant, a source of federal funding for community and economic development and housing rehabilitation for low- and moderate-income families.
CDC	U.S. Centers for Disease Control and Prevention.
Clearance	Procedures to verify that no lead-based paint chips or dust remains after repairs have been completed. A visual clearance involves assessment of the work areas to determine that no paint chips remain. A dust lead clearance test requires analysis of dust samples collected according to federal protocol and analyzed by an EPA-accredited laboratory. Results of the analysis must comply with EPA/HUD hazard standards before the location is considered cleared.
CLPPP	Childhood Lead Poisoning Prevention Programs.
De minimus	The amounts of painted surfaces to be disturbed during rehabilitation, maintenance, paint stabilization, or hazard reduction activity, below which safe work practices and clearance are not required.
DSS	Department of Social Services.
EBL or EBLL	Elevated Blood-Lead Level. In this report, a BLL over the CDC level of concern of greater than or equal to 10 µg/dL is considered an EBLL.
EPA	U.S. Environmental Protection Agency.
HNP	Healthy Neighborhoods Program.
HPD	NYC Department of Housing Preservation and Development.
HUD	U.S. Department of Housing and Urban Development.
IPMC	International Property Maintenance Code.
LBP	Lead-Based Paint.

LDH	Local Health Departments.
LHC	Lead Hazard Control.
LSWP	Lead-Safe Work Practices.
MOU	Memorandum(a) of Understanding.
N&D	Notice and Demand, the method by which local health departments notify property owners when lead-based paint hazards are identified during an investigation.
NCHH	National Center for Healthy Housing.
NYC	New York City.
NYS	New York State.
NYSDOH	New York State Department of Health.
PHL	Public Health Law.
PSA	Public Service Announcements.
Section 8	Federal tenant-based rental assistance, or vouchers, given to low-income renters to subsidize rentals in market-rate apartments.
µg/dL	Micrograms per Deciliter.
XRF	X-Ray Florescence, a method for assessing the concentration of lead on painted surfaces in a field setting.

1. INTRODUCTION

A National Perspective on Primary Prevention

Although lead poisoning is a preventable disease, it continues to be a major children's environmental health problem in the United States.² An estimated 240,000 children in the United States have elevated blood-lead levels (EBLLs).³ Lead exposure can result in neurological damage, including intellectual impairment, developmental delays, learning disabilities, memory loss, hearing problems, attention deficits, hyperactivity, behavioral disorders, and other health problems. Lead is particularly dangerous to children under the age of six due to the rapid growth and development of their nervous systems and a greater lead uptake.

Communities that engage in lead poisoning prevention can reap large monetary benefits. In the U.S., lost lifetime earnings from IQ loss related to lead exposure is estimated at over \$43 billion. This does not include other social benefits, such as avoided medical care, special education, crime, stress on parents and children, behavior problems, and many other preventable adverse health effects.⁴

The most common source of childhood lead poisoning is lead-based paint (LBP) in older homes and the primary exposure pathway is the ingestion of lead-contaminated settled interior dust and bare contaminated soil.^{5 6} Although banned from use in residential paint and other consumer products in 1978,⁷ there are still an estimated 38 million pre-1978 dwellings nationwide that contain LBP,⁸ and 24 million have deteriorated (chipping, peeling, flaking) LBP and dust and/or soil hazards.^{9 10} More than four million of these dwellings are homes to one or more young children.¹¹

Federal efforts to eliminate lead poisoning by addressing LBP hazards in housing have intensified since the 1990s. In 2000, the U.S. Environmental Protection Agency (EPA), U.S. Department of Housing and Urban Development (HUD), U.S. Centers for Disease Control and Prevention (CDC), and other federal agencies set a national goal of eliminating by 2010 lead paint hazards in housing where children under six live by enforcement of lead safety laws, regulations, and other means.¹² *Healthy People 2010* defined the national objective as to “eliminate elevated blood lead levels in children,” with the level of concern set at 10 micrograms/deciliter ($\mu\text{g}/\text{dL}$).¹³

In 2004, CDC's Advisory Committee on Childhood Lead Poisoning Prevention (ACCLPP) called for an even more aggressive housing-based primary prevention approach: “To ensure successful elimination of EBLLs in children, programs must not rely solely on screening and secondary prevention but also focus on preventing lead exposure through the implementation of housing-based primary prevention.”¹⁴

Lead Poisoning in New York State

Among the states, New York consistently ranks high on key risk factors associated with lead poisoning: large numbers of young children living in poverty, a large immigrant population, and older, deteriorated housing stock.¹⁵ By 2010, the government estimates that the State will have 1.65 million children under age six, including 471,000 one- and two-year-olds.¹⁶ Additional aggressive action to reduce children's exposure to lead remains a public health priority.

2000 U.S. Census Data for New York State:

- Nearly 1.7 million children under age six;
- 476,000 children aged one and two years;
- Third in the nation for families with children under age five living in poverty;
- 23% of the population born outside the U.S.;
- Over 3.3 million homes built before 1950.

The incidence (newly diagnosed cases) and prevalence (total number of cases) of lead poisoning among New York State children under age six steadily declined from 1998 to 2005¹⁷ (see Figures 1.1 and 1.2 below). Despite this progress, thousands of children are still at risk.^{18 19}

Childhood lead poisoning varies greatly across the state. In 2005, the majority of new EBLL cases outside of New York City resided in seven upstate counties: Albany, Erie, Monroe, Oneida, Onondaga, Orange, and Westchester.²⁰

Figure 1.1. Incidence of BLL \geq 10 ug/dL, 1998 and 2005

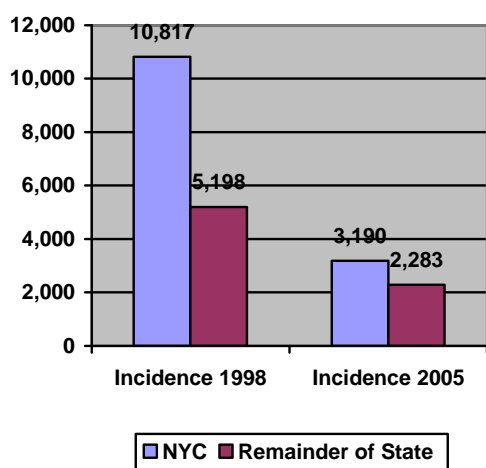
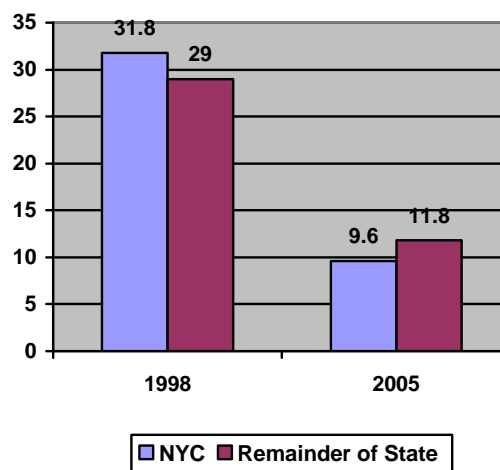


Figure 1.2. Incidence Rate* for Children Age 6 and Under, BLL \geq 10 ug/dL



* Rate per 1,000 children tested.

Source: Preventing Lead Poisoning in New York City: 2005 Annual Report²¹; Eliminating Childhood Lead Poisoning in New York State: 2004-2005 Surveillance Report²²

Primary Prevention in New York State

Each Local Health Department that receives State funding for its Childhood Lead Poisoning Prevention Program (CLPPP) incorporates primary prevention as part of its activities.ⁱⁱ These primary prevention strategies include:

- Education and outreach to at-risk populations and the general community on the dangers of lead poisoning and strategies to prevent exposure;
- Working with local advisory groups or coalitions of governmental and non-governmental agencies to build community awareness of the problem;
- Coordinating referrals for services and home visits within the health department and between other social service agencies;
- Building relationships with local housing agencies and community-based organizations to support remediation of housing that contains lead hazards; and
- Promoting training for contractors, landlords, tenants, and do-it-yourselfers in how to address lead-based paint (LBP) and its associated hazards safely.

Appendix A of this report provides additional detail on authorities and procedures, including blood-lead screening requirements.

New York City has adopted and enforces a local ordinance that requires investigation and remediation of LBP hazards in dwellings that house young children. The City of Rochester's lead ordinance applies to all rental units, regardless of child occupancy.

Other communities rely on a combination of state and local authorities to enter, inspect, and require remediation of homes or apartments. Funding for this remediation traditionally comes from the property owner, federal lead hazard control grants, or other state and federal rehabilitation funds.

The 2007 Primary Prevention Pilot Program

In 2007, the New York State Legislature amended the language of Public Health Law Section 1370(a)(3), creating a Primary Prevention Pilot Project:

“The department shall identify and designate a zip code in certain counties with significant concentrations of children identified with elevated blood-lead levels for purposes of implementing a pilot program to work in cooperation with local health officials to develop a primary prevention plan for each such zip code identified to prevent exposure to lead-based paint.”

ⁱⁱ see *Eliminating Childhood Lead Poisoning in New York State by 2010*, <http://www.health.state.ny.us/environmental/lead/exposure/childhood/finalplanstate.htm> and New York City Plan to Eliminate Childhood Lead Poisoning, <http://www.nyc.gov/html/doh/downloads/pdf/lead/lead-plan.pdf>.

In granting the New York State Commissioner of Health authority to designate zip codes as “areas of high-risk,” the State Health Department as well as the local health departments adopted a proactive approach to reducing children’s exposure before harm occurred. Now, health departments could gain access to homes for the purposes of education and investigation, even if no child with an EBLL currently resided in the unit and even if the unit was not currently occupied by a child (but one day could).

The legislation authorized the New York State Commissioner of Health to enter into agreements or Memoranda of Understanding (MOU) with, and provide technical and other resources to, local health officials, local building code officials, property owners, and community organizations. In the absence of a comprehensive state-level primary prevention law or local legislation, this authority enables local health departments to use the “high-risk” zip code designation as the first step to more vigorous primary prevention, while continuing to carry out their ongoing secondary prevention activities.

The Pilot requires grant recipients to create and implement policies, conduct community outreach to address lead exposure, and detect and ensure risk reduction in selected zip codes, with particular focus on children under age six who live in the highest-risk housing in the zip code identified. Grantees must identify means to collaborate with weatherization assistance or other local housing programs to accomplish risk reduction.

NYSDOH required grantees to target one or more of the designated zip codes, but authorized work in other high-risk areas within the targeted county as resources permitted.

NYSDOH required grantees to:

1. Use the “area of high risk” designation and the Notice and Demand or equivalent process to inform owners and require repairs as appropriate to complete remediation work in targeted areas.
2. Identify geographic areas within high-risk zip codes that had a high prevalence of actual or presumed LBP hazards, based on lead surveillance data, prior case histories, demographic information, age and condition of housing, and other factors.
3. Refer children under age six who had not received required lead screenings to their primary care provider and/or LHD lead prevention program for follow-up.
4. Develop a housing inspection program that included:
 - a. Prioritization of dwellings within target areas for inspections;
 - b. Inspection of high-risk dwellings for potential lead hazards;
 - c. Correction of identified lead hazards using effective lead-safe work practices;
 - d. Appropriate oversight of remediation work; and
 - e. Clearance by certified inspectors.
5. Develop formal partnerships, including formal agreements or Memoranda of Understanding, with other county and municipal agencies and programs.

Prospective partners included code enforcement offices, local Departments of Social Services, local housing agencies, HUD Lead Hazard Control grantees, and existing lead poisoning prevention community groups.

6. Develop new or use existing enforcement policies and activities to assure safe and effective remediation of identified lead hazards.
7. Coordinate available financial and technical resources to assist property owners with remediation.
8. Develop and implement lead-safe work practices training for property owners, contractors, and residents and promote development and use of a certified workforce for lead remediation activities.
9. Collect and report data to NYSDOH to evaluate the progress and effectiveness of the Pilot.

Grantees tailored their work to the needs, resources, and capacities in their jurisdictions. Grantees could implement activities as part of an existing program, including their Childhood Lead Poisoning Prevention Program (CLPPP) or Healthy Neighborhoods Programs (HNP), or they could develop new infrastructure as needed.

Evaluation Design and Methodology

NYSDOH contracted with the National Center for Healthy Housing (NCHH), a nationally recognized nonprofit organization based in Columbia, MD, and its for-profit subsidiary, Healthy Housing Solutions (Solutions), to:

1. Consult with NYSDOH on implementing the Pilot project;
2. Provide training and hands-on consultation to grantees and their partners, in coordination with NYSDOH; and
3. Develop and implement a comprehensive evaluation of the Pilot project for NYSDOH.

NCHH and Solutions assigned Field Investigators to each grantee to provide feedback on work plans, models for practice, and technical support on program design and implementation issues.

Grantees began to report programmatic data in a standardized format as of the third quarter in 2008. NYSDOH specified six key measures required for the quarterly report:

1. Total number of children age six years or younger living in the unit;
2. Occupancy status of the unit (i.e., owner, rental, or vacant);
3. Age of the unit;
4. Number of LBP or LBP dust hazard investigations completed by the Pilot;
5. Number of units where the investigation identified LBP or lead dust hazards;
6. Number of units where identified hazards were remediated; and
7. Number of units where clearance was achieved.

To capture unit-level data, grantees used either an ACCESS database developed by NCHH or their own database. A few grantees did not have access to complete data on individual units. This report includes information about the method of investigation, the mechanism that triggered investigation, the characteristics of the units and occupants, and the time to complete certain activities. Unit-specific data are available for up to 1,816 units, depending on the variables being analyzed. Appendix B contains additional detail on the decision criteria for unit-level data.

2. IDENTIFYING HOUSING AT GREATEST RISK FOR LEAD-PAINT HAZARDS

This chapter addresses three sets of evaluation questions related to implementation of Goal One:

1. What approaches have grantees used to identify the highest-risk units in their target zip codes? What are the implications of these different approaches for program design and implementation?
2. To what extent have grantees used the authority granted by Public Health Law Section 1370(a)(3) to designate a high-risk area? In situations where grantees did not use that legal authority, on what basis were high-risk areas designated?
3. To what extent have grantees used maps or other visual representations of their target areas and units to plan their activities and/or communicate with others about lead risks and their program? What difficulties, if any, have local health departments encountered in generating the maps, and how might those difficulties be overcome?

Defining Target Units

The zip codes identified by NYSDOH as the target for the Pilot contain more than 53,646 units. Each grantee refined its target to the units and populations most likely to benefit from the Pilot's intensive effort, using census data, EBL history, and local housing data (see Table 2.1). We found that grantees concentrated the vast majority of their efforts in their chosen target areas. The remainder represented cases addressed through county-wide voluntary investigation programs, referrals, or other activities in other high-risk zip codes.

Each grantee then determined the optimum method to reach high-risk housing given the local program's capacity and resources. Table 2.2 illustrates the strategies grantees used to identify target housing. Most of the grantees did not plan to restrict their efforts to a specific type of housing, although most placed special emphasis on rental units.

Table 2.1. Zip Codes of Units Reached by Pilot-Funded Activity in Year One*

County	High-risk Zip Codes Identified by NYS in 2005 ^a	Zip Codes Selected by Grantee as focus of Year One	Number of Units with Any Pilot Activity in Year One with Zip Code Data	Percentage and Number of Units Reached in Year One that Were Also in Grantees' Target Zip Codes
Albany	12206	12206	74	12066 (100%, N=74)
Erie	14213, 14211, 14215, 14212, 14208, 14207	14211, 14213	92	14211 (16%, N=15) ^c 14213 (58%, N=53)
Monroe	14621, 14609, 14611	14611	2081	14611 (98%, N=2075)
New York City (Brooklyn, Queens, Bronx, Manhattan) ^b	11211, 11226, 11208, 11368, 11221, 10460, 11373, 10456, 11207, 11233, 11218, 11206, 11216, 11230, 11237, 10458, 11220, 10031, 10452, 10467, 11418, 11385, 10457, 10468, 10462, 11372, 11214, 11238, 11210, 11235, 14208, 10453, 11219, 11225, 11212, 10002, 10029, 11432, 11205, 11203, 10027, 11355, 11377, 11434, 10466, 11213, 11236	10026, 10027, 10029, 10030, 10035, 10037, 10039, 10451-10460, 10474, 11001, 11004, 11005, 11040, 11205, 11206, 11207, 11212, 11216, 11221, 11233, 11237, 11364-11367, 11411-11413, 11422, 11423, 11426-11429, 11432-11436	235	10453 (<1%, N=1) 11205-11207 (21%, N=49) 11212-11213 (31%, N=72) 11216 (8%, N=18) 11221 (13%, N=30) 11233 (17%, N=39) 11237 (10%, N=24)
Oneida	13501, 13502	13501	39	13501 (72%, N=28) ^c
Onondaga	13204, 13208, 13205	13204, 13205, 13208 and additional census tracts in 13202, 13203, 13207, 13210, 13224	125	13204 (30%, N=37) 13205 (24%, N=30) 13208 (22%, N=28) Other grantee-designated Census tracts (24%, N=24)
Orange	12550, 10940	12550	287	12550 (100%, N=287)
Westchester	10701	10701	2750	10701 (73%, N=1999)

^a Zip codes for grantees are listed in rank-order by annual incident number of cases.

^b NYC defined its target areas according to Community District boundaries within the Bronx, Brooklyn, Queens, and Manhattan. The boundaries of these districts encompass multiple zip codes, include the high-risk zip codes identified in the work plan. Percentages do not sum to 100 due to rounding.

^c All other units reached by the Erie and Oneida grantees were located in zip codes that NYS had identified as high-risk.

* Source: Unit-based data. Table includes all units in data base where zip codes were reported.

