

New York City Childhood Lead Poisoning Prevention Program

Annual Report 2002



New York City Department of Health and Mental Hygiene

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*New York City
Department of Health and Mental Hygiene*



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April 2004

Acknowledgments

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For copies of this report and/or more information about the Lead Poisoning Prevention Program of the New York City Department of Health and Mental Hygiene:

Call 311 and ask for the Lead Poisoning Prevention hotline.

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Suggested citation for this publication:

New York City Childhood Lead Poisoning Prevention Program, Annual Report 2002. New York: New York City Department of Health and Mental Hygiene, April 2004.

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Executive Summary

About This Report

This report describes childhood lead poisoning in New York City (NYC) in 2002. The report charts progress since 1995, when New York State mandated the reporting of all blood lead test results. It also summarizes the activities and accomplishments of the Lead Poisoning Prevention Program (LPPP) of the NYC Department of Health and Mental Hygiene (DOHMH). The DOHMH provides services to all lead-poisoned children less than 18 years of age. Thus, except where indicated, data presented in the report pertain to children less than 18 years of age. The DOHMH is committed to providing community members, policy makers and health professionals with information on the health status of NYC residents. This report is an example of that commitment.

Significant Progress

Over the past 30 years, New York City (NYC) has made significant progress in preventing childhood lead poisoning. Both the number of cases and the severity of cases have decreased dramatically.

- In 2002, 4,876 NYC children were newly identified with elevated blood lead levels, as compared with 21,575 children in 1995, a 77% decrease. An elevated blood lead level (BLL) is defined as a BLL greater than or equal to 10 micrograms of lead per deciliter of blood (≥ 10 $\mu\text{g}/\text{dL}$).
- In 2002, 628 NYC children had blood lead levels greater than or equal to the Environmental Intervention Blood Lead Level

(EIBLL), as compared with 1,709 children in 1995, a 63% decline. The EIBLL is defined as a blood lead level greater than or equal to 20 $\mu\text{g}/\text{dL}$, or two blood lead levels of 15–19 $\mu\text{g}/\text{dL}$ from tests taken at least three months apart.

Despite this dramatic progress, childhood lead poisoning remains an important public health problem. Children with elevated blood lead levels are at risk for learning and behavioral problems, reduced intelligence, and other adverse health effects. These effects may persist long after a child's blood lead level is reduced. Preventing exposure to lead is the only effective way to ensure that children do not suffer long-term consequences of lead poisoning.

Sources of Lead Exposure

Lead paint and lead dust in housing remain the primary sources of childhood lead poisoning in NYC.

- **In 2002**, LPPP found deteriorating or peeling paint in the homes or supplementary addresses of 66% of EIBLL cases and ordered lead paint abatement in 509 dwellings.

The proportion of EIBLL children for whom no lead paint hazards are identified has increased. Between 1995 and 2002, the percent of EIBLL children with no peeling or deteriorating lead paint identified in their homes increased from 23% to 34%.

Non-paint sources of lead include lead-glazed pottery and imported food, spices, cosmetics and traditional medicines that are sometimes contaminated with lead. These products are most often used by foreign-born families. Immigrant children and pregnant women also may have been exposed to lead in their country of origin. Other potential lead sources include lead-contaminated soil, as well as hobbies and jobs of family members. Controlling these exposures requires different strategies than those employed for lead paint.

Childhood Lead Poisoning in NYC

Early detection of lead poisoning through blood lead testing is essential to protect individual children from additional lead exposure and to identify high-risk communities that should be targeted for intensive lead poisoning prevention activities. Blood lead testing is generally the only way to identify lead-poisoned children because most children with elevated BLLs have no clinical symptoms.

New York State requires that children be tested for lead poisoning at both 1 and 2 years of age. Children at high risk of lead poisoning should be screened up to 6 years of age.

- **In 2002**, 63% of 1-year-old and 54% of 2-year-old children were tested.

Although lead poisoning can affect children of all ages, races and income groups, children less than 3 years of age who live in older, deteriorated housing have an increased risk of exposure to lead. Children of color are disproportionately affected by lead poisoning.

In 2002, of the 628 children with EIBLLs:

- 82% lived in homes built before 1950.
- More than 50% lived in just 9 of 42 NYC neighborhoods. The highest concentration of cases was found in Brooklyn.
- 51% were less than 3 years old, and another 32% were between 3 and 6 years of age.
- 91% were African-American, Hispanic or Asian.
- 22% were foreign-born, as compared to 14% of all NYC children.

Lead Poisoning Prevention Program

The LPPP's mission is to prevent and control childhood lead poisoning. To achieve this goal, LPPP has developed comprehensive, proactive strategies targeting communities and populations at highest risk of lead poisoning.

In 2002, LPPP:

- Intensified its public education and outreach to promote prevention and early detection.
- Implemented new strategies to improve care coordination and environmental intervention for lead-poisoned children.
- Enhanced its collaborations with the NYC Department of Housing Preservation and Development to reduce lead paint hazards in high-risk housing.
- Spearheaded new data sharing partnerships

with health and housing partners aimed at increasing medical screening and community lead paint risk reduction activities.

- Published “Surveillance of Childhood Lead Poisoning In New York City,” a reference report on trends in NYC childhood lead poisoning from 1995–2000.
- Issued its first annual report, “Preventing Lead Poisoning in New York City,” describing NYC childhood lead poisoning in 2001 and profiling LPPP activities and accomplishments for that year.

Strategies for Continued Progress

New York City has made great progress in reducing childhood lead poisoning. These gains have resulted from proactive interventions aimed at reducing and controlling lead sources in the city. Continued success will require new, creative strategies as well as continued implementation of successful programs designed to:

- Utilize surveillance data to identify high-risk populations and target prevention programs to those groups.
- Eliminate or reduce lead paint hazards in housing.
- Improve blood lead screening for children.
- Identify and remove exposure to non-paint lead sources.
- Increase culturally and linguistically appropriate outreach to immigrant populations.
- Expand collaborations with community-based groups, housing organizations, medical providers and agencies concerned with children’s health.
- Promote lead poisoning prevention in pregnant women.

Together these initiatives will help us reach the national goal of eliminating childhood lead poisoning by 2010.

Progress in Preventing Childhood Lead Poisoning in New York City, 2002

Lead poisoning is a preventable public health problem. Exposure to lead can result in long-lasting neurological damage that may be associated with learning and behavior problems and lowered intelligence. Research suggests that even blood lead levels less than 10 µg/dL may affect normal neurologic development.

The Lead Poisoning Prevention Program (LPPP) of the New York City Department of Health and Mental Hygiene (DOHMH) was established in 1970. The LPPP's mission is to prevent childhood lead poisoning, promote blood lead testing, and provide intervention services for lead-poisoned children and their families.

Since 1970, New York City (NYC) has made significant progress. Both the number of lead poisoning cases and the severity of cases in children less than 18 years of age have decreased. This success is largely attributable to government

regulations introduced over the past 4 decades that:

- Prohibit the use of lead in paint, gasoline, and other consumer products.
- Require remediation of lead paint hazards in older housing.
- Promote early identification of children with elevated blood lead levels (BLLs).

New York City was at the forefront of this effort when, in 1960, it banned the use of lead paint in homes. This is 18 years before the 1978

Important Definitions in This Report

Elevated blood lead level is defined as a blood lead level (BLL) greater than or equal to (\geq) 10 micrograms of lead per deciliter of blood ($\mu\text{g}/\text{dL}$) (Table A-1). This definition is consistent with the U.S. Centers for Disease Prevention and Control (CDC) recommendations.

Environmental Intervention Blood Lead Level (EIBLL) is defined as a venous BLL that is greater than or equal to (\geq) 20 $\mu\text{g}/\text{dL}$, or two BLLs of 15–19 $\mu\text{g}/\text{dL}$ from tests taken at least 3 months apart. Children with EIBLLs receive environmental intervention and case coordination from LPPP (Table A-1). This intervention level is also consistent with CDC recommendations.