Table 2.2. Grantee Approaches to Defining Target Housing

Strategies	Albany	Erie	Monroe	NYC	Oneida	Onondaga	Orange	Westchester
Re-inspect units with history of EBLL cases; extend inspection to other units in the same building	x					x		x
Concentrate on specific neighborhoods within designated high-risk zip codes	x	x	x	x	x	x	x	x
Visit the homes of at-risk newborns in the designated high-risk zip codes				x	x			
Inspect rental units before occupancy by resettled refugees or DSS-funded recipients (TANF, foster care)			x		x	x		

Several grantees refined their targeting strategies during Year One. For example, Albany County instituted a voluntary investigation program after it addressed its initial target (i.e., units previously identified in connection with an EBLL child). Orange County broadened the area for canvassing from a few blocks to three target census tracts. Many grantees also conducted a visual survey of unit exteriors to narrow their canvass activities to specific streets or blocks with the highest rate of deterioration. Some used GIS mapping and analysis of census and EBLL investigation history to select the locations for this visual assessment.

Grantees reported several challenges related to the identification of target areas:

1. Zip codes proved to be relatively crude methods of defining areas of high risk. Several noted that some census tracts and blocks in other zip codes had higher incidence or prevalence of EBLL than the zip code as a whole. In these cases, NYSDOH authorized extension of the scope of the project to other areas.
2. Pilot high-risk areas often overlapped with other programs' priority service areas. Some grantees handled this overlap through joint visits or referrals; others tried to limit canvass activities to areas not contacted by their counterparts.
3. Efforts to target specialized at-risk populations within the target areas posed special challenges, including:
 - a. Delayed access to birth record data. Oneida County's efforts to reach families of newborns were delayed because birth record data were entered several months after the child was born. By the time the Pilot had access to vital records data, many of the families had moved or lacked working phones. New York City, which also focused on newborn home visits, did not report problems with birth record data.
 - b. Transient populations. Programs struggled with clientele who move frequently or had non-working phones. Families' transience led to underestimates of newborns in Oneida County's vital records because they did not capture children born outside the target area whose families moved into the target area shortly after birth. This was especially true with resettled refugee families (one of Oneida's target at-risk communities),

whose members might have been initially settled in different communities, but merged households several months later when federal resettlement support ended.

- c. Cultural and language barriers. All grantees made special efforts to provide Spanish language materials and translators. Grantees in Oneida and Erie Counties had to be especially creative to make contact with other ethnic groups. Oneida County found that their Somali Bantu resettled refugee families were particularly fearful of contacts by government officials, and would only open their doors after translators from the local Multi-cultural Association of Medical Interpreters (MAMI) made the introductions. Erie County used male and female teams of home visitors to address concerns about female household members being in presence of male inspectors, and consulted local religious and community leaders about how to address concerns of Muslim households. Westchester also began outreach to the Arab-American Council in the last quarter of the year.

Authority to Designate High-Risk Areas

The majority of grantees used PHL 1370(a)(3) to declare areas of high-risk following local internal review, either through a public announcement, press release, or signed order. This authority was then cited in outreach materials to the target neighborhoods or in notices to property owners as part of the investigation process. Monroe County and New York City chose to instead use existing local ordinances (i.e., City of Rochester's "Lead-Based Paint Poisoning Prevention Act" and New York City's "Local Law #1 of 2004 – the New York City Childhood Lead Poisoning Prevention Act" and "NYC Health Code," respectively). Oneida County cited NYS PHL and County sanitary code in the designation. Erie County took a two-fold approach to the designation: all the zip codes identified by the State as high-risk in 2005 were designated "areas of concern", with a more limited area within zip codes 14213 and 14211 designated as "high risk." The latter designation required notice to property owners about the Pilot activities and owner responsibilities, as well as outreach to parents on how to minimize exposure to LBP hazards.

Several grantees reported legal staff concerns about the use of the authority provided under PHL 1370(a)(3). Two issues emerged:

1. Whether use of the authority would expose the County to more liability; and
2. Whether landlords or tenants would refuse entry for the purposes of investigation in the absence of a lead-poisoned child.

As of September 30, 2008, there had been no court challenges to use of the authority, and few grantees reported cases where investigations were refused based on the question of legal authority.

Even before the 2007 legislative action, all local authorities could have used authority under 10 C.N.Y.R.R. § 67-2.3ⁱⁱⁱ to designate geographic areas or individual properties as “high-risk.” The 2007 legislation thus reinforced existing authority with a revenue stream, rather than providing an entirely new basis for investigation.^{iv} Moreover, localities could have used the state’s adoption of the International Property Maintenance Code (IPMC)^v to inspect the interior of homes when “conditions conducive to paint deterioration” were observed. Code inspectors could have observed chipping or peeling exterior paint from the street or other public access areas and referred these units for further LBP hazard investigations, but the communities often lacked the resources to take these steps. New York City’s and Rochester’s ordinances illustrate two ways that communities chose to bridge the gap between housing and health-related inspections to promote lead primary prevention (see Appendix A).

Using Geographic Information Systems (GIS) to Identify Properties

Albany, Erie, Monroe, Oneida, Onondaga, and Westchester Counties and New York City produced maps of target areas as part of their work plans or quarterly reports. Orange County is working toward this goal in FY ‘09. Westchester County’s and New York City’s GIS systems even allowed them to provide aerial photos of the neighborhoods.

New York City and Oneida County had the capacity to produce these maps in-house. Most of the other LHD relied on outside partners, such as their local Departments of Community Development or Offices of Planning. Onondaga County contracted with

ⁱⁱⁱ 10 C.N.Y.R.R. § 67-2.3 Environmental Investigation. “Whenever **an area of high risk is designated** or when a child has been referred for environmental management in accordance with Subpart 67-1.2(a)(9), **the Commissioner or his designated representative** shall coordinate follow-up activities as defined in section 67-1.1(e) and (f) of this Part and required by section 67-1.6 of this Part. An assessment of conditions conducive to lead poisoning shall be performed and should include an environmental investigation of (1) any dwelling; (2) any child care facility; and (3) any other area where the child spends a significant amount of time.” [emphasis added].

^{iv} In addition, Title 10 of the PHL Section 225, 11.1 provides for the right on inspection under any Commissioner delegation of authority: “No person shall interfere with or obstruct the entrance to any house, building, vessel, or other premises by the State Commissioner of Health, or local health officer, or the authorized representative of either, in the discharge of his official duties; nor shall any person interfere with or obstruct the inspection or examination of any occupant of any such house, building, vessel, or other premises by the State Commissioner of Health, or local health officer, or the authorized representative of either, in the discharge of his official duties.”

^v “**305.3 Interior surfaces.** All interior surfaces, including windows and doors, shall be maintained in good, clean and sanitary condition. Peeling, chipping, flaking or abraded paint shall be repaired, removed or covered. Cracked or loose plaster, decayed wood and other defective surface conditions shall be corrected.

304.2 Protective treatment. All exterior surfaces, including but not limited to, doors, door and window frames, cornices, porches, trim, balconies, decks and fences shall be maintained in good condition. Exterior wood surfaces, other than decay-resistant woods, shall be protected from the elements and decay by painting or other protective covering or treatment. Peeling, flaking and chipped paint shall be eliminated and surfaces repainted....”

Syracuse University's Geography Department to develop a risk index for all Syracuse census blocks.

Grantees reported using the maps in several ways:

1. To identify neighborhoods for visual assessments of deteriorated exterior paint or door-to-door canvasses;
2. To provide a picture to external audiences (such as community groups, elected officials, or the media) of areas with high-risk housing and at-risk populations; and
3. To plan expansion of their efforts in Year Two. For example, in the last quarter, Westchester sent mailings to 5,000 units identified via GIS mapping/data analysis as the most densely populated pre-1940 housing in the target area to alert them to the program's existence. Some grantees began to map their earlier EBLI investigation data, and also the units they investigated in Year One. At least two grantees (Oneida and Onondaga Counties) propose to initiate lead safe housing registries in Year Two; GIS data will be helpful for those purposes.

Implications for Program Design

New grantees should use PHL 1370(a)(3) to designate high-risk areas and rely on other state and local public health laws and regulations, the IPMC, and local sanitary and housing code, as the basis for action. The broad combination of health and housing authorities, as well as decisions to jointly deputize health and housing agencies to enforce each other's activities, assures a unified perspective toward housing-based primary prevention.

New grantees need to be prepared to expand or restrict their target high-risk areas even in their first year of implementation. Among the factors to consider:

1. Is there a need to confine activities solely to units with prior EBLI investigations, especially in communities where the number of children with EBLI greater than 20 µg/dL is low? New York State may lower the threshold at which EBLI environmental investigations are initiated to confirmed cases of BLLs 15 µg/dL or greater. Until that time, if programs choose to focus on units associated with a documented BLL, they may wish to expand investigations to units where children have presented with BLL of 5 µg/dL or greater. Several of the original grantees plan to do this in Year Two.
2. Can the grantee establish a voluntary investigation program for other high-risk zip codes outside the primary focus of the Pilot? While programs need to concentrate their activities in areas where they can be efficient and effective, they cannot afford to ignore other high-risk areas. Grantees who adopted a voluntary inspection program did not report this detracted from their primary efforts.
3. Does the grantee understand local IT capacity when defining target activities? GIS capacity and data-entry and data-sharing with other programs (such as vital records) can affect the ability to access addresses for home visits and investigations.

4. How will the size and diversity of resettled refugee populations in high-risk zip codes affect program operations? Each group of resettled refugees presents unique challenges. These take considerable time to address. Grantees may wish to undertake discussions in the first year in order to successfully implement outreach to these groups in the second year.

3. DEVELOPING PARTNERSHIPS AND COMMUNITY ENGAGEMENT TO PROMOTE PRIMARY PREVENTION

This chapter addresses four sets of evaluation questions regarding Goal Two activities:

1. What changes, if any, to local codes or ordinances have grantees identified as needed or proposed to promote primary prevention? What formal partnerships, including formal agreements or Memoranda of Understanding (MOU), have grantees established and with what agencies or programs?
2. With or without formal agreements, in what ways have grantees collaborated with other agencies, programs, or coalitions to promote primary prevention?
3. What actions have grantees taken to improve knowledge and skills related to lead-based paint enforcement and primary prevention investigations in other programs?
4. What kinds of marketing and communication efforts have grantees used to raise awareness about their program and the risks of lead exposure? What is known about the effectiveness and the number of individuals reached by these activities?

Collaborations with Other Agencies: Policies, Procedures, and Infrastructure

Grantees worked within their existing program authorities during the first year of the Pilot. No grantee adopted a new local lead ordinance, although the Syracuse Lead Task Force considered proposals for a city lead law and may draft an Onondaga County proposal in FY '09. Erie County began to revise the Housing Section of its Sanitary Code to reflect federal lead hazard standards and address enforcement in areas of “concern” and “high risk.” Erie County also began to draft a comprehensive strategic plan to address primary prevention needs throughout the county. Most grantees did not require formal letters of commitment or have formal MOU in place between agencies to support the Pilot. Table 3.1 provides examples of agreements in place by September 30, 2008. All grantees made efforts to establish closer partnerships with other local agencies for the purposes of data collection, referrals and joint staff training (see Table 3.2).

Table 3.1. Examples of Commitments between Agencies

County	Nature of the Commitment
Albany	Contracts with Cornell Cooperative Extension Service to conduct Lead-Safe Work Practices training on behalf of the Pilot, host a community event in the FY '09 designated target neighborhood, and employ HNP outreach workers to canvass this neighborhood as a means to build an inventory of possible FY '09 investigations.
Erie	Letter of Commitment between Buffalo's Housing Court Judge and the Pilot to hear cases at no cost, speak at events, and participate in revisions to Sanitary Code. MOU between West Side Housing Services and Health Department to partner for outreach and referral.
Monroe	Funded activities of two City Code Inspectors in target areas to support Pilot activities.
New York City	Pre-existing MOU with the City's Department of Housing Preservation and Development (HPD) and the City's Housing Authority to identify Section 8 housing where the Lead Poisoning Prevention Program (LPPP) has identified LBP hazards. Expanded existing collaboration with the Brooklyn District Public Health Office (DPHO) and Asthma Program; built new collaborations with the Manhattan and Bronx DPHO and the Queens Nurse Family Partnership (NFP). HPD also accepts referrals from these home visiting programs. In addition, when LPPP orders the building owner correct the hazards and the owner fails to comply, LPPP refers the address to the HPD Emergency Repair Program (ERP). The landlord is billed for the work. LPPP also makes referrals to the NYC Window Falls Prevention Program to conduct follow-up investigations on all homes with window guard violations.
Oneida	Utica's Municipal Housing Authority and Rebuild Mohawk Valley, Inc. committed to rehabilitate 40 owner-occupied units in the target area with rehabilitation monies received from the Empire Development Corporation and the Division of Housing and Community Renewal.
Onondaga	Pre-existing agreement with Department of Social Service (DSS) to only place foster care children age seven or under where homes with known LBP hazards are addressed extended to Child Protective Services and rent-subsidy programs.
Orange	VISTA Neighborhood Watch workers distributed primary prevention materials. Formal agreement to refer Pilot LBP investigation findings to Orange Code Enforcement for follow up.
Westchester	Joint weekly and monthly meetings with Lead-Safe Westchester (HUD-funded lead hazard control grant program). Westchester also established partnerships with CLUSTER (a tenant/landlord counseling agency), WESTHAB (a provider of emergency housing and low-income units), and the Nepperhan Community Center (a community-based agency that provides youth activities, violence prevention programs, and acts as a referral source for other needed services). The Pilot also refers observed structural deficiencies to the Yonkers Building Department and observed fire hazards to the Yonkers Fire Department for further investigation.

Table 3.2. Grantee Approaches to Building Collaborations with Other Agencies

Strategies	Albany	Erie	Monroe	NYC	Oneida	Onondaga	Orange	Westchester
Changes in referral process, procedures, documentation	x	x	x	x	x	x	x	x
Coordinate data collection with other agencies	x		x	x	x	x	x	x
Joint visits with or referrals from the Healthy Neighborhoods Program	x	x		x	x	x	x	x
Joint visits with or referrals from Maternal and Child Health, Visiting Nurses, or other social service programs				x	x	x		x
Staff training with any of the above referral or home visiting programs			x	x	x	x	x	x
Referrals to code enforcement or lead hazard control programs	x	x	x	x	x	x	x	x
Joint training or investigation with code enforcement or lead hazard control programs		x	x (with City Code)	*initiated prior to Pilot start-up	*initiated prior to Pilot start-up			x

Albany, Erie, Onondaga, Oneida, Orange, New York City, and Westchester Counties all coordinated activities in some way with their Healthy Neighborhoods Programs (HNP), either through identifying key neighborhoods for outreach, referrals, joint training, or engagement of HNP staff in Pilot outreach. HNP conducts outreach in many of the same target neighborhoods as the Pilot on a variety of health and safety issues, including lead poisoning prevention. HNP outreach workers routinely conduct visual assessments of housing conditions, and can make referrals to lead poisoning prevention programs if they observe deteriorated paint. Grantees reported that partnership with the HNP facilitated gaining entrance into target units, because outreach workers could offer a greater variety of incentive items (such as light bulbs, smoke alarms, bait and gels for pest management) and address housing conditions of most immediate interest to residents. Once these issues were addressed, residents were more receptive to lead poisoning prevention messages. Grantees also relied on referrals from other health department programs, such as Maternal and Child Health and newborn home visiting programs. Westchester, Orange, and Oneida funded staff from these programs for outreach and referrals; New York City, Onondaga, Orange, and Oneida conducted joint training for their Pilot and other staff; Onondaga and Oneida created common referral forms. New York City trained 127 home visitors.

Grantees also coordinated with Department of Social Services (DSS) and housing programs administering federal Section 8 tenant-based rental assistance, especially for outreach to landlords. The primary methods of coordination included sharing mailing lists and publicizing the Pilot in mailings to clients or program newsletters. Onondaga built on an existing commitment with DSS to restrict placement of foster care children in units where LBP hazards had been addressed. Oneida is taking steps to build a similar agreement with its Refugee Resettlement program, but this effort will not be completed until FY '09. Westchester expects to receive WIC referrals in FY '09.

Other local agency partners included community action agencies, child care resource and referral agencies, and community foundations. Onondaga County hosted a May 2008 community event to encourage referrals from local agencies and community-based organizations. It also developed a procedure to notify referring agencies of the outcome of the referrals.

Coordination with the housing sector moved more slowly. All counties with HUD-funded Lead Hazard Control (LHC) grants referred Pilot units to these programs. Westchester County made the greatest progress in integrating Pilot activities into its LHC grant by using LHC outreach workers during canvass activities, conducting frequent meetings between the two programs' staff, and using Pilot outreach workers to assist LHC applicants with forms and convene landlord/tenant meetings. Orange County moved toward similar integration during the year. New York City's Local Law 1 and pre-existing relationship with HPD's Emergency Repair Program assured that rental properties with LBP hazards were repaired, even when LHC funding was not available or when property owners failed to comply with orders to abate or remediate. Grantees did not report whether the units they referred to LHC programs actually had qualified for LHC funding, although Albany County is developing a method to track this.

**Potential Agency Partners
for Primary Prevention:**

- Healthy Neighborhoods Program
- Maternal and Child Health Home Visiting Programs
- Newborn services
- Department of Social Services, Foster care
- Refugee Resettlement Agencies
- Community- and faith-based services
- Women's, Infants', and Children's (WIC) program and other nutritional services
- Child care and Head Start centers
- Health care providers and clinics
- Municipal Housing authorities
- Section 8 (tenant-based rental assistance)
- Fire inspectors
- Building permits and code inspectors
- Vista/AmeriCorps
- Schools and parent outreach services
- Workforce development programs
- Community development corporations
- Community action agencies
- Child safety and injury prevention programs
- Emergency housing services
- Community Foundations
- Community Colleges
- Tenants-rights organizations
- Legal services
- Landlords' associations
- Homeless service organizations

All grantees referred properties with potential building code violations to local code enforcement, but there was less evidence that code inspectors made referrals to their Pilot counterparts when they observed deteriorated paint in older housing. Obstacles grantees identified to building that relationship, including:

1. Lack of a “common language” between health departments and code officers;
2. A limited number of code officers and a high volume of required inspections in most jurisdictions; and
3. Absence of a common referral protocol.

In the absence of a local lead ordinance, Westchester appears to have had the greatest success in piggybacking LBP investigations onto its partner WESTHAB’s inspection of units for emergency housing on behalf of DSS. Westchester used the International Property Maintenance Code (IPMC) to conduct visual inspections for exterior chipping and peeling paint. If chipping exterior paint is identified, the unit also receives a visual inspection of the interior paint. As noted earlier, New York City’s ordinance requires referral of units with lead hazards to HPD for further investigation. Owners’ failures to address violations result in referral to the HPD Emergency Repair Program and the Administrative Tribunal, which can assess fines and place liens on the units until the City is reimbursed. The City of Rochester’s ordinance is tied to issuance of Certificates of Occupancy; rental units are inspected every six years for lead and other hazards. During Monroe County’s Lead Safe Saturday inspections, code inspectors accompanied outreach workers. Other examples of efforts to strengthen Pilot and code enforcement coordination included:

1. Joint training (Erie, Oneida, and Monroe County prior to the Pilot);
2. Grants to support data integration (Oneida County and the City of Utica);
3. Funding for code inspectors to conduct Pilot investigations (Monroe);
4. Quality control review of inspections (Monroe); and
5. Modifications to the sanitary code (Erie).

Grantees also reported efforts to coordinate with community-based development corporations for the purposes of education for new homeowners, referrals for investigation, emergency housing relocation when LPB hazards required remediation, and LSWP training. Many mentioned their local office of Neighborhood Housing Services as a partner.

In reflecting on achievements in internal organization or collaboration with partner agencies over Year One, grantees highlighted the following:

1. Streamlined internal policies;
2. Cross training or partial funding of staff from other programs;
3. Completing the hiring and training of inspectors and outreach workers so that FY ’09 implementation can begin more quickly;
4. Purchase of equipment and software (XRF, PDAs, data management systems) that can be used by more than one program;

5. Streamlined referral processes, including notifying code or Community Development offices when Notice and Demands or their equivalents are issued; and
6. More frequent interaction among programs.

Although less tangible, implementation of the Pilot may have created a common understanding among governmental and non-governmental partners regarding integrated service delivery. This sets the stage for greater cooperation in future years.

Engagement of Community Groups

Community support for primary prevention is critical to the Pilot's success because it is the basis for sustainability. In Year One, grantees focused on engaging community- and faith-based organizations as partners in an advisory capacity, as hosts or co-sponsors for events, and for outreach on behalf of the Pilot. Most of the grantees already had an advisory board or community coalition to support existing primary prevention efforts under their CLPPP grants, and built on these relationships. Table 3.3 provides specific examples of those partnerships. Toward the end of Year One, several grantees began to contract with community-based organizations for specific services.

Table 3.3. Examples of New Partnerships or Initiatives Formed with Community-Based Organizations

County	Nature of the Commitment
Albany	Capital District Association of Rental Property Owners and the Capital District Land Trust participated in a neighborhood health fair in the target area in September. The Pilot contracted with Cornell Cooperative Extension to organize the event.
Erie	Community Foundation of Greater Buffalo adopted lead poisoning prevention as a strategic goal for 2007-2011 and agreed to identify private funding and opportunities to improve partnerships between the City and County. The Foundation co-sponsored a March 2008 Community forum, attended by over 150, to promote primary prevention in Western New York. The grantee also sponsors "tailored receptions" for up to 50 families, hosted by community organizations, for education and to gain referrals for investigations.
Monroe	Invited the Coalition to Prevent Lead Poisoning, SouthWest Area Neighborhood Association; Plymouth-Exchange Neighborhood Association, Charles Street Settlement House, Jay Orchard Street Area Neighborhood Association, and the University of Rochester's Healthy Home program to assist in developing the marketing plan and messages for the new Lead-Safe Saturday initiative.
New York City	The NYC Lead Poisoning Technical Advisory Committee (TAC) is composed of representatives of governmental and nongovernmental agencies, health care providers, and community-based organizations, including those representing key low income neighborhoods in the target area. The TAC provides advice and support to the program on its lead poisoning prevention activities. The Fall TAC meeting was devoted to discussion of Year One primary prevention activities and proposed Year Two activities for the grant.

Oneida	Countywide Refugee Task Force begun in July 2008 in response to housing, education, legal and other issues encountered in servicing the Somali Bantu Refugee resettlement population. The grantee successfully applied to Excellus Blue Cross insurance agency to supply community-based groups with HEPA vacuums for a FY '09 vacuum loaner programs modeled on the Pilot's HEPA loaner program.
Onondaga	Syracuse Lead Task Force (SLTF) and Syracuse University sponsored a September community forum at the South West Community Center to discuss the need for a local lead ordinance. The SLTC has begun to engage a consortium of community churches (Alliance of Communities Transforming Syracuse) to address a lead ordinance.
Orange	In FY '09, the Pilot plans to invite individuals from the target area who expressed interest at home visits in joining a coalition to attend a planning meeting.
Westchester	Pilot met and provided educational materials to the Andrus Children's Center, Arab-American Council, Kingdom Christian Cultural Center, Nepperham Community Center, and numerous governmental and nongovernmental sites such as the Victim Assistance Services.

Marketing and Media

All grantees sought to build county-wide awareness and support for the Pilot. Table 3.4 illustrates media and community presentation strategies.

Table 3.4. Grantee Media and Marketing Strategies

Strategies	Albany	Erie	Monroe	NYC	Oneida	Onondaga	Orange	Westchester
Media outreach – print, radio, television		x		x	x	x	x	x
Media events, including participation by elected officials				x	x	x		
Public Service Announcements, special program bulletins/newspapers	x			x	x	x	x	
Presentations to community groups or health fairs	x	x	x	x	x	x	x	x
Paid advertisements in newspapers, TV, or radio						x		
Display of Pilot literature in libraries, building permit offices, hardware stores, etc.		x		x	x	x	x	
Written marketing/communication plan			x					

Strategies of particular note include:

1. Expansion of New York City's "Healthy Homes" media campaign to promote lead poisoning prevention messages through displays of 5,000 posters posted in the subway system, 2,500 posters on sanitation trucks, and posters displayed in 102 check cashing stores in target neighborhoods;
2. Orange County's summer newspaper insert sent to 70,000 households;

3. Onondaga County's radio advertising campaign (1,000 30-second spots, including advertisements in Spanish-language radio), as well as a billboards in target areas;
4. Oneida County's program to provide displays on LSWP to building permit clerk offices throughout the county;
5. Westchester and Oneida's displays at libraries,
6. Erie County's Community Forum;
7. Oneida's puppet shows at schools and with assistance of interpreters at refugee resettlement centers to educate families and children about the dangers of LBP; and
8. Monroe County's effort to develop an integrated marketing and communications plan to support its overall Pilot objectives.

Estimating the impact of these activities poses a challenge, since events such as health fairs reach residents of target and non-target housing. Similarly, the effect of media coverage, especially public service announcements (PSAs), depends on the media outlet's circulation, the frequency and time of day the story airs, and its placement (such as prime time v. late night; front page v. mid-section). Nonetheless, each grantee attempted to estimate the audience for its media and community marketing in its quarterly report. Overall, the outreach is estimated to have reached over 6,290 households directly and a total audience of nearly 282,000. Oneida County reported the most media events, through newspaper stories, participation in call-in programs, and PSAs. New York City reported the most events in the target area. Orange County reported the most contacts specifically to educate or recruit owners. Onondaga County reported an increase in requests for investigation after its May kick off event.

As Table 3.5 illustrates, media and other forms of community outreach do not directly translate into an increase in home visits, but may help to create a more welcoming climate for later canvass and referral activities.

Table 3.5. Reported Number of Marketing and Educational Activities *

	Albany	Erie	Monroe	NYC	Oneida	Onondaga	Orange	Westchester	TOTAL
Media events									
Number of events	1	1	--	1	21	1	12	10	47
Number reached (estimated)	600	25,000	--	--	143,900	22	78,693	1,648	249,863
Public informational meetings in targeted neighborhoods									
Number of events	1	7	1	20	15	4	--	--	48
Number reached (estimated)	600	270	--	246	296	49	1,100	--	2,561
Events to educate or recruit property owners									
Number of events	1	29	1	8	5	1	247	3	295
Number reached (estimated)	NA	3,325	2,088	330	54	166	262	65	6,290
Other marketing activities									
Number of events	1	--	--	--	23	84	93	6	207
Number reached (estimated)	237	--	--	--	17,856	3,537	1,476	62	23,168
Home visits to provide education and discuss pilot project									
Number of visits	--**	79	643	235	18	125	82	655	1,837

* Source: Quarterly reports

** Albany County reported 61 investigations completed during Year One.

Erie County's experience illustrates how a successful partnership with community organizations can strengthen Pilot marketing and outreach. The Community Foundation of Erie County built on its pledge to support the Pilot by contracting for two focus groups to better understand awareness and concerns about LBP in homes on Buffalo's west-side. Both focus groups rated concerns about LBP as secondary to other housing-related issues, such as safety. Moreover, the majority of participants expressed awareness of LBP problems but felt helpless to address them and did not believe they would receive help from local agencies. When asked to identify messages that would have impact on perceptions of LBP risks, they identified the following:

1. "Don't risk your child's health by letting them eat poison."
2. "Getting rid of lead paint is the law. Don't get caught by surprise."
3. "Protect the value of your home by eliminating lead paint." (Participants felt that this would resonate with owners, but not with renters.)

Participants also indicated that they would be more trustful of these messages if they were delivered by community or neighborhood sources than by health department, police, or elected officials. The focus groups helped to identify the primary television and radio stations that reached this population (i.e., Warner Brothers' network (WB), 93.7 FM).²³ Erie County will use this information in FY '09 to strengthen outreach in the community.

Implications for Program Design

New grantees may wish to take stock of their current infrastructure and relationships with local agencies and community-based organizations during the first year of implementation. Although successful partnerships can evolve without formal MOU, most grantees did seek to assign more specific responsibilities to partners as time progressed. In addition, most grantees found they needed to reach out to many types of community-based organizations in order to fine-tune outreach and referrals and to advertise the Pilot. Among the issues new grantees may wish to consider:

1. Should they include a summit or community forum to review strategies and community needs?
2. Is there a need for a strategic plan with broad input from the community and local agencies?
3. Should they establish common referral forms and follow up procedures to assure that referrals between agencies are implemented as expected?
4. Are there common needs for equipment or training between agencies?
5. Do they have enough information about what media and outreach strategies will be most effective in their target communities, and if not, where can they partner to get this information?

3. PROMOTING INTERVENTIONS

This chapter addresses four sets of evaluation questions related to Goal Three:

1. What issues have grantees encountered in gaining access to housing units and how have they been addressed?
2. What investigation protocols have grantees used? How many housing units did they inspect and remediate in high-risk areas?
3. What methods have grantees used to enforce correction of identified lead hazards, assure work was done using LSWP, and obtain clearance?
4. How many children have been affected by Pilot activities? What other benefits were achieved?

Access to Units

Gaining entry to homes for the purposes of investigation is critical to the Pilot's long term goal of preventing children's exposure to LBP hazards. Grantees employed a number of strategies to gain access to units, beyond referrals from other programs (see Table 4.1). Some grantees chose a two-step process for gaining access to the unit: first an educational home visit, then a second visit for a LBP investigation. Others planned to have the educational visit and investigation at the same time. Still others followed different strategies depending on whether the initial contact came from the program or from a referral by another agency. Overall, grantees reached 1,837 units and conducted 1,514 investigations with Pilot funding. Westchester completed both the most home visits and the most investigations (see Figure 4.1). Factors in this achievement may include that Westchester's office is in the target area and that the program did not need to refer requests for inspection to other agencies. Monroe and New York City both had large numbers of home visits, a possible product of pre-existing relationships forged through their local ordinances.^{vi}

^{vi} NYC reports more than 3,600 home visits by partners from home visiting programs through the various District Public Health Offices and the Asthma programs during Year One. Data in subsequent tables for NYC reflect only those cases where home visits resulted in investigations paid for under the Pilot.

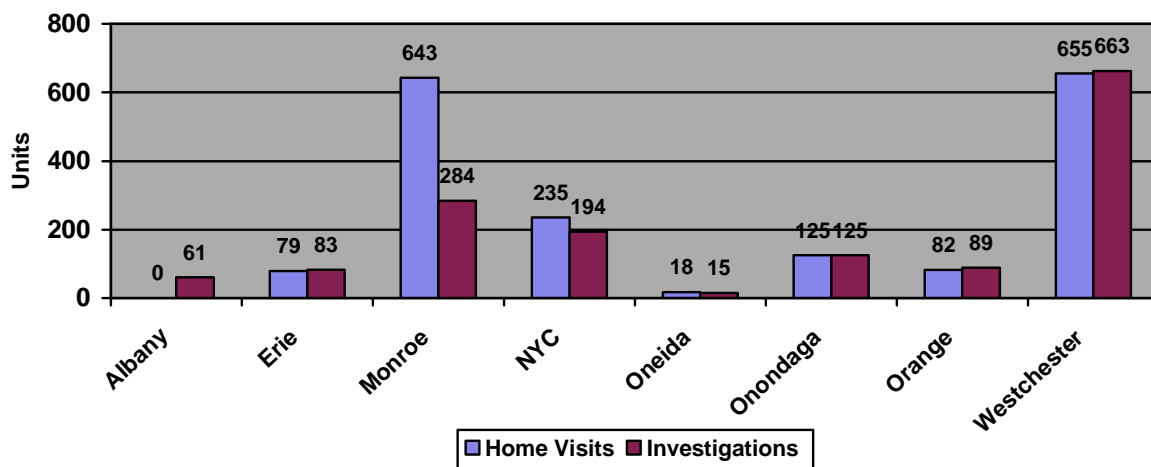
Table 4.1. Strategies for Gaining Access to Units

Strategies	Albany	Erie	Monroe	NYC	Oneida	Onondaga	Orange	Westchester
Partner with community organizations to enroll units	x	x		x	x	x	x	x
Landlord workshops or “owner’s nights”				x	x			x
Letters, flyers, door hangers	x	x	x	x	x	x	x	x
Door-to-door canvass	x	x	x	x	^a	x	x	x
Provide information on tenants’ rights			x	x	x		^b	
Street fairs/health fairs in target neighborhoods	x	x		x	x	x	x	
Efforts to engage special populations (e.g., translation services, translated materials)	x	x	x	x	x	x	x	x
Resident incentives (e.g., cleaning supplies)		x	x		x		x	x
Saturday or late afternoon or evening visits			x	x	x			
Inspect units at the request of owner or tenant	x	x			x	x	x	x

^a Oneida County had done a joint canvass with its CLPPP and HNP outreach workers in the prior year and concluded that this was not a productive strategy for the target neighborhood.

^b Orange County had an informational pamphlet in development as of fourth quarter.

Figure 4.1. Total Reported Home Visits and Investigations, by Grantee



* Source: Quarterly reports

Several strategies are particularly noteworthy:

1. Orange County concentrated its efforts on a small neighborhood and made multiple contacts to gain access. First, it sent letters to property owners. Second, staff left bilingual flyers in the target neighborhood to announce the date for home visits. Following that, outreach workers canvassed the neighborhood to do visual assessments and education based on the HNP model, with a stationary location in the neighborhood to reach passers-by and an inspector available to do LBP investigations on short notice. Finally, a second canvass and letter to owners occurred within two months of the first effort. Albany is exploring a similar approach in FY '09.
2. New York City, Westchester, and Oneida sponsored “landlords’ nights” to provide a comprehensive overview of primary prevention needs and issues in target neighborhoods. New York City reported reaching 330 landlords through this method. Oneida County sent over 700 invitations to their four workshops. Attendees not only received lead education and a review of their responsibilities, but could register for LSWP training and a HEPA-loaner vacuum program if they successfully completed training.
3. Monroe County conducted Lead-Safe Saturday home visits with a team of HNP outreach workers and code inspectors.
4. Most grantees had Spanish language translators available to do education or support home investigations.

Pilot outreach and canvass activities were associated with 62 percent of the units where investigations were completed, and almost half (47%) of the units where deteriorated paint or a LBP hazard was found (see Table 4.2.). The next most common method of gaining access, referrals from Healthy Neighborhoods or Maternal Child Health programs, produced 23 percent of the investigations, with tenant and property owner requests producing eleven percent. However, of the units that were successfully cleared of hazards, 73 percent came from referrals from HNP or Maternal Child Health programs and 16 percent through tenant and property owner requests.^{vii} This may suggest that residents and organizations with a long-standing relationship with target neighborhoods have a good sense of where the riskiest units are located and that their relationships play a role in facilitating and encouraging prompt remediation.

^{vii} See Appendix B, Table B-1 for this information by grantee. Additional information about methodology is also included in this Appendix.

Table 4.2. Units Investigated, Found to Have Hazards, and Cleared of Hazards by End of Year One*

Initiative for investigation	Number (and percent) of all those investigated	Number (and percent) of those with hazards	Number (and percent) of those with hazards cleared
Planned program outreach and canvassing visits	802 (61.6)	317 (47.4)	17 (9.4)
Property owner request	20 (1.5)	16 (2.4)	10 (5.6)
Tenant request	118 (9.1)	90 (13.5)	18 (10.0)
Referral – Healthy Neighborhoods or Maternal Child Health	297 (22.8)	202 (30.2)	131 (72.8)
Referral – housing code, HQS, or Section 8 inspection	15 (1.2)	15 (2.2)	1 (0.6)
Other	50 (3.8)	29 (4.3)	3 (1.7)
Total	1,302	669	180

*Source: Unit-based data. Smaller N for investigations compared to quarterly reporting totals reflects the number of cases excluded for missing data.

Door-to-door outreach is a particularly labor intensive and costly outreach strategy, and may be most appropriate in neighborhoods where the Pilot is particularly well known or has strong partners. All but one grantee (Oneida) implemented door-to-door canvass activities. Success in completing a full home visit ranged from one percent (Onondaga) to 50 percent (New York City). Reported time in the unit ranged from 15 minutes to 2.5 hours, depending on whether the visit was strictly educational or involved a full LBP investigation. The majority of grantees (Albany, Erie, Monroe, Oneida, Orange, and Westchester Counties and New York City) provided lead-related clean-up supplies (such as mops, buckets, detergent, spray bottles, etc.), crayons, coloring books, and other educational items as incentives during the visit. Some (Westchester, Oneida, and Orange) also included other healthy homes related products such as smoke detectors. To pay for these incentives, grantees often jointly distributed materials with their HNP programs, injury prevention programs, or other newborn home visiting programs.