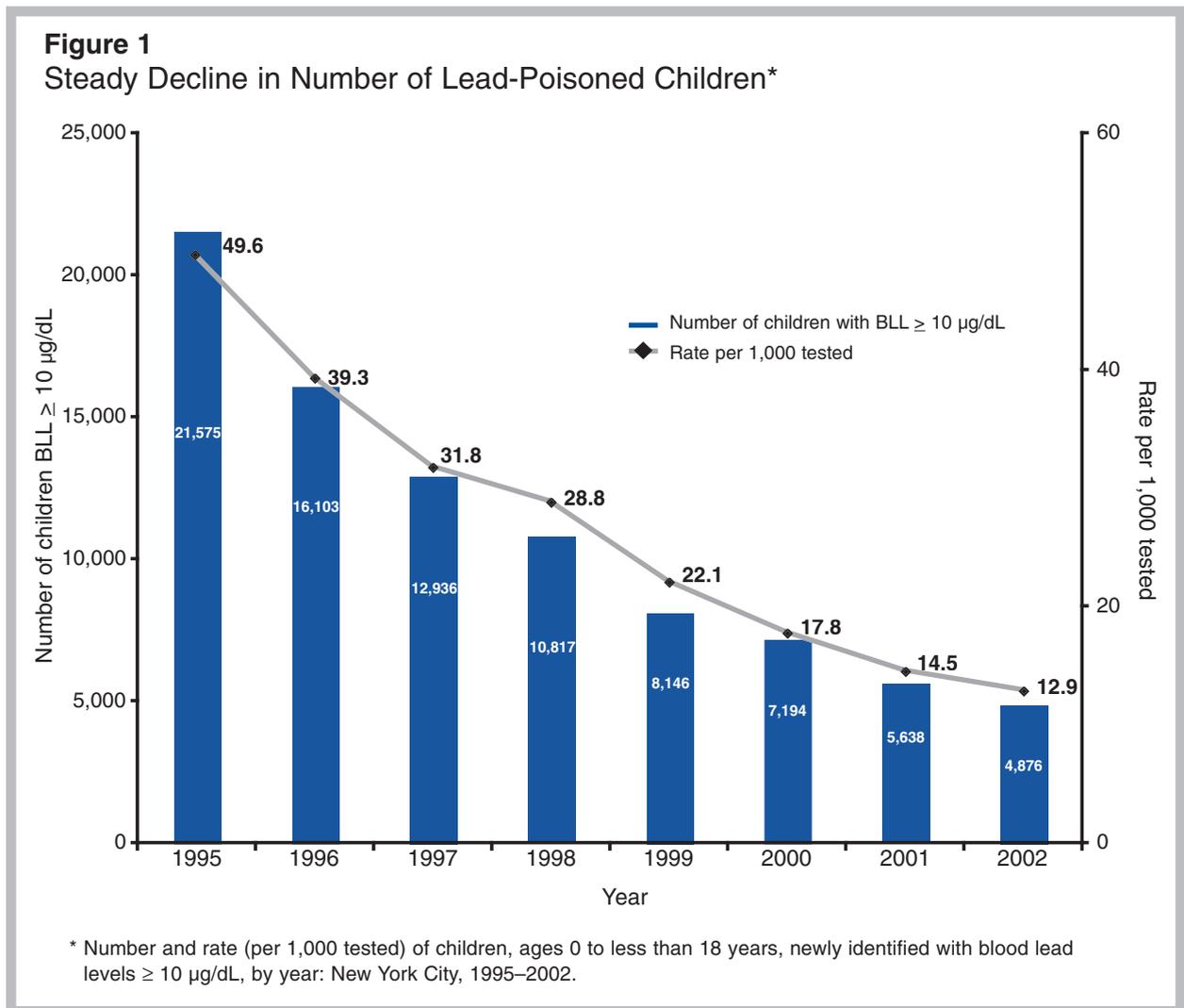
national ban. NYC also prohibits the sale of toys, children’s furniture, and other items used by children which contain lead paint. Historically, the City has also had strong lead poisoning prevention regulations enforced through its housing and health codes.

Fewer Lead-Poisoned Children

Since 1995, when reporting of *all* blood lead levels was mandated by New York State, the

number of NYC children with lead poisoning and the severity of cases have declined steadily. This trend has continued in 2002.

- The number of children newly identified with elevated blood lead levels dropped 77%, from 21,575 children in 1995 to 4,876 children in 2002 (Figure 1).
- The percent of children tested for lead poisoning who were found to have elevated BLLs declined from 5% in 1995 to 1.3% in 2002 (Figure 1).



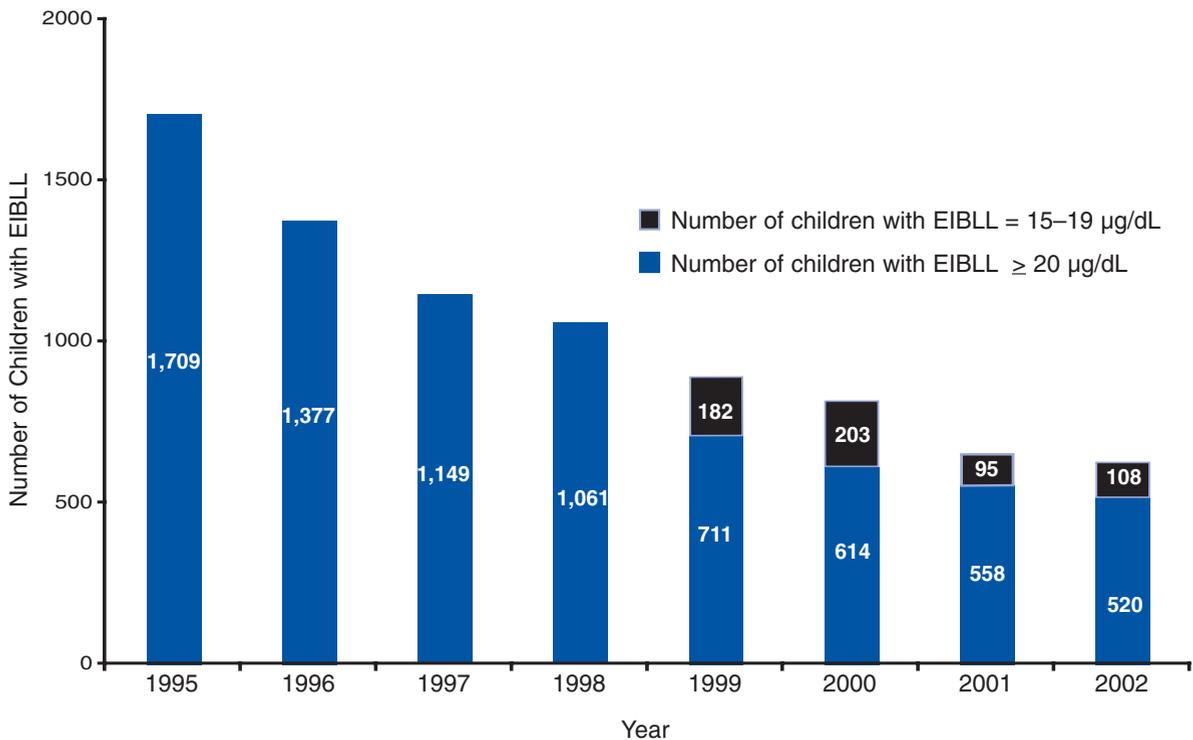
Fewer Environmental Intervention Cases

- The number of children newly identified each year with Environmental Intervention Blood Lead Levels (EIBLL) declined by 63%, from 1,709 children in 1995 to 628 in 2002 (Figure 2).