The most common obstacles to door-to-door efforts encountered thus far include:

1. Fear that the inspection will lead to trouble with landlords, immigration, or Child Protective Services;
2. Lack of interest in lead hazards;
3. Landlord resistance to dust lead testing without an opportunity to clean the unit in advance (Monroe County only); and
4. Failure to gain re-entry if an inspection was not completed at the first visit.

Westchester, Erie, Orange, New York City, and Oneida County reported greater success when outreach workers first spoke to residents about their concerns about the home's health and safety. Pest management messages and how to protect family members from fire and injuries were more likely to engage the interest of residents. Once they received

referrals and incentives items such as smoke alarms, safety latches, or bait and gel pest control supplies, the residents were better able to focus on deteriorated paint and lead hazards.

Few of the grantees explicitly included information on tenants' rights as part of their door-to-door strategies. Monroe County and New York City distributed materials on this topic, and Erie County is in the process of developing a pamphlet for FY '09. Given the number of families likely to be suspicious of government, or who are concerned about landlord reprisal, this may be a strategy for more grantees to pursue in the future.

Several grantees attempted to assess the costs per individual reached or unit investigated by different outreach methods. Monroe County estimated the costs per educational visit as \$49.36, with the cost for each outreach contact (such as hanging materials on doors) as \$15.33. Onondaga County quantified the costs of specific outreach methods relative to their yield in requests for investigation, as reported in its estimates below.^{viii}

Onondaga Cost Estimates		
• Engagement of community partners		\$11,000/30 = \$367
• Mass Mailings		\$4,000/29 = \$138
• Pilot outreach:		\$11,000/29 = \$379
• Paid Advertising		\$22,000/16 = \$1,375
• Self requests and referrals:		\$48,000/122 = \$393

Based on its assessment of the costs compared to the investigations produced, Onondaga determined that it would reduce billboard advertising in Year Two.

Investigations Completed

Methods of Investigation

Grantees used a number of investigation procedures: visual assessment, visual assessment combined with field X-ray Florescence (XRF) measurements on painted surfaces; visual assessments combined with interior lead dust wipe samples, or full HUD protocol for risk assessment (which include visual assessment, XRF measurements, and lead dust samples).

Some grantees reported a unit as having LBP or an LBP hazard based exclusively on the visual assessment finding of deteriorated paint (that is, a condition conducive to lead poisoning). Those who sent Notices of Demand recorded a unit as having hazards if it had chipping or peeling paint during visual assessments of interior or exterior paint and XRF measurements of deteriorated paint positive for lead greater than the *de minimus*^{ix}.

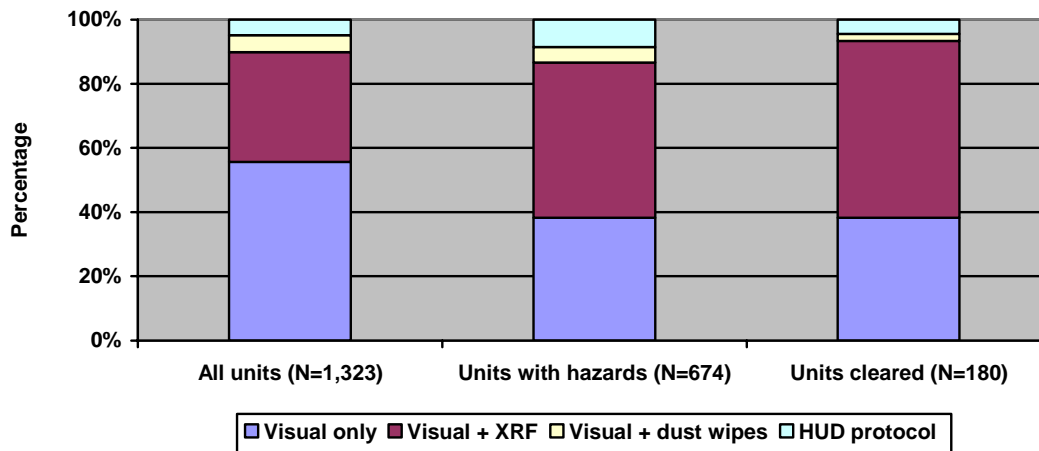
^{viii} Onondaga County notes these costs include staff time and direct Other Than Personnel Costs (OTPC) only (e.g., brochures, postage, advertising). The program noted that individuals who cited "word of mouth" as the source for hearing about the program were not included in the cost/benefit analysis, and these individuals were probably reached by a combination of the other promotional methods.

^{ix} *De minimis* levels are the amounts of painted surfaces to be disturbed during rehabilitation, maintenance, paint stabilization or hazard reduction activity, below which safe work practices and clearance are not

Under the City of Rochester’s lead ordinance, any unit in the Pilot’s target area that passed a visual assessment was required to have and pass dust wipe tests; thus homes inspected through the Lead Safe Saturday program that failed the visual or dust wipe or that passed the visual and were awaiting dust testing were reported as having LBP or LBP hazards. Some of these units were later remediated and may have had additional lead dust clearance samples after remediation. Oneida County issued Notices of Information for units where the visual assessment showed deteriorated paint or where the unit failed to pass a dust wipe test when no deteriorated paint was observed. ^x

Unit-level tracking data indicate that the majority of investigations involved either visual assessment only or visual assessment with XRF measurements of paint (56% and 34% respectively, with a combined total of 90 percent). As Figure 4.2 shows, larger percentages of units with hazards and units cleared of hazards were investigated using the combination of visual assessment and XRF testing (48% and 55%, respectively). It should be noted that units not investigated through these strategies may have received additional testing that was not recorded in the unit-level data base or may still have been in the process of having other tests completed by the end of Year One. ^{xi}

Figure 4.2. Proportion of Investigations that Used Different Procedures in All Units, Units With Hazards, and Units Cleared of Hazards



*Source: Unit-based data

Note: The 2 units investigated using other procedures are not including in this figure.

required. NYS EBL investigations that issue a Notice and Demand based on deteriorated LBP greater than or equal to 1 square foot. For the purposes of the Pilot, Onondaga County used the federal *de minimus* of two square feet or greater.

^x Under the City of Rochester’s lead ordinance, a unit in the target areas that had no deteriorated paint during a visual assessment was also required to have dust wipes taken. If these wipes showed no lead dust hazards, the unit was defined as “cleared” under the ordinance, meaning no further remediation was required. Thus, Monroe reported some units as cleared while at the same time reporting no hazards at those units. To achieve consistency in reporting across all grantees in this report, units “cleared” without remediation were coded as having no hazards and not being cleared.

^{xi} See Appendix B, Table B-2 for this information by grantee.

A variety of trained staff performed investigations. All grantees used licensed and certified LBP Inspectors or Risk Assessors, employed by the Pilot, the CLPPP, or other associated programs to conduct the XRF testing; most also used these staff to collect dust wipe samples. New York City, Oneida, Onondaga, and Orange County trained HNP outreach workers, home visitors or Pilot staff to perform visual assessments to identify deteriorated paint, using the HNP assessment or HUD online visual assessment protocols^{xii}. Oneida County trained all its outreach workers and Pilot staff to serve as Sampling Technicians and to conduct dust wipes at the time of the home visit. The City of Rochester's code inspectors performed visual assessments and dust wipe tests as part of their responsibilities under the City's lead ordinance. During the Lead-Safe Saturday visits, they accompanied outreach workers. If the resident was unwilling to have the unit sampled at that time, the outreach worker scheduled a return appointment.

Sometimes it took multiple trips to complete investigations. For the 919 units with data on both the date of home visit and date of investigation, a mean of 5.4 days elapsed between visits. For half the units, the home visit and investigation occurred on the same dates. However, these findings may significantly underestimate the time elapsed, since they do not include the number of attempts to gain entry to the unit for the purposes of the actual XRF testing or dust sampling. The number of attempts to gain entry was not collected in the first year, but will be included in Year Two.

Investigation findings

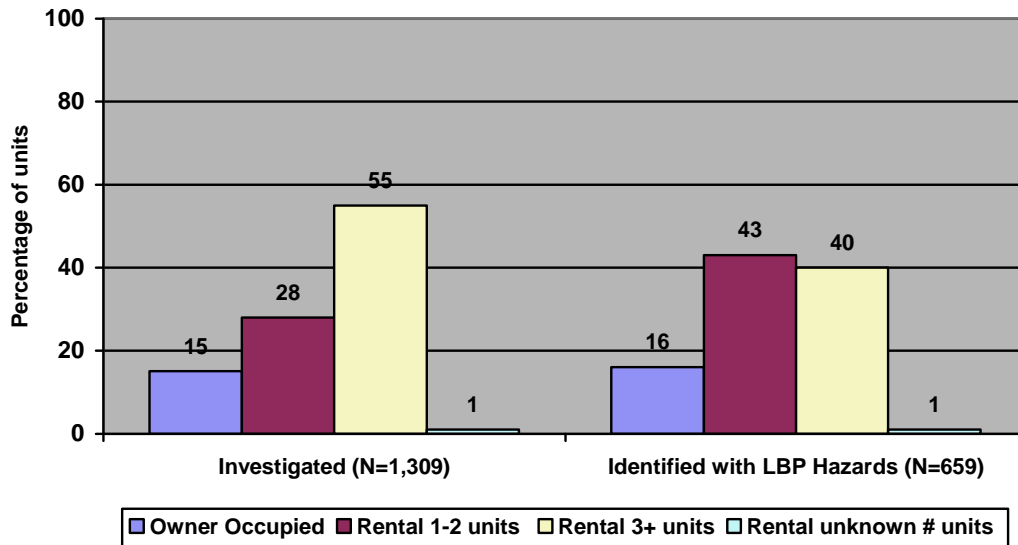
Over 80 percent of grantee investigations occurred in rental units, most often in properties with three or more units (55 percent of the 1,309 investigations for which building type was reported (see Figure 4.3.)). Of the 278 investigations in Monroe County for which building type information was available, 46 percent were in owner-occupied units, while New York City reported no investigations in owner-occupied units as part of the Pilot. Both New York City and Westchester predominantly conducted investigations in rental properties of three or more units (89 percent of the 193 investigations and 89 percent of the 523 investigations, respectively). Albany and Onondaga focused heavily on small 1- or 2- unit rentals (73 percent of the 60 investigations and 75 percent of the 125 investigations, respectively).

Although grantees investigated rental properties with three or more units, hazards were found slightly more often in properties with one or two rental units. Of the units in which hazards were found, 43 percent were smaller rental units and 40 percent were larger properties. Grantees reported visiting predominantly pre-1950 units (88 percent of the

^{xii} For the HUD online training, see <http://www.hud.gov/offices/lead/training/visualassessment/h00100.cfm>. For Sampling Technical training, see <http://www.hud.gov/offices/lead/training/sampletech/samplingtech.cfm>.

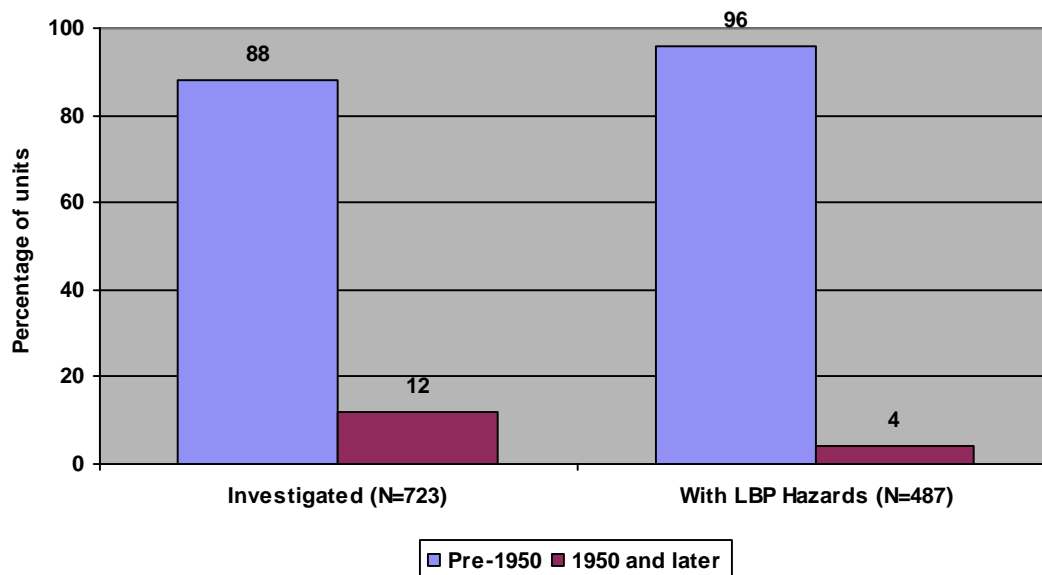
723 investigations for which age of unit was available), suggesting that the program is well-targeted in this respect. Of the units with hazards, 96 percent were pre-1950 (see Figure 4.4.).^{xiii}

Figure 4.3. Percentage of Units Investigated and Identified with LBP or LBP Hazards, by Building Type



*Source: Unit-based data

Figure 4.4. Percentage of Units Investigated and Identified with LBP or LBP hazards, by Building Age



*Source: Unit-based data

^{xiii} Table B-3 in Appendix B shows the characteristics of units investigated and found to have hazards for each county.

Because grantees calculated their costs on different bases, it is not possible to compare grantees' costs directly to each other. In Year Two, we recommend the cost basis be standardized to facilitate comparisons. Grantees' reported costs per investigation ranged from \$223 for Westchester (excluding administrative and non-recurring costs, but including incentive items) to \$416 for Albany (personnel costs only) to a maximum of \$1,680 for Onondaga proactive inspections (including costs for scheduling, canvass, administration, personnel, and repeat visits. Onondaga's salary and fringe cost for an inspection is \$90). Based on these costs, Onondaga will review its canvass strategy in Year Two.

Remediation and Clearance

Notification procedures

Grantees notified owners of investigation findings through several and sometimes multiple methods:

1. Notice and Demand (Albany, Erie, Onondaga, Orange, Westchester);
2. Commissioner's Order to Remediate (New York City);
3. Notice and Order of Lead Hazards (Monroe);
4. Notice of Information (Oneida), followed by later Notice and Demand for noncompliant owners;
5. Notice of Violation, followed by Notice and Demand for property owners who do not respond to Pilot in 10 days (Westchester); and
6. Letter to property owners on results of exterior visual assessments of blocks selected for further canvass activities (Erie)

Typically under the Pilot, owners who receive a notice must submit a plan for remediation to the local health department for review, use Lead Safe Work Practices or employ individuals trained in LSWP or trained lead professionals where a Notice and Demand or COTR was issued, and have an LBP hazard dust wipe clearance test after remediation. The notice procedures specify timetables for completion of remediation. Of the 675 units in which hazards were found, no Notice and Demand or other enforcement action was reported for 115 units. The majority of the units cleared of hazards had received a Notice and Demand or other administration notice; of the 180 units cleared of hazards, only three had received neither form of notification. Table 4.3 shows the notification procedures used by grantees.

Table 4.3. Approaches Used for Notifications to Units with Hazards and Units Cleared of Hazards in Year One*

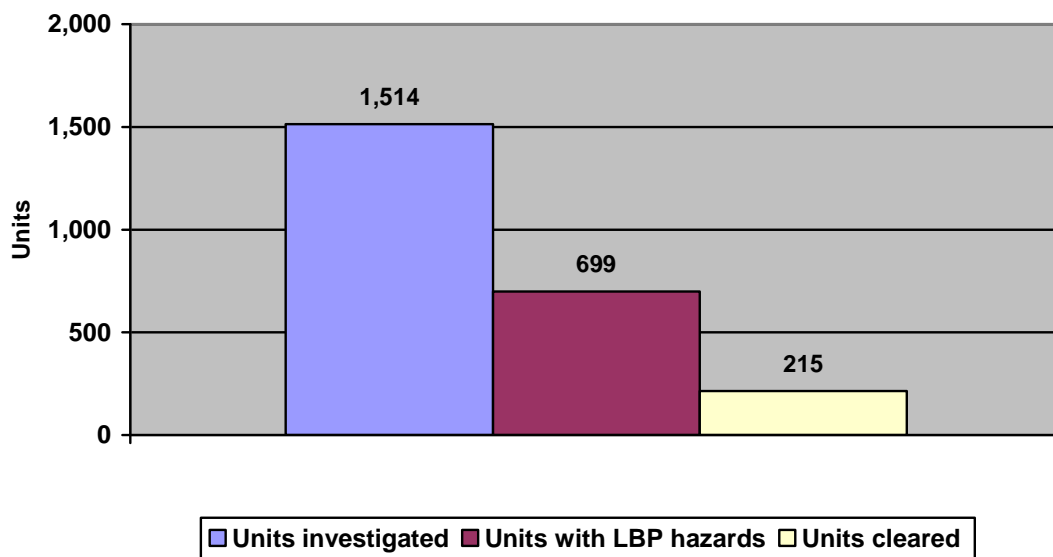
	Albany	Erie	Monroe	NYC	Oneida	Onondaga	Orange	Westchester	TOTAL
Units with hazards (number of units)									
Notice and Demand only	53	20	54	0	0	90	40	66	323
Notice and Demand and other administrative action	0	2	22	0	0	17	3	7	51
Other administrative action only	0	39	0	104	15	0	0	28	186
No Notice and Demand or other administrative action described	0	2	89	0	1	8	0	15	115
Total units with hazards	53	63	165	104	16	115	43	116	675
Units cleared of hazards (number of units)									
Notice and Demand only	12	--	7	0	--	23	--	65	107
Notice and Demand and other administrative action	0	--	0	0	--	0	--	0	0
Other administrative action only	0	--	0	67	--	0	--	3	70
No Notice and Demand or other administrative action described	0	--	3	0	--	0	--	0	3
Total units with hazards cleared	12	0	10	67	0	23	0	68	180

*Source: Unit-based data. See Appendix B for rules governing missing data.

Remediated units achieving clearance

Grantees conducted over 1,500 investigations and found hazards in almost 700 units. Over 200 units were cleared of hazards (see Figure 4.5). As a condition of Pilot funding, after remediation, grantees needed to assure completion of a visual assessment for deteriorated paint and analysis of lead dust wipes results before declaring a unit cleared of lead hazards. The owner/contractor must hire an independent third party, collect and have dust wipe samples analyzed at an EPA National Lead Laboratory Accreditation Program facility and submit the results to the grantee. Some grantees performed free visual assessments and dust wipe clearance testing for property owners as an incentive to participate.

Figure 4.5. Total Number of Units Investigated, Found to Have LBP or LBP Hazards, and Cleared in Year One



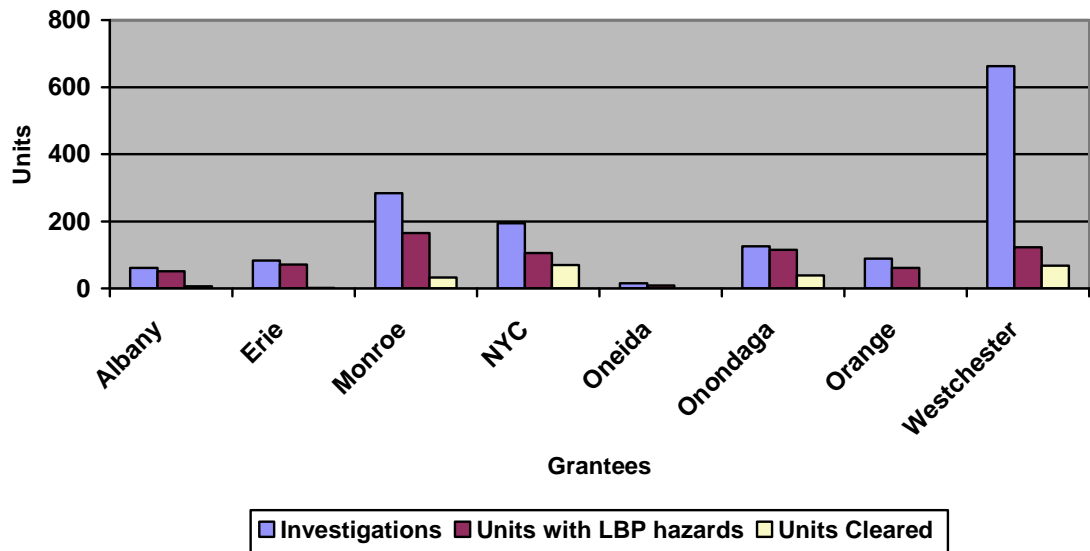
*Source: Quarterly reports.

Note: Since most grantees began full implementation of their programs in the third quarter, the full outcome of their efforts will not be known until Year Two, especially those related to the number of housing units successfully remediated.

Figure 4.6 shows the quarterly report data on the number of units investigated, found to have LBP or LBP hazards, and cleared of hazards by grantee. As Figure 4.7 shows for unit-level data, 51 percent of grantee investigations identified units with hazards, with a range of 94 percent with hazards in Oneida to 22 percent in Westchester. Of all units found to have hazards, 27 percent were cleared. Erie, Oneida, and Orange counties reported no units cleared of hazards. In other counties, the percentages of units with hazards that were cleared ranged from six percent in Monroe to 64 percent in New York City. It is likely that those homes that have not yet been cleared will be cleared during the time period of the second program year.^{xiv}

^{xiv} Supporting data for Figure 4.6 are shown in Table B-4 and for Figure 4.7 are shown in Table B-5 of Appendix B.

Figure 4.6. Number of Units Inspected, Found to Have LBP or LBP Hazards, and Cleared in Year One, by Grantee

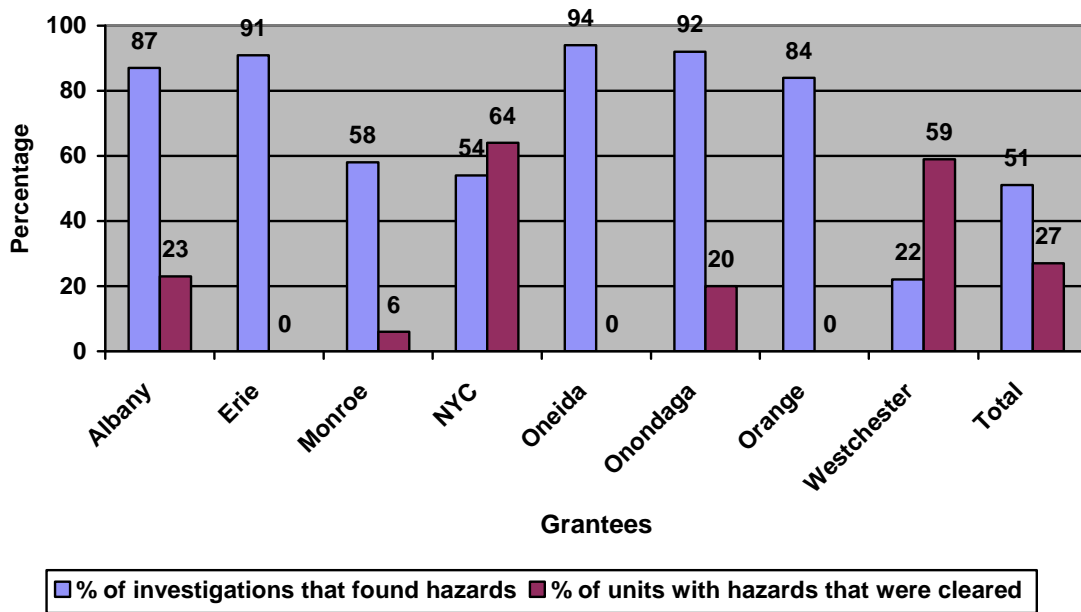


*Source: Quarterly reports. ^{xv}

Note: ACCESS database for Albany records a total of 12 units cleared, rather than the 6 units reported in the early quarterly reports. For all other grantees, the number of units reported cleared in the quarterly report was greater than or equal to the number reported in the ACCESS database.

^{xv} Supporting data for Figure 4.6 are shown in Table B-4 in Appendix B.

Figure 4.7. Year One Investigation Results by Grantee and all Counties Combined



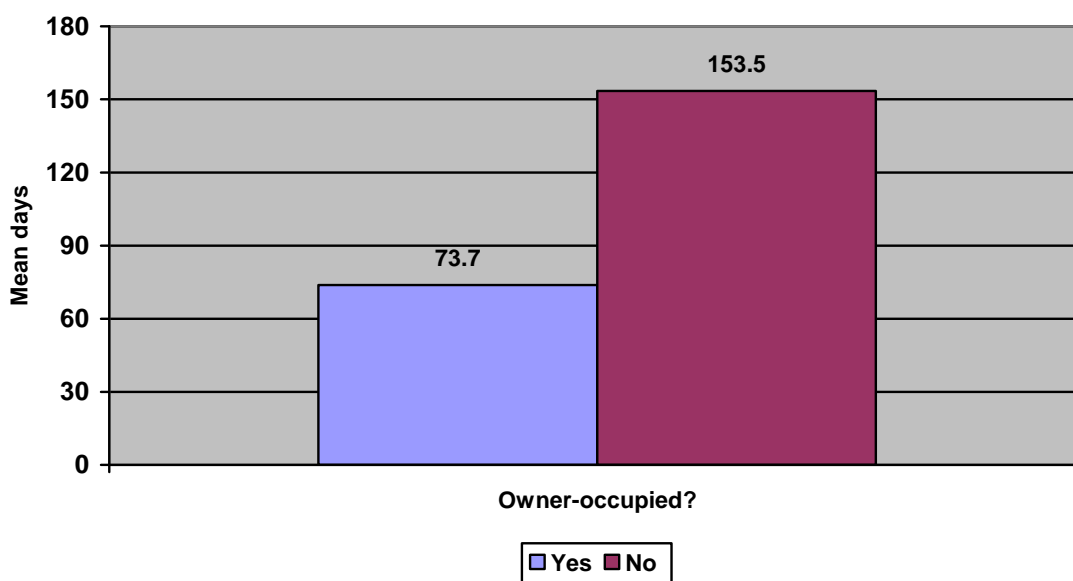
*Source: Unit-based data

In general, the units that were investigated and cleared of hazards received timely action, with half of all the units cleared within 105 days, and a mean of 151 days from investigation to clearance. Half of all property owners that received either a Notice and Demand or other administrative notice about hazards received the notice within four days, and the mean number of days between investigation and notice was 16 days.

As Figures 4.8 and 4.9 indicate, the time interval from investigation to clearance differed according to certain characteristics of the units and the process involved. Most units cleared of hazards were occupied by renters. Although half of the units occupied by owners and by others were cleared within 105 days, those units occupied by owners were, on average, cleared more quickly than other units (a mean of 74 days compared with 154 days). Clearance was also obtained more quickly when remediation was done by the owner alone rather than by an EPA-certified abatement contractor or other contractors or individuals.^{xvi}

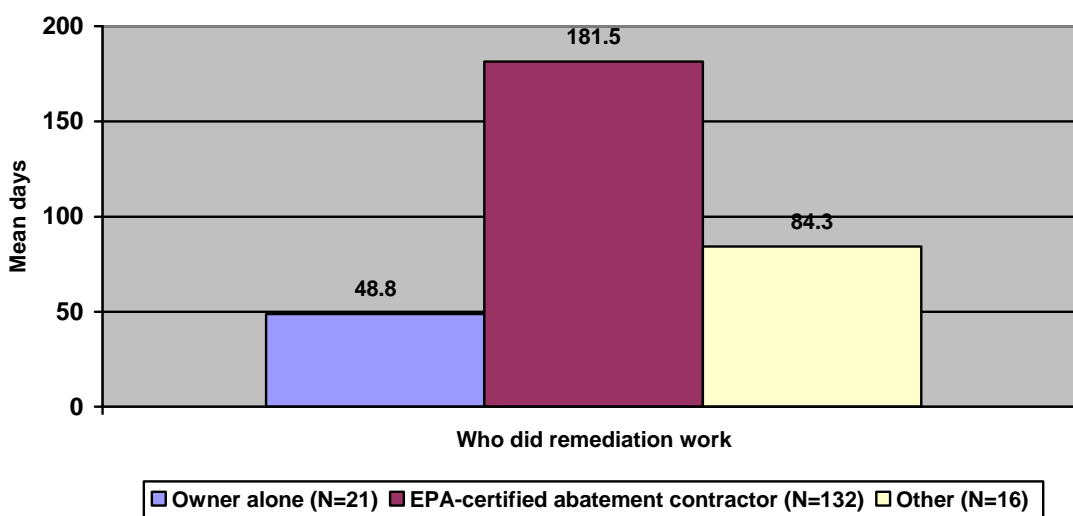
^{xvi} Table B-8 in Appendix B shows similar data by counties.

Figure 4.8. Time from Date of Investigation to Date Unit was Reported as Cleared of Hazards by Occupancy Status



*Source: Unit-based data^{xvii}

Figure 4.9. Time from Date of Investigation to Date Unit was Reported as Cleared of Hazards by Who Was Involved in Remediation Work



*Source: Unit-based data

^{xvii} Figures 4.8 and 4.9 include all data where grantees specified both a date when investigation was completed and a date when clearance was achieved. Grantees did not specify who conducted the clearance or whether this was a visual clearance of the exterior or a clearance of the interior using dust wipe samples. This data will be collected in Year Two.

As previously discussed, hazards were more likely to be found in properties with one or two rental units. However, the majority of the units cleared of hazards (77 percent) were in properties of three or more units (see Table 4.4).

Table 4.4. Units Investigated, Found to Have Hazards, and Cleared of Hazards in Year One, by Characteristics of the Housing Unit *

Characteristics of units	Number (and percent) of all those investigated	Number (and percent) of those with hazards	Number (and percent) of those with hazards cleared
Building type			
Owner-occupied	201 (15.4)	105 (15.9)	7 (3.9)
Rental, 1-2 units	369 (28.2)	283 (42.9)	35 (19.6)
Rental, 3+ units	723 (55.2)	262 (39.8)	137 (76.5)
Rental, unknown # units	16 (1.2)	9 (1.4)	0
Total	1,309	659	179
Year of construction			
Pre-1950	635 (87.8)	467 (95.9)	91 (91.0)
1950-1978	84 (11.6)	19 (3.9)	9 (9.0)
Post-1978	4 (0.6)	1 (0.2)	0
Total	723	487	100

*Source: Unit-based data. Smaller N for investigations compared to quarterly reporting totals reflects the number of cases excluded for missing data.

Relatively few of the units investigated as part of the Pilot (5 percent) had been the subject of a previous EBLL investigation in which hazards were found (see Table 4.5). Although one would hope that the previous investigation had identified and corrected any hazards, almost 10 percent of the units found to have hazards in Pilot investigations were units where prior EBLL environmental investigations had also identified hazards. Albany County, which concentrated the bulk of its effort on investigations of units with prior EBLL investigations, reported that *almost half* (40%) of the inspected units with hazards in 2008 were ones in which previous investigations had also found hazards.

Table 4.5. Units in Which Previous EBLL Investigations Had Found Hazards

Procedures	Albany	Erie	Monroe	NYC	Oneida	Onondaga	Orange	Westchester	TOTAL
All Investigations									
Number of units	61	69	286	193	17	125	51	529	1,331
Number with previous EBLL investigation that found hazard	22	3	12	0	2	21	6	0	66
Percentage with previous EBLL investigation that found hazard	36.1%	4.3%	4.2%	0	11.8%	16.8%	11.8%	0	5%
Investigations that found hazards									
Number of units	53	63	165	104	16	115	43	116	675
Number with previous EBLL investigation that found hazard	21	3	9	0	2	19	5	0	59
Percentage with previous EBLL investigation that found hazard	39.6%	4.8%	5.5%	0	12.5%	16.5%	11.6%	0	8.7%

*Source: Unit-based data

The incidence of hazards at a later investigation raises the question of whether the units had previously achieved a dust clearance or were simply visually cleared. Or, did the property owner fail to maintain the unit properly after the EBLL investigation closed? Previous studies have shown that a visual examination alone is unlikely to be very predictive of dust lead hazards, because many lead particles are too small to be seen by the naked eye.²⁴ Continuing evaluation of the City of Rochester's Lead Ordinance indicates that at least 15 percent of units that passed a visual clearance failed a dust wipe test.²⁵ Oneida County, which also collected dust wipe samples when no deteriorated paint was observed, reported that nine of its 15 units failed at least one dust wipe.

Additional Enforcement Needed to Achieve Remediation

The bulk of the units where remediation and clearance was not completed appear to be in the process of remediation. As noted earlier, failure to demonstrate progress on remediation can result in a referral for court action. Most grantees that used Notice and Demand orders required evidence of action within 30 days. Onondaga gave 60 days for properties identified through the Pilot.

Grantees differ in the enforcement actions taken when property owners are not completing remediation in the time allowed. In New York City, building owners who do not comply within the specified timeframe are given a Notice of Violation (NOV). The NYC DOHMH Administrative Tribunal adjudicates these NOVs and administers fines ranging from \$500 to \$2,000 per violation. The address is referred to HPD to complete the repair work and bill the owner, if necessary, through a tax lien. In Rochester, the program sends Lead Hazard Warning letters to property owners after investigations. Enforcement actions are initiated ten days after these letters are sent if the rental properties where hazards are not remediated. Non-compliant properties (for any type of code violations) in Erie County are taken to the Housing Court, where owners are helped to find resources to alleviate financial hardship that may be preventing properties from being brought into compliance. The Judge levies fines and even jail sentences for truly recalcitrant property owners. *Early Lessons Learned* provides more detail about the Erie County agreement with Judge Nowak at the Housing Court.

Grantees generated nearly 90 enforcement actions to achieve remediation in Year One (see Table 4.6). No grantee reported data on fines or other penalties as a result of these enforcement proceedings. More enforcement actions are expected in FY '09.

Table 4.6. Reported Enforcement Activities Initiated*

County	Number and type of enforcement actions
Albany	1 under consideration, may be initiated in FY '09
Erie	1 initiated in 4 th quarter
Monroe	22 Lead Hazard Warning letters sent in 4 th quarter related to Lead Safe Saturday inspections (none before 4 th quarter)
New York City	55 NOVs issued for Year One
Oneida	None reported
Onondaga	10 Administrative hearings held in Year One
Orange	None reported
Westchester	None reported

* Source: Grantee quarterly reports

Who Benefits: The Effects of the Pilot on Young Children and the Community as a Whole

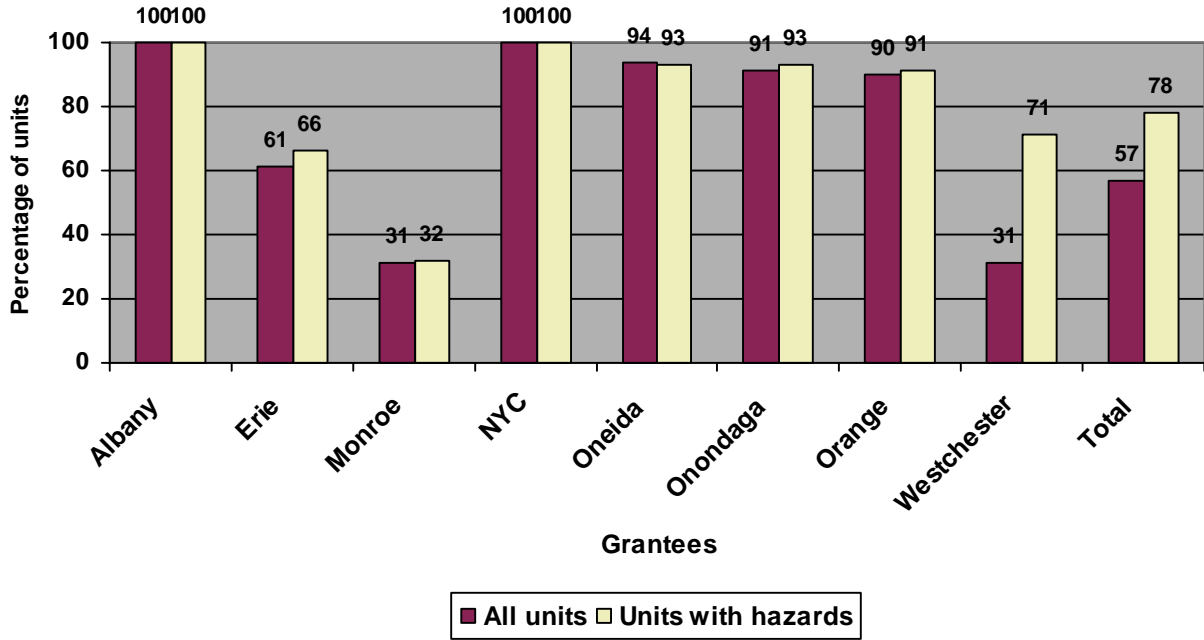
Grantees reported visiting a total of 820 units that housed a child age six or under, reaching a total of 1,289 young children, and referred a total 582 children for blood-lead screening. A “referral” is defined as urging an adult in the household to have the child or children screened and providing educational materials related to screening.^{xviii}

Fifty-seven percent of investigations were conducted in housing units with a child age six or under (see Figure 4.10). In Westchester and Monroe, 31 percent of the investigated units were occupied by young children, compared to 100 percent for Albany and New York City. Units with children were more likely to have hazards. Overall, 78 percent of units with hazards were occupied by children. In Monroe County, 32 percent of the units with hazards were reported as occupied by young children, compared to 100 percent in

^{xviii} Table B-6 in Appendix B shows data that grantees reported in their quarterly reports.