Fewer Severe Cases

Today, the vast majority of children with elevated blood lead levels are below the EIBLL. Most have no clinical symptoms of lead poisoning and very few require hospitalization or chelation. Chelation, a medical treatment for removing lead

Figure 2
Fewer Children With Environmental Intervention Blood Lead Levels (EIBLL)*



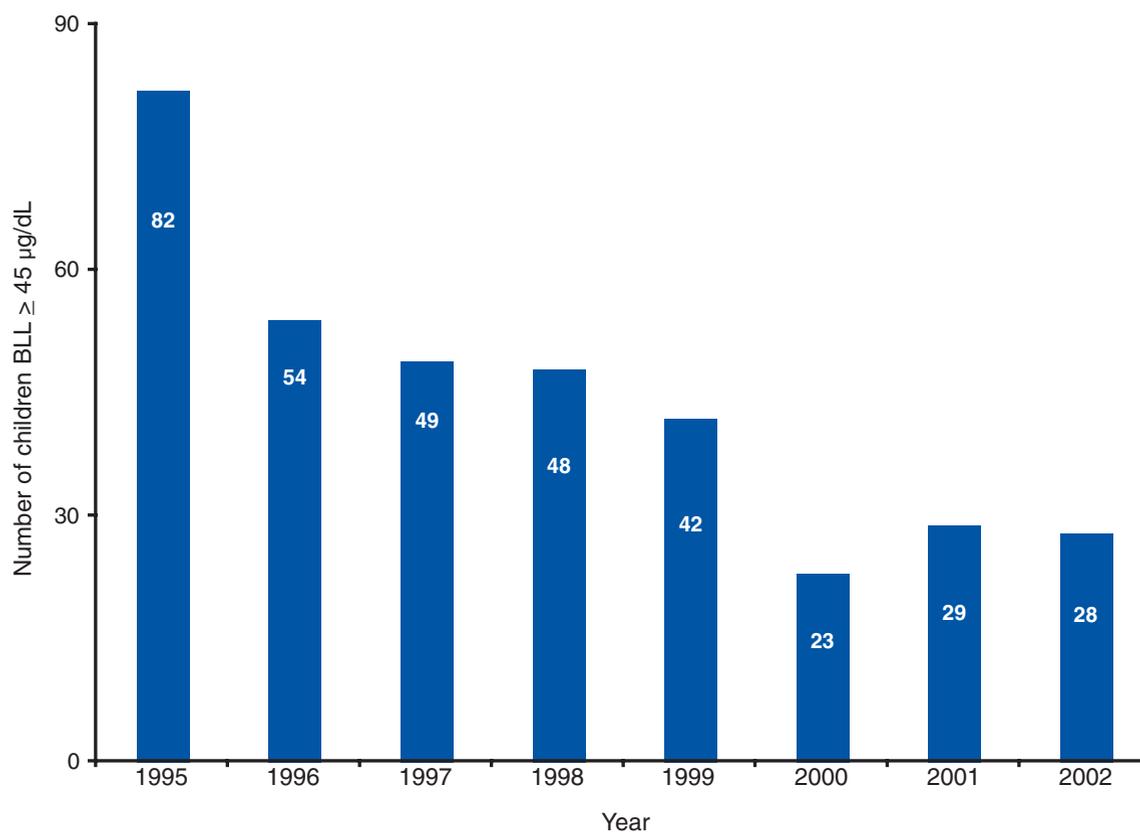
* Number of children, ages 0 to less than 18 years, newly identified with an Environmental Intervention Blood Lead Level (EIBLL), by year: New York City, 1995–2002. Since July 1999, the Environmental Intervention Blood Lead Level has been defined as a venous BLL ≥ 20 µg/dL or two blood lead levels 15–19 µg/dL that were drawn at least 3 months apart, where the second test was a venous sample.

from blood, is currently recommended by the U.S. Centers for Disease Prevention and Control (CDC) at BLLs of 45 $\mu\text{g}/\text{dL}$ or greater.

- In 2002, 28 children had BLLs of 45 $\mu\text{g}/\text{dL}$ or greater, as compared with 82 children in 1995. This is a 66% decrease (Figure 3).

- In 1970, childhood lead poisoning was defined as a BLL $\geq 60 \mu\text{g}/\text{dL}$. In 2002, only 8 children had BLLs $\geq 60 \mu\text{g}/\text{dL}$, as compared with 2,649 children in 1970.

Figure 3
Fewer Severe Cases of Childhood Lead Poisoning*



* Number of children, ages 0 to less than 18 years, newly identified with blood lead levels $\geq 45 \mu\text{g}/\text{dL}$, by year: New York City, 1995–2002.

Childhood Lead Poisoning

in New York City, 2002

Lead poisoning affects children of all ages, races and income groups. Children less than 3 years of age, particularly those who are poor and live in older, deteriorated housing are at greatest risk of lead poisoning. Children of color are disproportionately affected by lead poisoning.

Screening for Lead Poisoning

In New York State (NYS) screening is required for 1-year-old and 2-year-old children and for children up to age 6 at high risk of lead poisoning. Blood lead testing is important because most children with elevated BLLs have no clinical symptoms. Early detection of lead poisoning is essential to protect individual children from additional exposure, identify high-risk communities, and target lead poisoning prevention activities.

In 2002,

- 63% of 1-year-olds and 54% of 2-year-olds were tested (Figure 4).
- For children born in 1999, an estimated 86% were tested for lead at least once before their third birthday; yet only 31% had been tested at both ages 1 and 2, as required by NYS law.

Old Housing in Poor Neighborhoods

Lead paint remains the primary source of childhood lead poisoning in NYC. In 2002, LPPP inspectors found peeling or deteriorating lead paint in the homes or supplementary addresses (such as

Lead Paint Hazards

The use of lead paint in residential buildings was banned in New York City in 1960, but homes built before the ban still contain lead in older layers of paint. The presence of lead-based paint can become a hazard when it is peeling or damaged.

- Aging paint can peel or flake, depositing lead dust on floors, windowsills and other surfaces in the home.
- Paint can be damaged by water leaks or by friction on windows or doors.
- Unsafe repair or renovation work on painted surfaces can create lead dust in work areas.

the home of a babysitter) of 66% of children identified with EIBLLs (Table A-2). However, the proportion of homes with peeling or deteriorated paint of NYC children who do not have EIBLLs is not known.

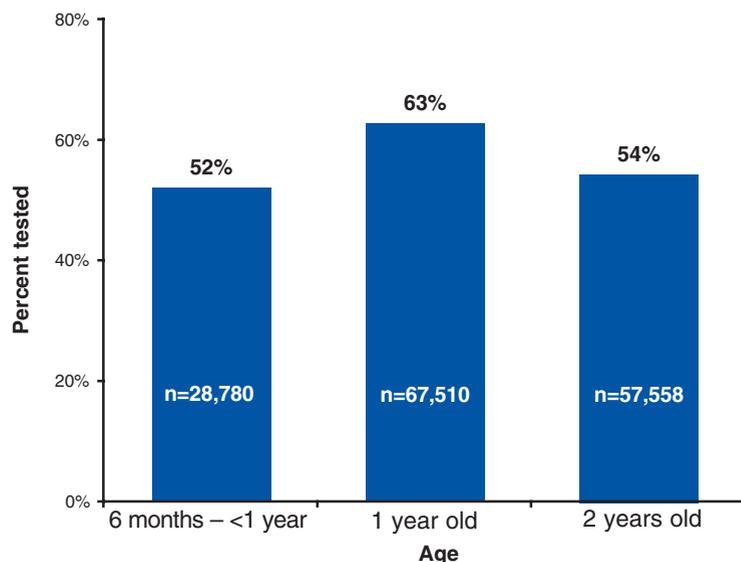
Nationwide, lead poisoning is associated with living in homes built before 1950. Before 1950, lead paint was widely used and generally contained more lead than in later decades. In NYC, 55% of the housing stock was built before 1950.

In 2002,

- 86% of NYC children newly identified with EIBLLs lived in dwellings built before 1950 (see Table A-2).

Figure 4

Only Slightly More Than Half of 1-Year-Old and 2-Year-Old Children in New York City Were Tested for Lead Poisoning*



* Number and percent of children, ages 6 months to less than 3 years, tested for lead poisoning, by age, New York City, 2002. Sources: NYC DOHMH LPPP and US Census 2000 (Summary File 1).