Albany and New York City.^{xix} Cumulatively these investigated units contained a total of 957 children age six or under, with 649 young children in the units with hazards. As Figure 4.11 shows, the total number of young children in units investigated ranged from 33 in Oneida to 198 in Westchester. The total number of young children in units with hazards ranged from 31 in Oneida to 181 in Onondaga.

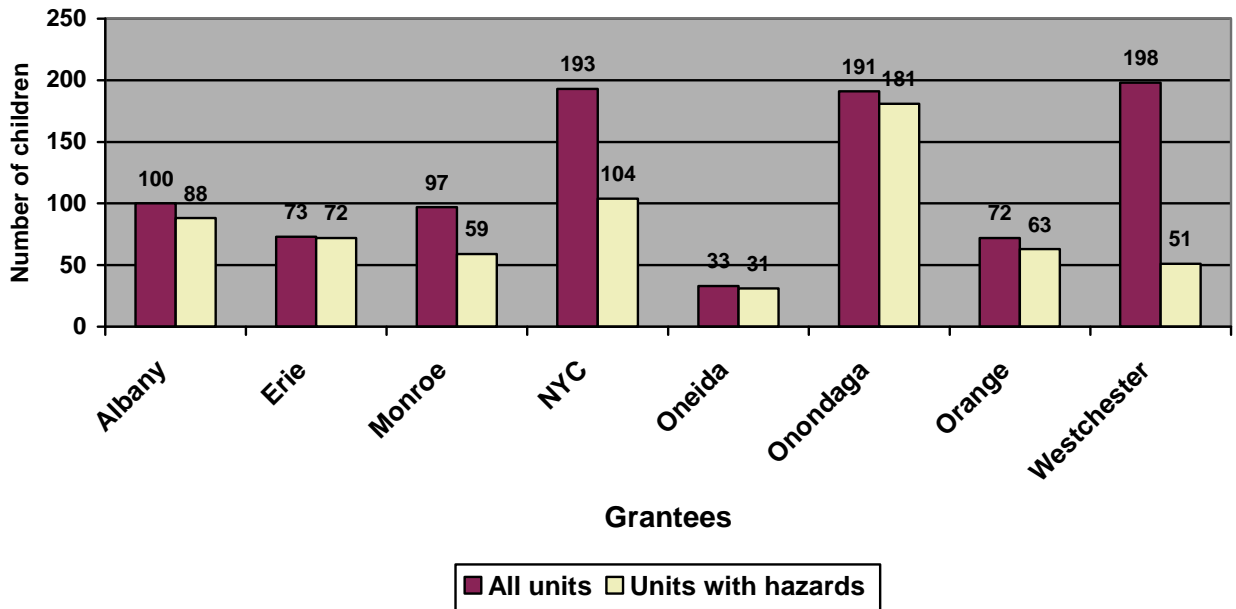
Figure 4.10. Percentage of All Investigations and Investigations That Found Hazards that Occurred in Units with a Child Age 6 or Under, By Grantee



*Source: Unit-based data

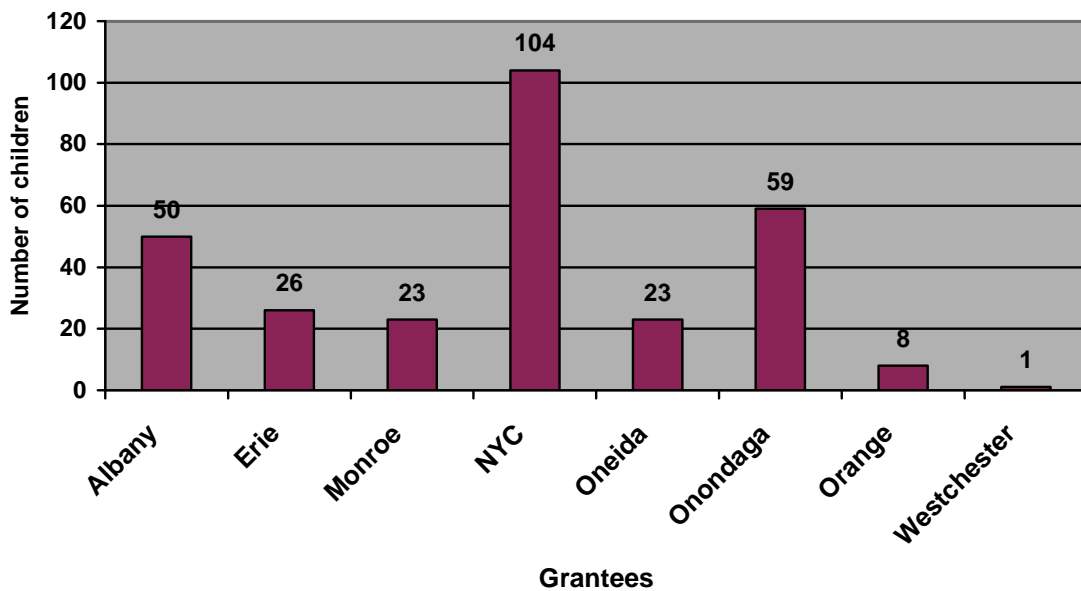
^{xix} Table B-7 in Appendix B provides data by grantee and for all counties combined.

Figure 4.11. Number of Young Children in All Units Investigated and in Units with Hazards, by Grantee



*Source: Unit-based data

Figure 4.12. Number of Children Living in Units with Hazards Who Were Referred for BLL, by Grantee



* Source: Unit-based data

Children benefited from having hazards identified and cleared from their housing units and from being referred for BLL testing if it was needed. In units with hazards, a total of 294 children were referred for BLL testing (see Figure 4.12 for the number of children referred by grantee). Of units with hazards found and cleared, 126 children lived in those units, and 121 of them were referred for BLL testing. Oneida County reported that one of the unanticipated benefits of its program was its ability to identify areas where blood-lead screening rates needed to be improved.

While remediation of LBP hazards and referrals for blood tests show the Pilot's immediate benefits to young children, grantees also tried to estimate the long-range benefits to the community. For example, Monroe County noted that the 281 properties inspected at Lead-Safe Saturday visits would not have been visited in 2008 under the other types of investigations required by Rochester's lead ordinance. In addition, 20 percent more dust wipe tests were conducted in 2008 than were performed in the prior year (4,508 v. 3,758).

Westchester County attempted to quantify the savings to the community by preventing hospitalizations, blood-lead chelations, and other medical costs associated with the lead and housing related hazards addressed through the integration of the Pilot and the Healthy Neighborhoods Program. For the cost of one healthy homes outreach visit of \$161.60, these include:

1. 2.75 potential fire deaths prevented;
2. 1.3 visits to emergency room visits prevented, with a potential cost savings of \$194/visit; and
3. 3.5 children with EBLL prevented, with a potential cost saving of \$15,000 per child from avoided chelation costs.

Implications for Program Design

Year One's experience suggests that new grantees need to consider:

1. What is the optimum mix of strategies to recruit units into the program, and what partners are essential to this effort?
2. Should both owner-occupied and rental units be targeted for recruitment?
3. What additional strategies may be needed to gain entry to and complete remediation in rental properties with one or two units?
4. How to limit door-to-door canvass strategies to the areas with optimum benefit?
5. What strategies will be needed to reduce the time for completion of investigations, especially where additional tests are involved?
6. How to assure that units with a history of association with EBLL in young children are maintained in a lead-safe manner?
7. How to increase screening rates in these high-risk communities, and, if children in investigated units later present with EBLLs, what follow-up is needed?
8. How to consistently collect cost data to evaluate the relative benefits of the services provided by their programs?

5. BUILD LEAD-SAFE WORK PRACTICE WORKFORCE CAPACITY

This chapter addresses the following questions regarding implementation of Goal Four:

1. How many LSWP training sessions did the grantee sponsor and how many individuals were trained?
2. What have grantees done to encourage individuals to participate in LSWP training? What have grantees done to increase market demand for LSWP-trained contractors
3. What actions have grantees taken to build health department and community capacity to deliver LSWP training?

LSWP Training Accomplishments in Year One

Failure to use LSWP during home renovations and repairs has long been associated with increased risk of lead exposure for young children. New research findings from 2006-2007 NYS environmental investigations associated with children with BLL greater than or equal to 20 µg/dL indicate that 14 percent of these EBLLs related to home renovation, repair, and painting activities.²⁶ This research gives new urgency to the need for expanded LSWP training in the target communities. Grantees funded 36 training sessions and trained 518 individuals using Pilot funds (see Table 5.1.). Erie County trained the most individuals with Pilot funds. Since Monroe County and New York City had pre-existing relationships with other agencies to fund training during Year One, the reported number of individuals trained with Pilot funding most likely underestimates the Pilot's impact on the workforce.

Table 5.1. LSWP Training Sessions and Individuals Trained

	Albany	Erie	Monroe	NYC	Oneida	Onondaga	Orange	West-chester	TOTAL
LSWP training held within the targeted community									
Number of sessions	3	11	1	--	12	--	2	1	30
Number of individuals trained	125	159	18	--	74	--	53	31	460
Other training									
Number of sessions	1	--	--	--	5	--	--	--	6
Number of individuals trained	10	--	--	--	48	--	--	--	58
Trainings sponsored by grantees, but not funded through Pilot**									
Number of individuals trained			1,303	11,000					12,303

*Source: Grantee quarterly reports

** Monroe County and NYC had contracted to fund LSWP training through other programs during Year One. New York City's FY '08 activities to implement its primary prevention law included an MOU with HPD and \$389,000 in funding to support lead-safe work practice training for contractors, building owners and building superintendents. HPD also integrates these classes into its existing housing education program. The Monroe County Health Department and the City of Rochester sponsored LSWP trainings through their ongoing HUD LHC grants.

Most grantees contracted or worked collaboratively with private trainers to offer LSWP training. Outside of New York City, Environmental Education Associates and Cornell Cooperative Extension Services offered the majority of training sessions, most commonly the EPA/HUD approved “Lead Safety for Renovation, Repair, and Painting” Curriculum. Oneida County was the only grantee to fund sessions of EPA-certified Abatement Worker and Supervisor training.

Grantees used a number of strategies to promote demand for the courses (see Table 5.2). Most provided notices and flyers to target property owners or residents, advertised training on their websites, and shared information with other community partners. Erie and Oneida offered evening and weekend sessions. Erie, Oneida, and Westchester also provided incentives (such as plastic sheeting, disposable coveralls, and clean up supplies) if participants completed the training and performed work on their units under review by the grantee. The value of these incentives packages ranged from under \$200 to \$500. Some grantees also offered use of vacuums equipped with High Efficiency Particulate Air (HEPA) filters to participants. Oneida County offered free professional cleaning after the unit was remediated, and provided free dust wipe clearance tests for those who enrolled in the LSWP training.

Table 5.2. Methods Used to Market LSWP trainings

Strategies	Albany	Erie	Monroe	NYC*	Oneida	Onondaga**	Orange	Westchester
Press releases	x				x			
PSA	x				x			
Website (grantee's or training provider's)	x	x	x	*	x			
Notification to community organizations	x	x			x	**		
Flyers/mailings distributed in target community or to target property owners	x	x	x	*	x	**		x
Incentives offered (in addition to free training and refreshments)		x			x			x
Evening and weekend course offerings		x			x			
Information provided through other agency partners		x	x	*	x	**		
Paid for additional sessions of LSWP being offered by other agencies			x			**		

* NYC CLPPP funded LSWP trainings in Year One, but did not use Pilot funds for this effort.

** Onondaga was awaiting contract approval for LSWP trainings at the end of the September: these methods will be implemented in Year Two.

Few grantees reported on the cost to market and deliver trainings. Oneida reported costs of under \$1.00/ building permit issued to cover the costs for distributing pamphlets on LSWP training in clerks' offices; \$14/owner who attended a special workshop to discuss the Pilot and the need for LSWP training; \$70/owner who attended the LSWP training (exclusive of incentives); \$265/worker trained in abatement worker course; and \$415/worker trained in abatement supervisor course.

Grantees reported several challenges to conducting LSWP training:

1. Variations in interest during the year. Spring and summer represent the prime construction season: grantees found that contractors were reluctant to release staff for training during that time. They reported an increase in the number of individuals trained in the last quarter of the year.
2. Difficulty in filling classes. Even when grantees offered incentives to participate, considerably more people registered for training than actually attended. Attrition increased grantees' costs, since contract obligations for space and trainers had to be met whether trainees attended or not.
3. Delays in approval of contracts with trainers. Onondaga County was unable to begin its LSWP trainings in Year One because it needed to offer a Request for Proposal (RFP) for the training, even though these would have been offered as part of the pre-existing cycle of training sponsored by the Syracuse Lead Hazard Control Grant program.
4. Delays related to defining incentives for training. NYSDOH prohibited the use of a generic gift card, so grantees had to determine what supplies to offer, how to oversee distribution, and where to store supplies. These negotiations took time.

To address these issues in FY '09, grantees have begun to consider:

1. Charging a refundable fee for registration;
2. Online registration;
3. Offering more training sessions in the fall and winter;
4. Securing longer-term contracts with trainers;
5. Issuing a certificate for purchase of specific items; and
6. Negotiating agreements with area suppliers to honor those certificates.

Since several grantees' Notice and Demand or equivalent procedures specify the need to use trained and certified workers to perform remediation, grantees may need to give more attention to increasing the abatement and supervisor course sessions in Year Two.

Actions to Increase Market Demand for LSWP-Trained Contractors

No grantee conducted a formal assessment of its community's LSWP training needs. This is not surprising, since most grantees also came from communities with ongoing federal Lead Hazard Control grants, where such an assessment often occurs. However, when EPA-certified contractors were not involved, grantees struggled to describe who did the repairs on units and what training they had. Grantees frequently did not directly oversee the work and had to rely on other parties to provide this information. Of those grantees who did report on the workforce engaged in repairs, the majority reported that both owners and contractors were involved. Far fewer could report whether the workers or owners had received LSWP training. This suggests that in the future, grantees may need to give greater attention to documenting who completed remediation and what training they received.

All grantees built the lead safety message into their media campaigns to announce Pilot activities. Grantee websites carry information about LSWP and their staff routinely distributed pamphlets on lead safety at community events and health fairs.

Several other strategies for generating demand are noteworthy:

1. New York City’s cooperative agreement with HPD assured that information on LSWP was part of HPD’s new homeowner education programs. Erie County established a similar arrangement with their Westside Neighborhood Housing Services program.
2. The New York City media campaign provided flyers and posters in high traffic venues in the target communities. Oneida County used CLPPP funding to support billboards in the target areas.
3. Monroe County had an ongoing media campaign on lead safety, including a 75 minute DVD “Get the Lead Out”, which it promoted in Year One and plans to expand in FY ’09.
4. As noted earlier, Oneida held workshops for landlords at area community colleges and targeted landlords likely to rent to refugees for additional services.
5. New York City’s Healthy Homes Hardware Store Campaign is an educational outreach program aimed at increasing awareness of home health hazards among contractors, building owners, superintendents, and do-it-yourselfers. The campaign provides practical information on environmental hazards in the home, such as lead, mold, pests, and household chemicals. Currently, 395 New York City hardware and paint retail stores are members of the campaign, and participation continues to grow.
6. Oneida County linked LSWP training to workforce development by contracting with its DSS Employment Unit, NYS Workforce Development, and Women’s Resource Center to schedule a training to accommodate low income job-seekers. Attendance at this training counted toward the trainee’s employment search time.
7. Onondaga County explored ways to strengthen the marketing power of LSWP training in want ads. The Syracuse Lead Safe Task Force is considering placing ads in the “Services” section of the local *Pennysaver* weekly newspaper about why LSWP should be used when renovating pre-1978 housing. The Task Force has also proposed that the newspaper’s advertising department add a free tagline to advertisements by contractors who complete the Pilot-funded eight-hour LSWP

Potential Venues for LSWP messages

- Health Dept. websites
- Local media (paid advertisements, DVDs, PSAs, want ads, yellow pages)
- Schools, continuing education programs, parents’ associations
- Social service agencies, WIC centers
- Workforce development and job training centers
- Libraries
- Building Permit Offices
- Hardware stores
- Real estate offices
- Bus stops
- Check cashing stores
- Child care and Head Start centers
- Community centers
- Homeowner education programs
- Refugee resettlement centers

course that states the contractor is trained in LSWP. Thus, when the community looks for contractors, they will readily see two messages: first, who is trained; and second, why this is important.