Borough

Brooklyn children are disproportionately affected by lead poisoning. About 34% of NYC children live in Brooklyn, but the proportion of lead-poisoned children from that borough is considerably higher.

In 2002,

- 40% of children newly identified with BLLs ≥ 10 $\mu\text{g}/\text{dL}$ lived in Brooklyn. Moreover, 44% of children newly identified with EIBLLs resided in Brooklyn (Figure 5).

In the 2001 Annual Report, LPPP noted an increase in lead poisoning cases from the Bronx. This trend did not continue in 2002. In 2002, the number of lead-poisoned children decreased in every borough except Manhattan, where the number was relatively stable.

Lead Poisoning Rates in New York City Neighborhoods

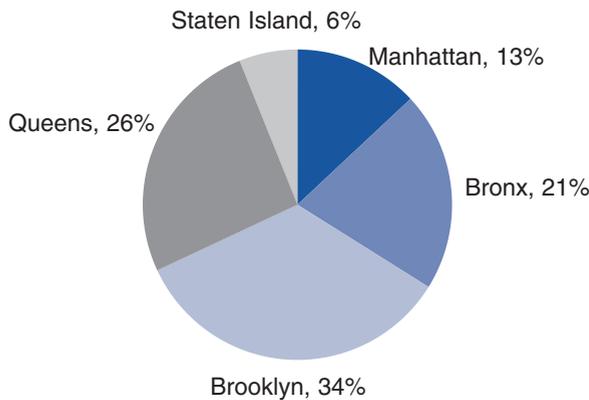
Information on lead poisoning is evaluated for each of 42 neighborhoods in New York City.¹ The disproportionate burden of lead poisoning in certain neighborhoods is evident when rates of elevated blood lead levels and EIBLLs in each community are compared to the citywide average.

In 2002, for children identified with BLLs ≥ 10 $\mu\text{g}/\text{dL}$:

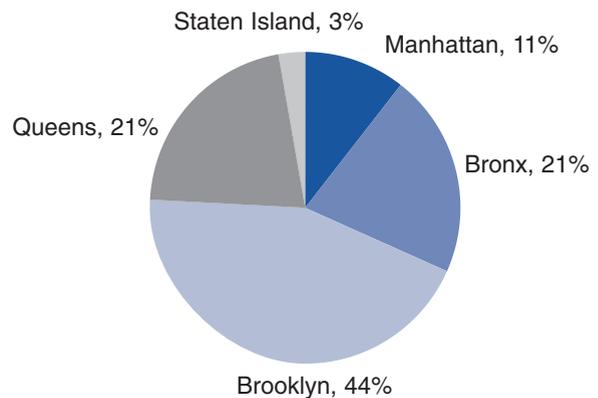
- The citywide rate was 12.9 children for every 1,000 children tested.
- The rate was higher than the citywide average in 24 of 42 neighborhoods; 9 of these neighborhoods were in Brooklyn and 7 were in Manhattan (Table A-3).

Figure 5
Brooklyn Children Were Over-Represented in the Environmental Intervention Blood Lead Level (EIBLL) Group*

Percent of children in the population, 2000 (total = 1,940,269)



Percent of new EIBLL cases, 2002 (total = 628)



* Distribution of children, ages 0 to less than 18 years, in the population, and distribution of children newly identified with an Environmental Intervention Blood Lead Level (EIBLL), by borough: New York City, 2002. Sources: NYC DOHMH LPPP and US Census 2000 (Summary File 1).

In 2002, for children identified with EIBLLs:

- The citywide rate was 1.7 children for every 1,000 children tested.
- In 18 of the 42 neighborhoods, the EIBLL case rate was higher than the citywide average; 10 of these 18 neighborhoods were in Brooklyn (Figure 6 and Table A-3).

Neighborhood and Poverty

The condition of housing—not just its age—puts children at risk for lead poisoning. Lead poisoning is not common in middle- and upper-income communities, even when a large portion of the housing was built before 1950. Rather, lead poisoning is generally concentrated in low-income communities, where older housing is often in

deteriorated condition. Nationwide, children 1–5 years old from low income families and living in older housing were 4 times more likely to have elevated blood lead levels than children whose families had higher incomes.

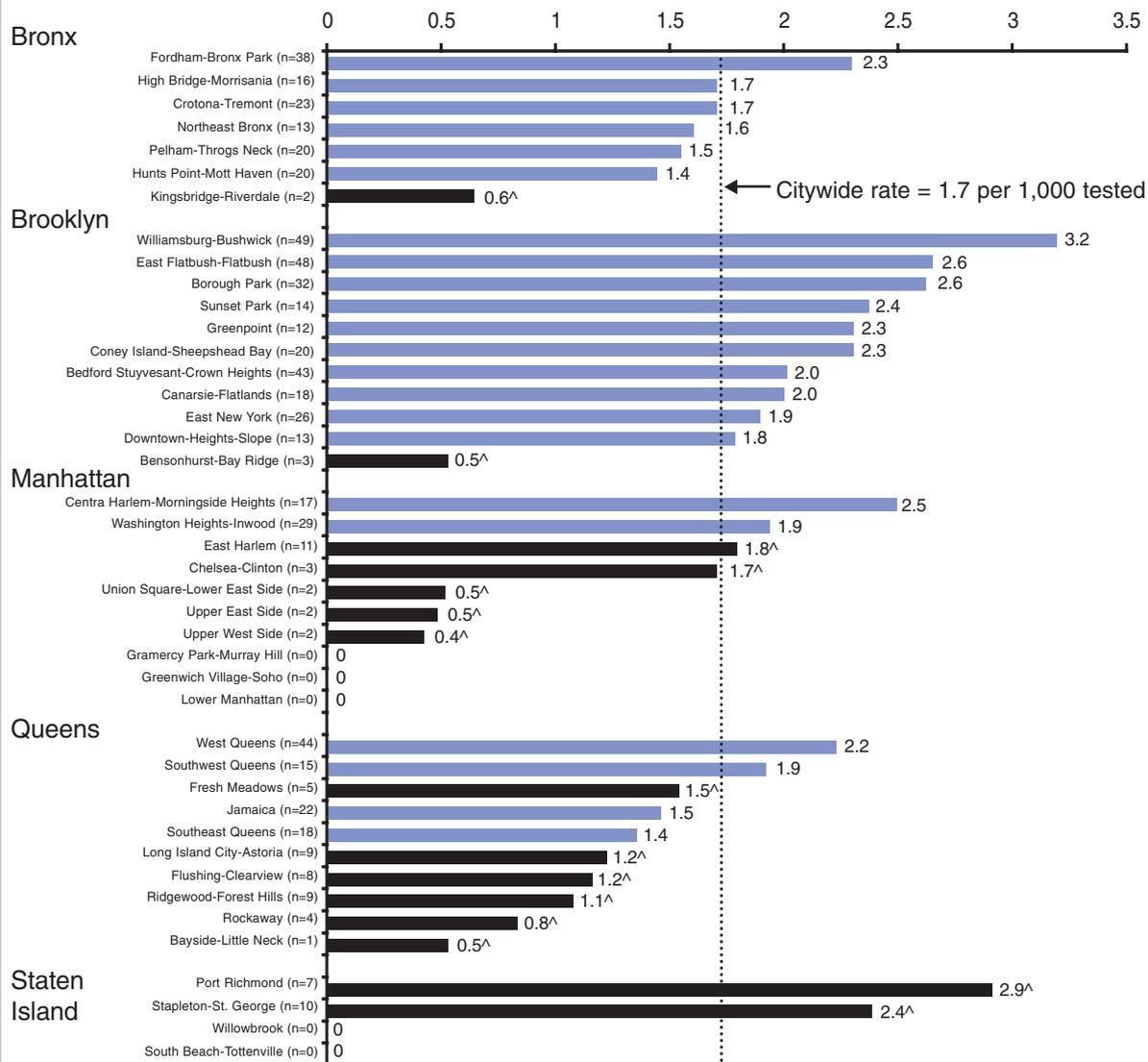
Lead poisoning among children in NYC continues to be concentrated in neighborhoods that have large, low-income populations living in older, deteriorated housing.

In NYC, 30% of all children live below the poverty line.

In 2002,

- About half of the children who were newly identified with BLLs ≥ 10 $\mu\text{g}/\text{dL}$ lived in just 11 of 42 NYC neighborhoods² (Table A-3). In

Figure 6
Environmental Intervention Blood Lead Level (EIBLL) Case Rates Were Higher in Some Neighborhoods*



* Number and rate (per 1,000 children tested) of children, ages 0 to less than 18 years, newly identified with an Environmental Intervention Blood Lead Level (EIBLL), by United Hospital Fund Neighborhood (sorted highest to lowest within each borough): NYC, 2002.

[^] Case rates in neighborhoods represented by black bars were less precise (relative standard error greater than 30%) due to the small numbers of cases. Caution should be used in interpreting these case rates.

Note: Number of cases in each neighborhood is reported in parentheses to the right of neighborhood name.

these 11 neighborhoods, 36% of the children live below the poverty line.

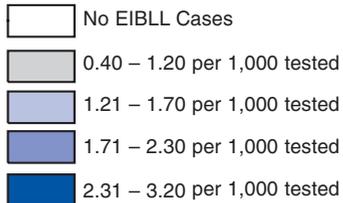
- About half of new EIBLL cases lived in 9 of 42 neighborhoods³ (Table A-3). In these

neighborhoods, 38% of the children live in poverty.

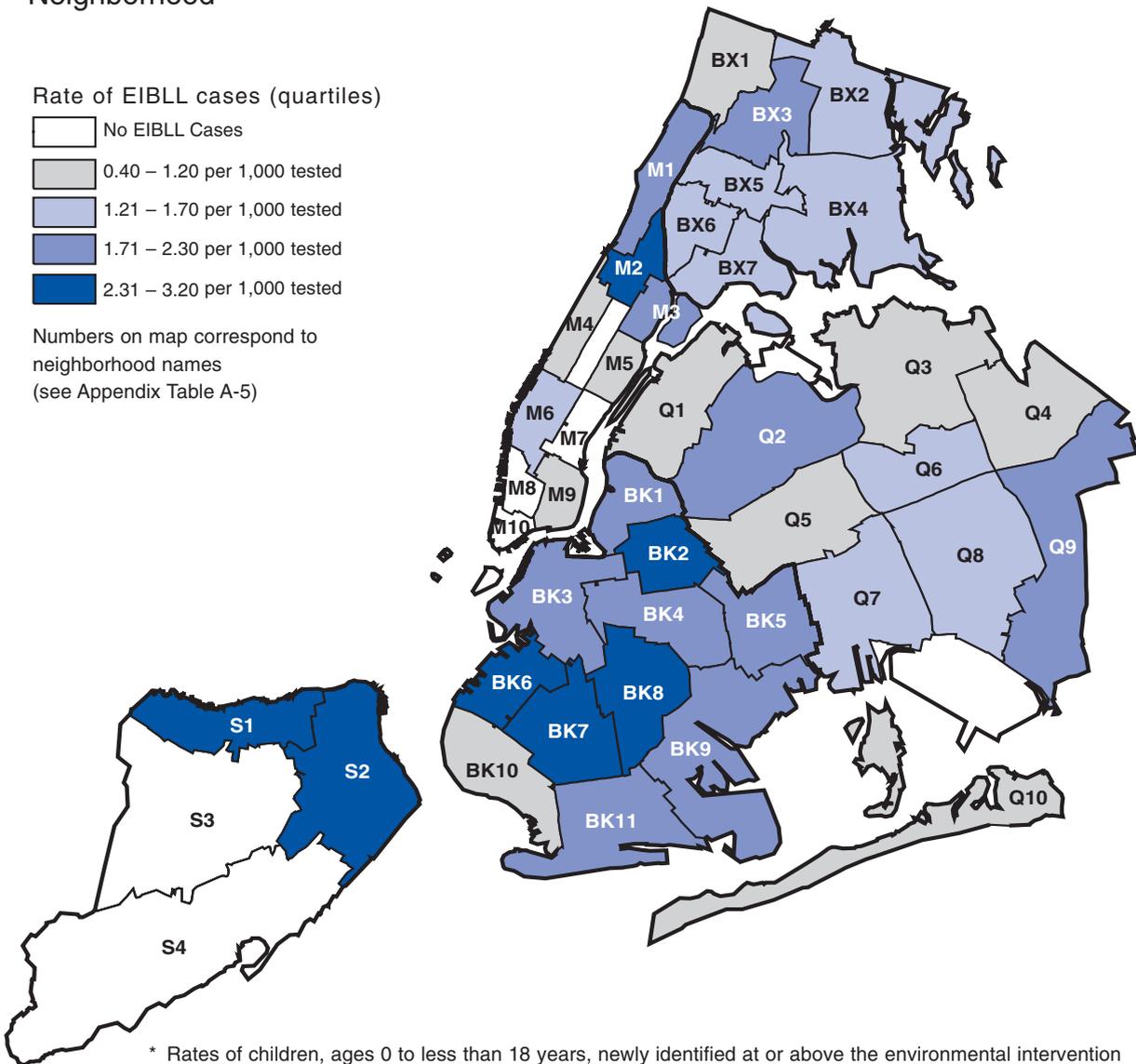
The map in Figure 7 highlights in dark blue the neighborhoods with the highest EIBLL case

Figure 7
Environmental Intervention Blood Lead Level (EIBLL) Case Rates Varied By Neighborhood*

Rate of EIBLL cases (quartiles)



Numbers on map correspond to neighborhood names (see Appendix Table A-5)



* Rates of children, ages 0 to less than 18 years, newly identified at or above the environmental intervention blood lead levels (EIBLL), defined as a venous blood lead level $\geq 20 \mu\text{g/dL}$, or 2 blood lead levels of 15–19 $\mu\text{g/dL}$ drawn at least 3 months apart, where the second test was a venous sample.

rates. Most of these are low-income communities with substantial non-White populations. By contrast, the neighborhoods with the lowest EIBLL case rates—highlighted in white—are generally upper income and predominantly White.

Age

Young children, especially those between the ages of 6 months and 3 years, are at greatest risk for lead poisoning. They are more likely to ingest lead paint or lead dust because they crawl around on floors and put their hands and toys in their mouths. Research suggests that children less than 2 years of age may be particularly vulnerable to the neurotoxic effects of lead because of their rapidly developing neurological systems. Moreover, these youngest children benefit the most from interventions that reduce lead hazards.

In 2002,

- 55% of the 4,876 (2,689) NYC children who were newly identified with BLLs ≥ 10 $\mu\text{g}/\text{dL}$ were less than 3 years old.
- Among the 628 children in the EIBLL category, 51% (321 children) were less than 3 years old; another 32% (199 children) were between 3 and 6 years of age (Table A-2).

Gender

From 1995 through 2001, EIBLL cases were divided fairly evenly between boys and girls, with slightly more than half of the cases occurring in males. However, in 2002, 59% of EIBLL cases were boys (Table A-2).

The LPPP will continue to monitor the gender distribution of EIBLL cases in order to determine if the increase is the beginning of a trend or is a short-term deviation from the relatively stable gender distribution seen in the past.

Race/Ethnicity

In NYC, lead poisoning disproportionately affects children of color (Figure 8). This is determined by comparing the race/ethnicity of children with EIBLL to the racial/ethnic composition of NYC population. African-American, Hispanic, and Asian children are more likely than White children to have BLLs in the EIBLL category. At least in part, this reflects the importance of poverty as a risk for lead poisoning in these groups.