Other strategies grantees have considered for FY '09 include:

1. Posting links to registries of trained workers on their websites;
2. Streaming DVDs on lead safety on websites;
3. Offering LSWP classes in the target neighborhoods;
4. Expanding media campaigns in the target areas; and
5. Establishing more formal partnerships with community organizations to offer training.

Actions to Build Capacity to Deliver Training

Albany, Erie, Westchester, and Oneida Counties trained Pilot and partner organizations' staff to deliver the eight-hour EPA/HUD-approved "Lead Safety for Renovation, Repair, and Painting" curriculum to community-based organizations and do-it-yourselfers. With this local capacity, the grantees can schedule smaller class sessions at shorter notice when demand is high.

As of 2009, all grantees will face a new challenge. In April 2008, EPA issued its final Renovation, Repair, and Painting Rule, which creates a new certified Renovator curriculum to replace the current LSWP offerings^{xx}. Beginning in April 2009, all trainers for the Renovator course must be accredited through EPA, and the trainees will need to pass third party exams and pay licensing fees. Individuals trained through other LSWP curricula will need to take a four hour 'refresher course' beginning in 2010.

Implications for Program Design

Many units identified in Year One still need remediation. As grantees successfully expand their programs, and as new communities take on the primary prevention challenge, the demand for LSWP trained workers will continue to grow. EPA's implementation of the Renovation, Remodeling, and Painting Rule places new urgency on the development of the appropriate infrastructure to deliver training. At the same time, if the community does not hear, and understand, the need for lead safety in renovation and routine home maintenance, it will not be equipped to demand these skills.

^{xx}For details of the Rule, see <http://www.epa.gov/lead/pubs/renovation.htm>.

New grantees may wish to consider when developing their programs:

1. Do they understand the current demand and supply for LSWP in their community, and who should be their partners in this assessment?
2. Do they have access to the certified trainers needed under the Renovation, Remodeling and Painting Rule, and what can they do to build this access?
3. Do they have partners in the media and community agencies that can build consumer demand for LSWP, especially among the “do-it-yourself” community of property owners?
4. Can they tailor the timing of courses and incentives to suit the different audiences for LSWP: contractors, landlords, tenants, and property maintenance firms?

6. SECURING ADDITIONAL FUNDING FOR LEAD HAZARD CONTROL

Evaluation questions related to Goal Five include:

1. What financing options or agreements with other agencies have grantees identified to help property owners with remediation efforts?
2. In what ways have grantees assisted property owners in the process of applying for funds for remediation efforts? What changes in procedures have grantees made to increase the number of units that qualify for available funding?
3. To what extent have grantees obtained new sources of funding to support lead hazard control in their communities?

Actions that Have Enhanced Property Owners' Access to Funding

In Year One, grantees' efforts to enhance access to funding focused on improving coordination with current Lead Hazard Control (LHC) grant and other housing remediation programs. If a community had a HUD-funded LHC grant, the Pilot referred the property owners to the program, and took steps to expedite completion of the application where possible. Onondaga County has developed and New York City is developing new resource funding directories for property owners; other grantees widely distributed existing materials. Westchester and Orange assisted applicants in their target areas through translation and support for completing the LHC applications. Several grantees with current HUD funding also received FY '09 approval for new grants. Oneida applied for funding and was awarded a grant in February 2009.

Even with HUD LHC control funding, however, grantees reported several obstacles:

1. Successful LHC programs often have a waiting list of pre-qualified units, which makes it difficult for units identified for remediation by the Pilot to qualify for funding and complete remediation in a timely manner.
2. Many LHC grants are perceived as more available to owner-occupied units than to rental properties. Although HUD sets no such restrictions, local grantees may choose to restrict services by property type.
3. The costs of repairs needed may exceed the resources of the grant program, and owners may not qualify for other loans.
4. Owners may be unwilling to take on the forgivable loans that are part of many grant packages.

Grantees mentioned several methods to improve eligibility for existing funding, prevent the resale of units that still need remediation in target areas, or reduce the cost to owners of complying with orders to remediate:

1. Orange County negotiated changes to the County's Community Development funding eligibility criteria to increase the number of properties from target area that were eligible for funding.

2. Orange County is also negotiating with Community Development to cover dust wipe samples in owner-occupied properties.
3. Oneida County secured an agreement with the City of Utica to notify new owners of foreclosed properties when a Notice and Demand is pending.

Grantees also sought to leverage funding for repairs through owners' voluntary compliance. As Chapter 4 described, 98 units with identified LBP were remediated without the issuance of a Notice of Demand or its equivalent. Through their Pilot investigations and LSWP training opportunities, Westchester and Oneida Counties identified several owners of multiple rental properties who voluntarily committed to make their other buildings lead-safe. Oneida County also secured a commitment to rehabilitate 40 units with funding held by the City of Utica and community-based nonprofit organizations.

New York City used its authority under Local Law 1 to refer properties that have not met remediation requirements to its Emergency Repair Program. The City's Department of Housing Preservation and Development makes the repairs through its contractors and its Department of Finance bills the owner for the cost of repairs. If the owner fails to pay the bill within 60 days, the Department of Finance places a lien on the property.

Few grantees reported progress in building new relationships with other sources of federal support, such as CDBG, HOME, and weatherization programs. Westchester and Orange Counties have improved coordination with their CDBG programs; New York City can refer units to the Window Falls Prevention Program. No grantees mentioned increased engagement in the Consolidated Plan process, by which communities must establish targets for use of all federal funding received on a regional basis. These plans, issued every three to five years, must be reviewed annually for operational targets, including how units with high risks for LBP will be addressed.

Another area where few grantees reported progress was in applying for additional state-level funding, such as NYS Energy Research and Development Authority (NYSERDA), the NYS Department of Housing's and Community Renewal's Urban Initiative grants, or Affordable Housing Corporation support. However, most grantees reported closer relationships with their local Neighborhood Housing Services programs, which may be the gateway to such funding in the future.

New Sources of Funding Identified

The Nation's economic crisis has spilled over to New York's state and local governments. No grantee reported a new source of local funding for remediation, such as a local tax credit or local government-funded loan or grant program. In early 2009, the federal government expanded its Neighborhood Stabilization program so that selected cities could apply for grants to use Community Development Block Grant program funds for rehabilitation of foreclosed properties. It is too soon to determine whether this will benefit the Pilot in Year Two, but all Year One Counties were awarded funding under

this program. Grantees also did not report many contacts with community lenders, such as local banks and credit unions.

Grantees reported modest success with securing foundation funding, including grants for equipment, software, and evaluation. The Community Foundation of Greater Buffalo has pledged to help Erie County identify new sources of private remediation funding in future years. Excellus has provided a grant for HEPA vacuums to Oneida for FY '09. The Greater Rochester Health Foundation (GRHF) has funded a one-stop shopping approach to packaging funding (federal, state, and private) for individual properties, using a local community action agency (Action for a Better Community) as the site for this service. In a related initiative, GRHF partnered with city and non-profit agencies to offer grants to rental and owner-occupied units in a five block area of zip code 14621 (one of the high-risk zip codes identified by NYSDOH and covered by the Rochester Lead Ordinance). This three-year program, which provides intensive support for the applicant and also streamlines the application process, may prove a model for future private funding efforts.

Implications for Program Design

Current grantees are well aware of the need for additional resources to support remediation. New grantees, faced with a recession economy, need to balance the desire to achieve results with the recognition that owners may be forced to abandon their properties if they cannot fund the required repairs. Owners' misperception of the costs of remediation could enhance the risk of abandonment. New grantees may need to consider:

1. What housing-based partners need to be part of primary prevention planning from the very beginning? Do grantees understand how housing rehabilitation funding is allocated in their community?
2. Can they document the expected costs of specific lead safe repairs so as to reduce community apprehension?
3. Can they engage more actively in the regional Consolidated Planning process to secure more funding for remediation?
4. What are their prospects for applying, alone or in partnership with other agencies or community-based organizations, for federal, state, or private funding?
5. How can they secure additional revenues to support their operations (such as, recovering costs of repairs through liens or fines)?

7. RECOMMENDATIONS

The data in this report show that the pilot program is successful and should be continued and expanded.

Based on its more than twelve years of experience with lead hazard control research, evaluation, and technical assistance and the lessons grantees drew from their first year of implementation, NCHH has the following recommendations:

1. Use Public Health Law Section 1370(a)(3) to designate high-risk areas and to expand designation to other areas as local conditions warrant, unless a local jurisdiction already has such authority. This will streamline primary prevention investigations.
2. Conduct inspections at owner or resident request in the county's other high-risk zip codes designated by the state, even if the program chooses to focus the bulk of its efforts in a particular zip code, to ensure that all high-risk areas benefit from the Pilot.
3. Expand mapping efforts by integrating lead poisoning prevention data with other health data such as childhood injury and asthma prevalence data. This may identify future partners for prevention and increase understanding of the health issues associated with the housing in the high-risk zip codes. For those communities that lack a Healthy Neighborhoods Program, it may provide the impetus for developing this resource.
4. Allow sufficient time to expand existing or build new relationships with community-based organizations and local agency partners. Increase efforts to engage community-based organizations in the target areas in outreach and recruitment.
5. Cross-train staff from all programs that conduct home visits in lead poisoning primary prevention issues. Staff from other programs can complete training for visual assessments of deteriorated paint and provide referrals to the Pilot for follow-up.
6. "Close the loop" on referrals so agencies that refer units into the Pilot also know the outcomes for their clients and what additional steps they could take to support prevention activities.
7. Address obstacles to gaining entry for investigations posed by property owners' resistance through approaches such as:
 - a. Using incentives for LSWP training and remediation;
 - b. Engaging landlord/rental property associations in how to address landlords' concerns about costs;
 - c. Framing the issue of lead poisoning in human terms: stress the physical, social, and emotional costs to the child and the community of lead poisoning.

8. Address obstacles to gaining access to units by gaining resident cooperation through approaches including:
 - a. Beginning education with issues of greatest concern to the resident, even if they are not lead-related. Provide appropriate lead-safe incentives (such as cleaning supplies) during home visits.
 - b. Reinforcing tenant protection messages and providing referrals to local tenants' rights or legal services organizations.
 - c. Using culturally diverse and mixed gender teams when conducting home visits to reduce residents' apprehension about letting strangers into the home.
9. Address obstacles to re-entry for the purposes of investigation. Even if the purpose of home visits is education, an inspector should be on standby to conduct an inspection if the resident gives consent. This will reduce the number of visits made to the home.
10. Consider requiring a dust wipe test in units that do not have deteriorated paint, in order to assure that the units is lead-safe.
11. Reduce delays in remediation by exploring additional administrative strategies, such as Housing Courts, or agreements with local code enforcement offices, prosecutors, and judges. Ensure swift referral to the Pilot for investigations when lead hazards are suspected or identified and rapid citation of deteriorated paint when housing code violations are identified.
12. Explore ways to make LSWP training more attractive to contractors and property owners by using incentives, scheduling training at convenient times, and building community demand for these services.
13. Increase efforts to coordinate with other public or private housing programs that fund or require lead-related repairs to keep pace with the demand the Pilot is expected to generate. Strategies may include:
 - a. Establishing agreements to give units identified by the Pilot high priority in funding with agencies that administer Community Development Block Grants (CDBG), Housing Choice Vouchers (Section 8), weatherization, and other state and federally-funded programs.
 - b. Allocating Pilot funding for outreach staff to assist property owners with completing applications for available federal, state, and local funding, such as CDBG and NYS Energy Research and Development Authority's programs for energy conservation and renovation.
 - c. Approaching local housing programs, community development corporations, and lenders about establishing a "one-stop shopping" site for grant and loan programs that can fund lead hazard reduction for rental and owner-occupied units.

APPENDIX A – AUTHORITIES AND PROCEDURES

New York State has undertaken a number of initiatives to advance the national 2010 goal of eliminating childhood lead poisoning. In 2004, the New York State Department of Health (NYSDOH) published its strategic plan for the elimination of childhood lead poisoning in New York State by 2010. This plan, which covers upstate New York and complements the New York City strategic plan²⁷ “...serve[s] as a roadmap to guide the work of the Department and partner organizations statewide in efforts to eliminate childhood lead poisoning over the next five years.”²⁸

The bulk of the 2004 State Plan’s initiatives expanded and strengthened surveillance and secondary prevention initiatives, including improvements in screening, and vigorous investigation and remediation of LBP hazards in the dwellings where children with EBLs resided or spent significant periods of time. It also highlighted strategies to improve education for families whose children might be exposed to LBP hazards, build community awareness, and strengthen local coalitions to support for further prevention activities.

New York State Public Health Law section 1370(c), and the regulatory language in 10 C.N.Y.R.R. 67-1.2 requires all health care providers to conduct blood-lead screening tests on all children at or around one year of age and again at or around age two. Health care providers also must assess all children aged six to 72 months at least once annually for risk of lead exposure and to order blood-lead tests for all children found to be at risk based on those assessments. Local health departments must inspect for LBP hazards in all housing units where children with sustained BLLs of 20 µg/dL or greater reside. This investigation includes an exterior and interior visual assessment for deteriorated paint, administration of a comprehensive questionnaire to assess child risk factors for exposure, and sampling of paint, soil, and other media as required. Property owners receive a Notice and Demand (N&D) as outlined in NYS Public Health Law Section 1373 (3), that lists the lead hazards identified. The N&D specifies that an owner correct the conditions conducive to lead poisoning within a fixed number of days as defined by the LHD (typically 30 days) and should use lead safe practices and/or knowledgeable workers to conduct the work and achieve clearance after work is completed to demonstrate that no hazards remain. Failure to comply with the N&D on a timely basis results in referral for prosecution. All of these important measures are best characterized as “secondary prevention,” because action occurs only after a child’s blood-lead level has become elevated over the federal level of concern.

In addition to these measures, the State’s 2004 strategic plan called for more intensive primary prevention strategies to reduce children’s exposure to lead:

...There is increasing consensus among researchers, health care providers, and policymakers that primary prevention strategies must be strengthened to achieve elimination of childhood lead poisoning. Educational strategies related to exposure avoidance and improved nutrition have been demonstrated to contribute to primary prevention, but alone are not

sufficient to prevent lead poisoning. Residential lead hazard control measures, ranging from improved cleaning techniques to interim containment measures to complete lead abatement, are regarded as the most critical components of primary prevention. Communities with more rigorous lead remediation laws, and more stringent enforcement of those laws, can be both cost-effective and successful at breaking the cycle of lead exposure and reducing blood-lead levels among at-risk children.²⁹

New York City's policy differs from the above in that environmental intervention and case coordination services are triggered by blood-lead levels greater than or equal to 15 µg/dL. Rather than the Notice and Demand procedure, the City uses its authority under NYC Health Code and issues a Commissioner's Order to Abate (COTA), requiring abatement of lead hazards using lead-safe work practices, trained workers, and dust wipe clearance testing. Failure to comply with the COTA triggers enforcement action, including fines, and referral to the Department of Housing Preservation and Development's Emergency Repair Program (ERP). Work performed by the ERP is then billed to the landlord.

The City of Rochester and New York City are two jurisdictions in the Pilot that have local lead ordinances mandating remediation of LBP hazards. (The City of Syracuse is considering such an ordinance.) Key elements of the two cities' ordinances as they apply to Pilot activities are described below.

In 2004, New York City revised its Childhood Lead Poisoning Prevention Act, known as Local Law 1, to require landlords of three or more units built before 1960 – the year New York City banned lead paint – or between 1960 and 1978 if the landlord knows that the building has lead paint, to identify and annually fix LBP hazards in every apartment occupied by a child under six or at each apartment's turnover, whichever occurs first. Owners of one- and two-unit family homes must fix LBP hazards at turnover. Landlords must use lead-safe work practices and trained workers for any work disturbing LBP. New York City's Department of Housing Preservation and Development (HPD) is the primary enforcement agency for Local Law 1. Each year the landlord is required to determine whether there is a child under six years of age living in each apartment. If so, the landlord must inspect for and safely repair any LBP hazards. If hazards are not repaired, tenants can call New York City's 311 complaint hotline to request an HPD inspection. HPD will inspect and order the landlord to safely repair identified LBP hazards.

Under the Primary Prevention Pilot, when the Newborn Home Visiting Program (NHVP) staff finds peeling paint during a home visit, they refer the home to the Lead Program. EPA-certified risk assessors from the Lead Program conduct an environmental inspection that includes XRF paint testing. The risk assessor tests non-intact painted surfaces in fair or poor condition and all painted window sills, regardless of condition. The family receives educational information on lead poisoning prevention, including information on Local Law 1, and a brochure on lead poisoning. Educational materials are available in multiple languages. If the Lead Program identifies LBP hazards, it issues a Commissioner's Order to Remediate Nuisance (COTR) and mails the COTR to the

landlord or owner, along with instructions and guidance on how to do the work. The landlord/owner must hire an EPA-certified firm with workers who have EPA/HUD-approved lead-safe work practices training or EPA certified abatement worker training to perform the remediation. In keeping with the requirements under Local Law 1, the landlord/owner must complete the remediation of the violations within 21 days of receipt of the COTR. The inspector will re-inspect the home to determine compliance. The landlord/owner must submit dust wipe clearance tests after satisfactory remediation of the violations. If the landlord/owner fails to comply with the COTR within the 21-day timeframe, the Lead Program refers the home to the Emergency Repair Program (ERP) of the HPD to make the repairs. The landlord is billed for the service via tax lien.

In July 2006, the City of Rochester's "Lead-Based Paint Poisoning Prevention" law (Municipal Code of the City of Rochester Ordinance 2006-37) went into effect. This law covers most rental properties in the City; nearly 60 percent of occupied City housing is rental. Under the Ordinance, inspectors look for deteriorated paint in housing units at the time of the regular Certificate of Occupancy inspection or if the unit receives funding through the TANF (Temporary Assistance for Need Families) program. Under Section §90-55 and in Section 3, high-risk areas can be defined using data collected by the Monroe County Department of Public Health on children with elevated blood-lead levels and properties identified as having LBP hazards. An inspection may also be initiated in response to a tenant, neighborhood group, or medical doctor request.