In 2002, EIBLL cases occurred among racial/ethnic groups in NYC as follows:

- African-American, non-Hispanic children represented 38% of the EIBLL cases but only 29% of NYC children as a whole.
- Hispanic children accounted for 37% of the EIBLL cases and 34% of all NYC children.
- Asians children made up 16% of the EIBLL cases but only 9% of all NYC children.
- White, non-Hispanic children represented 6% of the EIBLL cases although 23% of NYC children were White, non-Hispanic.

Country of Birth and Other Sources of Lead Exposure

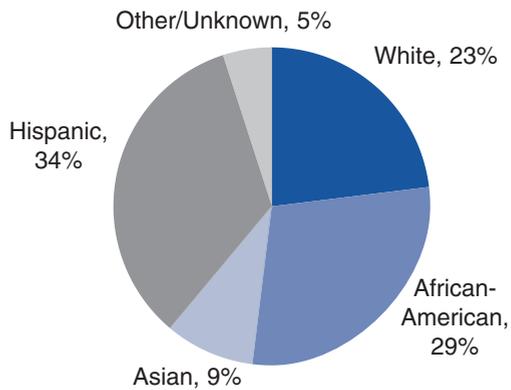
The LPPP data suggest that children born in other countries may be more likely than U.S.-born children to be lead-poisoned.

In 2002,

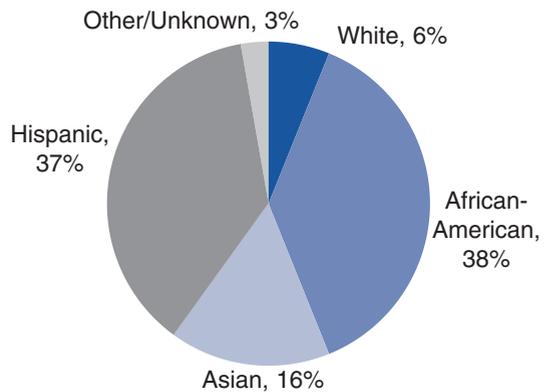
- 22% of the 628 newly identified EIBLL children were born outside of the U.S., while 14% of all NYC children were born abroad.
- The most frequently reported countries of birth among foreign-born EIBLL children in 2002 were Haiti, Mexico, Pakistan, Dominican Republic and Bangladesh, in descending order.

Figure 8
Children of Color Were Over-Represented in the Environmental Intervention Blood Lead Level (EIBLL) Group*

Percent of children in the population, 2000 (total = 1,940,269)



Percent of new EIBLL cases, 2002 (total = 628)



* Distribution of children, ages 0 to less than 18 years, in the population, and distribution of children newly identified with an Environmental Intervention Blood Lead Level (EIBLL), by race/ethnicity: New York City, 2002. Sources: NYC DOHMH LPPP and US Census 2000 (Summary File 1).

In 2002, among NYC EIBLL cases, deteriorated lead paint was found less often in the homes of foreign-born children than in the homes of children born in the U.S.

In 2002,

- 75% of EIBLL cases born in the U.S. had peeling or deteriorating lead paint in their homes, while only 49% of foreign-born EIBLL cases had peeling or deteriorating lead paint.

Although lead paint and lead dust in housing remain the primary sources of lead poisoning in children, a growing proportion of EIBLL cases may be associated with non-paint lead exposures. Between 1995 and 2002, the percent of EIBLL cases who were **not** found to have peeling or deteriorating lead paint in their home or supplementary address increased from 25% to 34% percent.

Other potential exposure sources include:

- Lead-glazed pottery as well as food, spices, traditional medicines and cosmetics contaminated with lead. These items are often imported from other countries.
- Living in or traveling to foreign countries where lead contamination persists in leaded gasoline, and from industrial emissions, contaminated food, and other products.
- Lead brought into homes by family members from jobs or hobbies.
- Soil and street dust contaminated with lead from paint on building exteriors, bridges, and elevated subway tracks or from previous industrial and motor vehicle emissions.
- Prenatal exposure.

NYC's Lead Poisoning Prevention Program

in 2002

The Lead Poisoning Prevention Program (LPPP) has developed a proactive, comprehensive approach to childhood lead poisoning prevention and control. Program areas include:

- Public education and outreach to promote prevention and early detection.
- Care coordination for lead-poisoned children and pregnant women and their newborns.
- Environmental intervention and enforcement.
- Lead paint hazard reduction in communities.
- Surveillance and research.

Keeping the Public Informed

The LPPP is committed to providing New Yorkers with up-to-date information on NYC's progress in reducing childhood lead poisoning.

In 2002,

- The LPPP published "Surveillance of Childhood Lead Poisoning In New York City," a reference report on trends in NYC childhood lead poisoning from 1995–2000.
- The LPPP also issued its first annual report, "Preventing Lead Poisoning in New York

City," describing NYC childhood lead poisoning in 2001 and profiling LPPP activities and accomplishments for that year. Both reports were distributed widely to community and health organizations, researchers and policy makers. To request a copy of either report, call 311 and ask for the Lead Poisoning Prevention Program. These reports are also available on the DOHMH website: nyc.gov/health.

Educating Key Audiences

Targeting community outreach and education to high-risk groups and neighborhoods is key to LPPP's prevention strategy. Core constituent groups include: families and caregivers of young children, health care providers, community-based organizations, and landlords and housing repair contractors. The LPPP educators provide

information on lead poisoning prevention, screening, lead paint hazards, safe work practices, non-paint lead hazards, and legal requirements.

In 2002, LPPP educational and outreach staff:

- Responded to 2,850 calls to the LPPP hotline, a 24% increase from 2001.

- Disseminated more than 100,000 educational pamphlets in 8 languages.
- Educated more than 7,800 parents at Women, Infants and Children (WIC) centers, Head Start programs, and health fairs, a 30% increase from 2001.
- Trained 58 community leaders and social services providers to educate local residents.
- Conducted 22 training sessions for building owners, superintendents and contractors.

Message to Parents and Caregivers

Parents play an important role in lead poisoning prevention. Follow these steps to protect children from lead:

- Report peeling or damaged paint to your landlord. If no action is taken, call 311 and ask for code enforcement at the NYC Department of Housing Preservation and Development (HPD).
- Keep children away from peeling or damaged paint and home repairs that disturb lead paint.
- Use a wet mop or wet rag to frequently clean floors, window sills and window wells where lead dust tends to accumulate.
- Frequently wash children's hands, toys and pacifiers.
- Home repair work should always be done safely using dust control methods, including wet-scraping painted surfaces, isolating the work area, and proper clean-up.
- Avoid foods, spices and other products known to contain lead.
- Have your child tested for lead poisoning, especially at 1 and 2 years of age.

Improving Screening

Early detection of lead poisoning is essential for protecting children from additional exposure and targeting prevention activities. Through its education and outreach efforts, LPPP publicizes the importance of blood lead screening for young children. Screening is promoted through media campaigns, outreach to tenant, parent, and service organizations, and presentations to health care providers.

Promoting Screening Among Health Care Providers

In 2002, LPPP promoted screening and proper management of lead-poisoned children by:

- Providing 124 physician-to-physician medical consultations.
- Educating over 1,700 doctors and nurses at professional forums.
- Working with 6 community health clinics to improve risk assessment, testing and medical management for lead-poisoned children in these clinics.
- Encouraging health care providers to assess high-risk pregnant women for lead poisoning, especially in immigrant communities.
- Partnering with the DOHMH Immunization Program to create an integrated database of lead testing and immunization records. This

database will facilitate outreach to health care providers and families. It will also give medical providers access to lead and immunization information on their patients.

Collaborating with Medicaid Managed Care Organizations

In 2002, LPPP began a data-sharing initiative with the DOHMH Bureau of Health Care Access (HCA), which oversees Medicaid Managed Care

Organizations (MMCO) in NYC. This project is an effort to improve screening and follow-up of children enrolled in Medicaid by identifying children who have not been tested for lead poisoning. Approximately 70% of Medicaid children in NYC are enrolled in MMCOs. This program was piloted with 3 MMCOs. If successful, it will be extended to all 17 plans in NYC.

Environmental Services and Case Coordination for Lead-Poisoned Children

The LPPP provides environmental services and case coordination for lead-poisoned children. These interventions are guided by blood lead level.

For Children with BLLs of 10–19 µg/dL

In 2002, there were 4,876 children newly identified with BLLs of 10–19 µg/dL.

The LPPP sends letters to families and medical providers of these children. The letters to families advise them to:

- Get a follow up blood lead test for the child.
- Report any peeling paint conditions to their landlord for repair and to contact the NYC Department of Housing Preservation and Development (HPD) if repairs are not made.
- Take practical steps to prevent lead poisoning in the home.
- Call the LPPP hotline with any questions.

The LPPP's letters to health care providers of children with BLLs of 10–19 µg/dL urge them to perform follow-up blood lead tests and make them aware of lead poisoning prevention options for NYC families.

For Children with Environmental Intervention Blood Lead Levels (EIBLLs)

In 2002, there were 628 children newly identified at the Environmental Blood Lead Levels (EIBLL), defined as a BLL \geq 20 µg/dL, or two BLLs of 15–19 µg/dL from tests taken at least 3 months apart.

The LPPP inspects the homes and supplementary addresses of children with EIBLLs and orders the building owners to abate lead paint hazards that are identified.

In 2002, LPPP provided the following services to children in the EIBLL group:

- Inspected 688 primary addresses and 202 supplementary addresses, such as the homes of babysitters or relatives.
- Ordered lead paint hazard abatement in 509 dwelling units.
- Conducted 3,288 follow-up inspections to monitor safe work practices and abatement progress.
- Referred 203 apartments to the Emergency Repair Program of HPD after landlords failed

to make repairs as ordered. Landlords are charged for repairs made by HPD.

For children with EIBLLs, LPPP also:

- Contacts the child's parent/guardian and health care provider with information on lead poisoning and the importance of follow-up testing.
- Provides the family with information about

reducing lead exposures and about lead abatement in their home.

- May refer families to temporary "lead-safe" housing during lead abatement.
- Assists doctors and families with referrals for developmental assessment and early intervention services.

Preventing Poisoning By Reducing Lead Paint Hazards

LPPP Programs

Reducing lead paint hazards in NYC communities is an important part of LPPP's prevention strategy. Using its authority under the NYC Health Code, LPPP:

Orders Landlords to Correct Lead Paint Violations

The LPPP issues violations to landlords, ordering them to correct lead paint violations in the homes of children with EIBLLs.

- In 2002, lead abatement work was completed in 651 homes by order of the LPPP.

Conducts Lead Hazard Investigation in 1- and 2-Family Homes

LPPP responds to complaints about peeling or deteriorated paint from tenants in 1 and 2 family homes and orders landlords to repair lead paint hazards that are identified. (HPD performs a similar function for tenants in multiple dwellings with 3 or more units, as described below.)

- In 2002, LPPP conducted 68 inspections at 41 addresses in 1 and 2 family homes.

Enforces Safe Work Practices

The LPPP enforces health code regulations that require the use of safe work practices during

lead paint abatement work. LPPP sanitarians also investigate complaints of lead paint disturbances in and around homes of children and issue violations when appropriate.

- In 2002, LPPP conducted 2,061 safety inspections of lead abatement work.

Collaboration with HPD

DOHMH has built a strong partnership with HPD in an effort to protect children from lead paint hazards. Initiatives in 2002 included:

Educating At-Risk Families

Whenever HPD inspectors find peeling or deteriorating paint in an apartment built before 1960 with a young child, the agency orders the building owner to correct the violations. The

During 2002, Department of Housing Prevention and Development (HPD) had primary responsibility for enforcing Local Law 38, NYC's lead poisoning prevention regulation. This law required owners of multiple dwellings to inspect and repair painted surfaces in apartments where children under the age of six reside.⁴

LPPP, which is notified by HPD of apartments with violations, sends the tenants information about lead poisoning and encourages them to have their children tested for lead poisoning.

- In 2002, LPPP sent 3,700 letters to families in high-risk apartments.

Targeting Buildings

In 2002, HPD and DOHMH piloted a program to strengthen lead poisoning prevention in buildings where children had previously been lead-poisoned. Using surveillance data, LPPP referred to HPD all multiple dwelling buildings (with 3 or more apartments) where 2 or more children with EIBLLs lived and where LPPP found lead paint hazards in the child's home.

- In 2002, 988 buildings meeting these criteria were referred to HPD for follow-up.

Financial Assistance for Lead Paint Hazard Reduction

Since 1995, LPPP and HPD have collaborated on a project funded by the U.S. Department of Housing and Urban Development (HUD). The project provides financial assistance to building owners for lead hazard reduction. The LPPP also provides education about lead poisoning prevention to the landlords and tenants in these buildings.

- From 1995 through 2002, more than 1,000 apartments have received lead paint repairs through this program.

Monitoring Lead-Poisoned Pregnant Women

A pregnant woman who has lead poisoning passes the lead in her blood to the fetus. Research suggests that children born with elevated blood lead levels are at risk for cognitive and other developmental delays similar to those associated with childhood lead poisoning. In addition, lead poisoning in pregnant women may be associated with spontaneous abortion, stillbirth, pre-term delivery, low birth weight, and pregnancy-related hypertension.

In 2001, LPPP began providing follow-up services to pregnant women with BLLs ≥ 20 $\mu\text{g}/\text{dL}$ and their newborns. LPPP staff members:

- Identify potential sources of lead exposure for each woman.
- Recommend ways to eliminate or reduce lead exposure.
- Consult with the woman's health care provider and encourage follow-up BLL monitoring for the woman as well as post-natal testing of her baby.

Prevention Guidelines for Prenatal Care Providers

New York State requires prenatal care health providers to:

- Provide anticipatory guidance on lead poisoning prevention to all pregnant women.
- Assess lead exposure risk of pregnant women at their first prenatal visit.
- Test, or refer for blood lead testing, pregnant women found to be at risk.
- Provide pregnant women who have a BLL ≥ 10 $\mu\text{g}/\text{dL}$ with risk reduction counseling.
- Refer women with possible occupational exposure to an occupational health clinic.

- Provide follow-up for children born with elevated blood lead levels.

In 2002, LPPP provided services for 40 pregnant women with BLLs \geq 20 $\mu\text{g}/\text{dL}$. Of these 40 women:

- 95% were foreign-born (by comparison, in 2000, 50% of all NYC women giving birth were foreign-born).
- 65% were from Mexico.
- 35% had immigrated to the US within the year prior to their initial blood lead test.
- 33% reported eating dirt, clay or crushed pottery during pregnancy.
- None of the women reported recent occupational exposure to lead.

Surveillance and Research

Surveillance of blood lead levels, screening rates and lead poisoning cases throughout the city is a critical function of LPPP. Each year LPPP receives over 400,000 blood lead test results for more than 300,000 children. Using a sophisticated computerized data management system, LPPP monitors these data and uses them to identify geographic and demographic patterns of lead poisoning and to target appropriate interventions for high-risk groups.

Data also are used to:

- Track individual children with elevated BLLs to ensure they receive timely and appropriate services.
- Evaluate the impact of program activities on screening and lead poisoning rates as well as the quality and timeliness of service delivery.
- Research risk factors for lead poisoning in NYC and the effectiveness of interventions.
- Support data-sharing projects with housing and health groups to enhance prevention activities.

Strategies for Continued Progress

New York City has made great progress in reducing childhood lead poisoning as environmental sources have diminished and public health interventions have been employed. Yet, lead poisoning remains an important public health problem. Continued success will require creative, new strategies as well as continued implementation of successful programs. These strategies include: utilizing surveillance data to identify high risk groups and neighborhoods, expanding community partnerships, and increasing culturally and linguistically appropriate outreach to immigrant populations. Our goal is to implement innovative programs in high-risk communities that:

- Eliminate or reduce lead paint hazards in homes by working with housing organizations, landlords, contractors, building supplies retailers and other agencies.
- Improve screening for children through vigorous outreach to health care providers, community organizations and families.
- Identify non-paint lead sources and develop effective prevention activities through research, investigations and collaborations with organizations serving high-risk groups.
- Prevent lead poisoning in pregnant women through improved outreach, education, prenatal risk assessment, and appropriate medical management.