As part of the inspection, a City inspector performs a standardized visual inspection for deteriorated paint and bare soil. All units inspected within these high-risk areas include a visual assessment for deteriorated paint above federal *de minimis* levels on the interior and exterior. If the visual inspection finds bare soil or deteriorated paint exceeding the *de minimis* levels, a 30-Day Hazard Notice and Order is issued to the property owner. The property owner must contact the City of Rochester within seven days and provide a work schedule within one week of this contact. All tenants must be notified no less than three days prior to the start of lead hazard control activities. All deteriorated paint in pre-1978 housing is assumed to contain lead, unless additional testing at the owner's expense proves otherwise. Owners must fix deteriorated paint using lead-safe work practices. For situations involving interior deteriorated paint violations, clearance testing must be provided by a third-party, EPA-certified Risk Assessor or Lead Inspector before the citations on the property can be removed.

Units that pass the visual inspection in the high-risk areas must have additional dust wipe sampling. Property owners may receive a citation for a Lead Dust Sample violation if they fail to have dust samples taken on a timely basis or fail to submit the certified test results to the City's NET Lead Inspection Unit. (For the Lead-Safe Saturday units, the Pilot has an inspector return to the unit to do the sampling and absorbs the costs of the dust wipe testing.) If more than 50 percent of the wipe samples exceed EPA standards or if any one dust wipe contains a lead level greater than twice the EPA standard, a 30-Day Hazard Notice and Order is issued immediately for a Lead Dust Hazard Violation. If fewer than 50 percent of the samples fail, and none are twice the EPA standard, a second

sampling cycle is performed on the area that failed. Any failure on this second cycle results in the issuance of a Notice and Order for a Lead Dust Violation.

APPENDIX B – ADDITIONAL DATA TABLES

Analyses of unit-based data were conducted based on the following rules:

1. Include only activities that occurred before September 30, 2008 (e.g., if a unit was investigated before September 30 but cleared of hazards after that date, the unit was included in analyses related to the investigation but not in analyses related to clearance; if both the home visit and investigation occurred after September 30, that unit was excluded from all the analyses).
2. Include only those units where the Pilot reported funding investigations in the units. Activities performed by partners or referral agencies that did not receive Pilot funding were not supposed to be included in the data set.
3. Exclude cases as missing if the unit lacks data for any one variable in a set of comparisons (e.g., if a unit was identified as having a clearance, but no hazards were reported as identified in the unit, then the clearance was treated as missing for discussion of units with hazards that had received clearance).
4. For cases where the grantee could report both the occurrence or nonoccurrence of an activity and also the date when it occurred, “no” answers were recoded as “yes” if a date was also provided.
5. For table cells that did not apply to a particular grantee, “—” was used to show that the cell did not apply (e.g., if the grantee had no units that were cleared of hazards and the cell described the length of time to clear hazards). Dashes were also used in some cases where data were missing in order to distinguish absence from a valid zero.

Table B-1. Number and Percentage of Units Investigated As a Result of Different Initiatives, by County and Total *

Initiative	Albany	Erie	Monroe	NYC	Oneida	Onondaga	Orange	Westchester	TOTAL
Planned program outreach and canvassing visit	45 (73.8)	33 (49.3)	286 (100)	0	15 (100)	18 (14.4)	16 (34.0)	389 (76.6)	802 (61.6)
Property owner request	13 (21.3)	3 (4.5)	0	0	0	2 (1.6)	0	2 (0.4)	20 (1.5)
Tenant request	2 (3.3)	8 (11.9)	0	0	0	82 (65.6)	3 (6.4)	23 (4.5)	118 (9.1)
Referral from Healthy Neighborhoods or Maternal Child Health Outreach visit	0	4 (6.0)	0	193 (100)	0	3 (2.4)	26 (55.3)	71 (14.0)	297 (22.8)
Referral from Housing Code, HQS, or Section 8 inspection	0	9 (13.4)	0	0	0	5 (4.0)	1 (2.1)	0	15 (1.2)
Other referral	1 (1.6)	10 (14.9)	0	0	0	15 (12.0)	1 (2.1)	23 (4.5)	. 50 (3.8)
Total	61	67	286	193	15	125	47	508	1,302

*Source: Unit-based data

Table B-2. Procedures Used in All Investigations, in Units with Hazards, and in Units Cleared of Hazards during Year One, by County and Total *

Procedures	Albany	Erie	Monroe	NYC	Oneida	Onondaga	Orange	Westchester	TOTAL
All Investigations									
Visual assessment only	0	47 (68.1)	232 (81.7)	7 (3.6)	0	0	5 (9.8)	445 (84.8)	736 (55.5)
Visual assessment with XRF of paint	17 (27.9)	0	0	186 (96.4)	0	125 (100)	46 (90.2)	79 (15.0)	453 (34.2)
Visual assessment with dust wipes	0	0	52 (18.3)	0	17 (100)	0	0	0	69 (5.2)
Lead risk assessment as defined by HUD protocol	43 (70.5)	22 (31.9)	0	0	0	0	0	0	65 (4.9)
Other	1 (1.6)	0	0	0	0	0	0	1 (0.2)	2 (0.2)
Total	61	69	284	193	17	125	51	525	1,325
Investigations of Units with Hazards during Year One									
Visual assessment only	0	41 (65.1)	149 (90.3)	0	0	0	0	68 (58.6)	258 (38.2)
Visual assessment with XRF of paint	16 (30.2)	0	0	104 (100)	0	115 (100)	43 (100)	48 (41.4)	326 (48.3)
Visual assessment with dust wipes	0	0	16 (9.7)	0	16 (100)	0	0	0	32 (4.7)
Lead risk assessment as defined by HUD protocol	36 (67.9)	22 (34.9)	0	0	0	0	0	0	58 (8.6)
Other	1 (1.9)	0	0	0	0	0	0	0	1 (0.1)
Total	53	63	165	104	16	115	43	116	675
Investigations of Units with Hazards Cleared during Year One									
Visual assessment only	0	--	6 (60)	0	--	0	--	63 (92.6)	69 (38.3)
Visual assessment with XRF of paint	4 (33.3)	--	0	67 (100)	--	23 (100)	--	5 (7.4)	99 (55)
Visual assessment with dust wipes	0	--	4 (40)	0	--	0	--	0	4 (2.2)
Lead risk assessment as defined by HUD protocol	8 (66.7)	--	0	0	--	0	--	0	8 (4.4)
Other	0	--	0	0	--	0	--	0	0
Total	12	--^a	10	67	--^a	23	--^a	68	180

*Source: Unit-based data

^a No homes were reported cleared of hazards in Erie, Oneida, or Orange counties.

Table B-3. Characteristics of Units Investigated*

Characteristics of units investigated	Albany	Erie	Monroe	NYC	Oneida	Onondaga	Orange	Westchester	TOTAL
Number (Percentage) of investigations in units of different types									
Building type (if occupied)									
Owner-occupied	3 (5.0)	18 (27.7)	129 (46.4)	0	7 (41.2)	6 (4.8)	4 (8.3)	34 (6.5)	201 (15.4)
Rental, 1-2 units	44 (73.3)	39 (60.0)	132 (47.5)	21 (10.9)	10 (58.8)	94 (75.2)	12 (25.0)	17 (3.3)	369 (28.2)
Rental, 3+ units	13 (21.7)	8 (12.3)	14 (5.0)	172 (89.1)	0	25 (20.0)	27 (56.3)	464 (88.7)	723 (55.2)
Rental, unknown # units	0	0	3 (1.1)	0	0	0	5 (10.4)	8 (1.5)	16 (1.2)
Total	60	65	278	193	17	125	48	523	1,309
Year of construction (if age is known)									
Pre-1950	1 (100)	69 (100)	242 (97.6)	128 (66.3)	15 (93.8)	122 (100)	46 (90.2)	12 (52.2)	635 (87.8)
1950-1978	0	0	6 (2.4)	61 (31.6)	1 (6.3)	0	5 (10.0)	11 (47.8)	84 (11.6)
Post-1978	0	0	0	4 (2.1)	0	0		0	4 (0.6)
Total	1	69	248	193	16	122	51	23	723
Number (Percentage) of units with hazards in each type of building									
Building type (if occupied)									
Owner-occupied	3 (5.8)	14 (23.7)	69 (43.7)	0	7 (43.8)	5 (4.3)	4 (9.8)	3 (2.6)	105 (15.9)
Rental, 1-2 units	38 (73.1)	38 (64.4)	81 (51.3)	17 (16.3)	9 (56.3)	87 (75.7)	11 (26.8)	2 (1.8)	283 (42.9)
Rental, 3+ units	11 (21.2)	7 (11.9)	5 (3.2)	87 (83.7)	0	23 (20.0)	22 (53.7)	107 (93.9)	262 (39.8)
Rental, unknown # units	0	0	3 (1.9)	0	0	0	4 (9.8)	2 (1.8)	9 (1.4)
Total	52	59	158	104	16	115	41	114	659
Year of construction (if age is known)									
Pre-1950	1 (100)	63 (100)	138 (97.2)	93 (89.4)	14 (93.3)	114 (100)	39 (90.7)	5 (100)	467 (95.9)
1950-1978	0	0	4 (2.8)	10 (9.6)	1 (6.7)	0	4 (9.3)	0	19 (3.9)
Post-1978	0	0	0	1 (1.0)	0	0	0	0	1 (0.2)
Total	1	63	142	104	15	114	43	5	487

* Source: Unit-based data

Table B-4. Investigation Results, by Grantee and Total, from Grantees' Quarterly Reports *

Investigation data	Albany	Erie	Monroe	NYC	Oneida	Onondaga	Orange	Westchester	TOTAL
Number of lead-based paint or lead dust hazard investigations completed by pilot program	61	83	284	194	15	125	89	663	1,514
Number of investigations that found existing or potential LBP hazards	51	71	165	105	9	115	61	122	699
Number of units that achieved clearance	6	1	32	70	0	38	0	68	215

*Source: Quarterly Reports

Table B-5. Investigation Results, by Grantee and Total, from Unit-Based Data in ACCESS *

Investigation data	Albany	Erie	Monroe	NYC	Oneida	Onondaga	Orange	Westchester	TOTAL
Number of lead-based paint or lead dust hazard investigations	61	69	286	193	17	125	51	529	1,331
Number (and percentage) of investigations that found hazards	53 (87)	63 (91)	165 (58)	104 (54)	16 (94)	115 (92)	43 (84)	116 (22)	675 (51)
Number (and percentage) of units with hazards that achieved clearance	12 (23)	0 (0)	10 (6)	67 (64)	0 (0)	23 (20)	0 (0)	68 (59)	180 (27)

*Source: Unit-based data

Table B-6. Children Age 6 and Under Directly Affected by the Home Visits and Investigations *

Activity involving children	Albany	Erie	Monroe	NYC	Oneida	Onondaga	Orange	Westchester	TOTAL
Housing units investigated that had any children age 6 or under	61	49	136	235	15	114	66	144	820
Children living in units investigated	98	87	252	235	31	191	132	263	1,289
Children referred for blood-lead level test	47	31	89	235	23	62	26	69	582

*Source: Quarterly reports

Table B-7. Children Age 6 and Under Directly Affected by the Home Visits and Investigations *

Activity involving children	Albany	Erie	Monroe	NYC	Oneida	Onondaga	Orange	Westchester	TOTAL
Number (and percentage) of all <u>housing units investigated</u> that had any child age 6 or younger	61 (100)	41 (61.2)	64 (30.8)	193 (100)	15 (93.8)	114 (91.2)	36 (90.0)	141 (31.2)	665 (57.2)
Number of children living in units <u>investigated</u>	100	73	97	193	33	191	72	198	957
Number (and percentage) of all <u>housing units with hazards</u> that had any child age 6 or younger	53 (100)	40 (65.6)	35 (32.1)	104 (100)	14 (93.3)	107 (93.0)	31 (91.2)	35 (71.4)	419 (77.6)
Number of children living in a unit where a <u>hazard</u> was found	88	72	59	104	31	181	63	51	649
Number of children living in units with <u>hazards</u> who were referred for BLL	50	26	23	104	23	59	8	1	294
Number (and percentage) of all <u>housing units cleared of hazards</u> that had any child age 6 or younger	12 (100)	-- ^a	1 (14.3)	67 (100)	-- ^a	22 (95.7)	-- ^a	2 (50)	104 (92.0)
Number of children living in a unit that was <u>cleared</u> of hazards	16	--	1	67	--	39	--	3	126
Number of children living in units <u>cleared</u> of hazards who were referred for BLL	16	--	1	67	--	37	--	0	121

- Source: Unit-based data

Note: Percentages are based on all units for which information about the presence or absence of children was provided. The number of units with children and the number of children in those units may be greater than the number reported.

^a No homes were reported cleared of hazards in Erie, Oneida, or Orange counties.

Table B-8. Mean (and *Median*) Number of Days between Investigation and Clearance of Hazards under Different Conditions, by County and Total *

	Albany	Monroe	NYC	Onondaga	Westchester	TOTAL
All units	31.8 26 (N=12)	48.6 34 (N=8)	87.4 81 (N=67)	80.7 81 (N=23)	270 279 (N=68)	150.1 105 (N=178)
Analyzed by whether unit had N & D or other administrative action						
With N & D or other administrative action	31.8 26 (N=12)	34.5 23 (N=6)	87.4 81 (N=67)	80.7 81 (N=23)	270 279 (N=68)	151.5 105 (N=176)
Without N & D or other administrative action	--	91.0 91 (N=2)	--	--	--	91 91 (N=2)
Analyzed by Occupancy						
Owner-occupied	--	62.8 60 (N=4)	--	95.5 96 (N=2)	--	73.7 105 (N=6)
Renter-occupied or vacant	31.8 26 (N=12)	34.5 34 (N=4)	87.4 81 (N=67)	79.2 77 (N=21)	270.0 279 (N=68)	153.5 105 (N=172)
Analyzed by Who Was Involved in Remediation Work						
Owner alone	31.8 26 (N=12)	--	--	71.6 81 (N=9)	--	48.8 50 (N=21)
EPA-certified abatement contractor	--	--	87.4 81 (N=67)	--	278.5 279 (N=65)	181.5 219 (N=132)
Other	--	--	--	84 77 (N=13)	85.7 105 (N=3)	84.3 80 (N=16)

*Source: Unit-based data

Note 1: Erie, Oneida, and Orange did not meet the criteria for inclusion in this analysis, that is, dates for investigation and clearance.

Note 2: “—” means no units met the criteria for inclusion in that cell or data were missing

APPENDIX C - WESTCHESTER COST BENEFIT ANALYSIS

Local Costs

Local cost of one ER visit for asthma	\$945	(1)
Local cost of one hospitalization for asthma	\$4,320	(7)
Local cost of one chelation treatment	\$15,000	(7)
Local cost of one lead poisoned child/year	\$9,800	(7)
Local cost of minor burn treatment	\$2,100	(1)
Local cost of major burn treatment	\$210,000	(1)
Local cost of one CO treatment	\$10,500	(1)

HNP Cost per Household

a. Total actual spending 05-06:	\$284,200	
b. Total one-time costs:	0	
c. Total recurring costs (a - b)	\$284,200	
d. Total households accessed, initial home visits	704	(3)
e. Total household, initial interviews, non-home visit	0	(3)
f. Total revisits in 06-07 to households (including dwellings where an initial visit took place in a prior grant cycle)	747*	(3)
g. Total households receiving services (d + e + f)	1565*	
h. Total cost per unduplicated household visited (c ÷ f)	\$181.60/HH*	

Cost per Visit (2)

a. Total recurring costs:	\$284,200	
b. Total initial home visits	704	(3)
c. Total follow-up and asthma re-visits	497*	(3)
d. Total periodic revisits	250*	(3)
e. Total visits	1478*	(3)
f. Total cost per field visit (a ÷ e)	\$181.60/HH*	

Asthma

a. Number of asthma ER visits/asthmatic, 2Q baseline	4.50	(3)
b. Number of asthma ER visits/asthmatic, 4Q @ revisits	3.20	(3)
c. Reduction in ER visits/asthmatic (a - b)	1.30	
d. Number asthmatics revisited, 4Q	129	(3)
e. Reduction in ER visits in 4 Q (c X d)	167	
f. Local cost of one ER visit	\$945	(1)
g. Savings in ER visit costs, (e X f)	\$157,240	
a. Number of hospitalizations/asthmatic, 2Q baseline	5	(3)
b. Number of hospitalizations/asthmatic, 4Q revisits	1	(3)
c. Reduction in hospitalizations/asthmatic (a - b)	4	
d. Number asthmatics revisited, 4Q	129	(3)
e. Reduction in hospitalizations in 4Q, (c X d)	516	
f. Local cost of one asthma hospitalization	2310	(1)
g. Savings in hospitalizations, 4Q (e X f)	66,564	

Fires, Carbon Monoxide

a. Number of residential fires	1188	(4)
b. Projected fire deaths	2.75	(4)
c. Fire deaths reported	0	(3)
d. Possible fire deaths prevented	2.75	
a. Number of CO deaths in target census tracts, 1-4Q	0	
b. Savings from the above:	Inestimable	
a. Number of smoke detectors distributed	17	(3)
b. Savings per smoke detector	\$69	(5)
c. Total savings from smoke detectors	\$1,173	

Lead Poisoning Prevention

a. Number of children referred for lead screening	122	(3)
b. Projected lead poisonings averted (a X .029)	3.538	(6)
c. Government cost for one lead poisoned child/year	\$1,152,900	(2)
d. Savings/year due to lead poisoning prevention (a X c)	\$878,850	
e. Local medical cost of one chelation treatment	\$15,000	(7)
f. Savings from chelation treatments (b X e)	\$53,070	

(1) Based on telephone survey of local hospitals. (increase of 5% as compared to past 5 years)

(2) Annual WCDH grant funding for Childhood Lead Poisoning Prevention Program divided by total number of lead poisoned children.

(3) WCDH FFY 2004-2005 Annual Report statistics.

(4) National Fire Protection Association 2005 Report by Michael Karter Jr. Estimated figures for Average 2001-2005 Fire Experience by size of community.

(5) \$69: Per National Center for Injury Prevention & Control, CDC

(6) 0.029%: Per WCDH 2004 Databook Table 81 Childhood Lead Poisoning Prevention Program

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