Endnotes

- ¹ In this report, neighborhoods are defined as those established by the United Hospital Fund, which has aggregated contiguous NYC ZIP codes into 42 neighborhoods.
- ² The 11 neighborhoods were: East Flatbush-Flatbush, Bedford Stuyvesant-Crown Heights, Williamsburg-Bushwick, East New York and Borough Park in Brooklyn; Crotona-Tremont, Fordham/Bronx Park, and Highbridge-Morisania in the Bronx; and Jamaica, West Queens and Southwest Queens in Queens.
- ³ The 9 neighborhoods were: East Flatbush-Flatbush, Bedford Stuyvesant-Crown Heights, Williamsburg-Bushwick, East New York and Borough Park in Brooklyn; Fordham-Bronx Park and Crotona/Tremont in the Bronx; Washington Heights-Inwood in Manhattan; and West Queens in Queens.
- ⁴ The legislation establishing these requirements – Local Law 38 of 1999 – was in effect throughout 2002 but was nullified by the New York State Court of Appeals as of 7/1/03.

Appendix

Table A-1

New York City intervention protocols for lead-poisoned children

Category	BLL ^(a)	Intervention
Elevated BLL ^(b)	≥ 10 $\mu\text{g}/\text{dL}$	Contact with family and medical provider regarding exposure and follow-up blood testing; these services are provided to all lead-poisoned children, including those with BLL of 10–19 $\mu\text{g}/\text{dL}$ and those with an Environmental Intervention Blood Lead Level (EIBLL). ^(c)
EIBLL ^(c)	≥ 20 $\mu\text{g}/\text{dL}$ or 2 BLLs of 15–19 $\mu\text{g}/\text{dL}$ at least 3 months apart	Environmental assessment to identify exposure or sources; enforcement of lead paint hazard abatement requirements.

(a) Blood Lead Levels (BLLs) are measured in micrograms (μg) of lead per deciliter (dL) of blood.

(b) Since 1992, the NYC Health Code has defined elevated lead level as a BLL ≥ 10 $\mu\text{g}/\text{dL}$.

(c) Environmental Intervention Blood Lead Level (EIBLL) is the term used by the Lead Poisoning Prevention Program (LPPP) to designate cases for environmental inspection and enforcement of abatement requirements. EIBLL was defined as a BLL ≥ 20 $\mu\text{g}/\text{dL}$ in 1992; children with persistent BLLs of 15–19 $\mu\text{g}/\text{dL}$ were included as of July 1999.

Table A-2

Demographic and environmental profile of children, ages 0 to less than 18 years, newly identified with an Environmental Intervention Blood Lead Level (EIBLL): New York City, 2002 (n=628).

		Number EIBLL^(a)	Percent EIBLL	EIBLL Rate (number per 1,000 tested)
Age	Less than 6 months old	14	2.2%	6.7 ^(b)
	6 months to less than 1 year old	27	4.3%	0.9
	1 year old	152	24.2%	2.4
	2 years old	128	20.4%	2.2
	3 years old	95	15.1%	1.9
	4 years old	58	9.3%	1.1
	5 years old	46	7.3%	1.2
	6 to less than 18 years old	108	17.2%	1.3
Gender	Female	256	40.8%	1.4
	Male	372	59.2%	2.0
Borough	Manhattan	66	10.5%	1.2
	Bronx	132	21.0%	1.6
	Brooklyn	278	44.3%	2.1
	Queens	135	21.5%	1.4
	Staten Island	17	2.7%	1.1
Race/ethnicity^(c)	Hispanic	233	37.1%	
	Non-Hispanic African-American	239	38.1%	
	Non-Hispanic White	38	6.0%	
	Asian	101	16.1%	
	Other/Unknown	17	2.7%	
Blood lead level at case assignment (µg/dL)	15–19	108	17.2%	
	20–29	386	61.5%	
	30–39	92	14.6%	
	40–49	25	4.0%	
	50–59	9	1.4%	
	60–69	5	0.8%	
≥ 70	3	0.5%		
Year primary residence was built	On or before 1939	507	80.7%	
	1940–1949	30	4.8%	
	1950–1959	35	5.6%	
	1960–1969	28	4.5%	
	1970–present	15	2.4%	
	Unknown	13	2.0%	

Table A-2. (continued)

		Number EIBLL ^(a)	Percent EIBLL
Size of the building where the child resides	Building has fewer than 3 dwelling units	202	32.2%
	Building has 3 or more dwelling units	426	67.8%
Lead paint hazard identified at child's residence^(d)	No lead paint hazard identified	212	33.7%
	Lead paint hazard identified	416	66.2%

(a) Environmental Intervention Blood Lead Level (EIBLL) is defined as a venous BLL ≥ 20 $\mu\text{g}/\text{dL}$, or 2 blood lead levels of 15–19 $\mu\text{g}/\text{dL}$ that were drawn at least 3 months apart where the second test was a venous sample.

(b) The case rate for children younger than 6 months was very high because many of the infants tested were referred for testing due to their high risk for lead poisoning from prenatal exposure.

(c) Data on race/ethnicity were missing from a substantial number of tests reported to the LPPP; thus, case rates could not be calculated for this indicator because denominator data were not available.

(d) This included the child's primary residence and supplementary addresses where the child spent considerable periods of time. Data include hazards identified by March 31, 2003.

Table A-3

Numbers and rates of (1) children tested for lead poisoning; (2) children with elevated blood lead levels; and (3) children with an Environmental Intervention Blood Lead Level, ages 0 to less than 18 years, by borough, and United Hospital Fund neighborhood: New York City, 2002.

Ages 0 months to less than 18 years

United Hospital Fund Neighborhood	(1) Tests ^(a)	(2) Elevated blood lead level ^(b)		(3) Environmental Intervention Blood Lead Levels (EIBLL) ^(c)				
	Tested	Newly identified ≥ 10 µg/dL		Newly identified EIBLL		Rate EIBLL /1,000 tested		
	Number	Number	Rate BLL > 10 /1,000 tested	Number	Rate EIBLL /1,000 tested	Low	High	95% CI
New York City total	379,074	4,876	12.9	628	1.66	1.53	1.79	
NYC, unknown borough	224	8	—	0	—	—	—	—
Bronx	82,391	952	11.6	132	1.60	1.34	1.90	
Bronx unknown or invalid ZIP code	4,644	17	—	0	—	—	—	—
Crotona-Tremont	13,833	215	15.5	23	1.66	1.05	2.49	
Fordham-Bronx Park	16,574	189	11.4	38	2.29	1.62	3.15	
High Bridge-Morrisania	12,944	182	14.1	20	1.55	0.94	2.39	
Hunts Point-Mott Haven	9,242	104	11.3	16	1.73	0.99	2.81	
Kingsbridge-Riverdale	3,138	28	8.9	2	0.64	0.08	2.30	
Northeast Bronx	8,140	82	10.1	13	1.60	0.85	2.73	
Peiham-Throgs Neck	13,876	135	9.7	20	1.44	0.88	2.23	
Brooklyn	130,204	1,954	15.0	278	2.14	1.90	2.41	
Brooklyn unknown or invalid ZIP code	7,416	33	—	0	—	—	—	—
Bedford Stuyvesant-Crown Heights	21,080	305	14.5	43	2.04	1.48	2.75	
Bensonhurst-Bay Ridge	5,714	51	8.9	4	0.70	0.19	1.79	
Borough Park	12,222	217	17.8	32	2.62	1.79	3.70	
Canarsie-Flatlands	9,014	84	9.3	17	1.89	1.10	3.02	
Coney Island-Sheepshead Bay	8,692	138	15.9	20	2.30	1.41	3.55	
Downtown-Brooklyn Heights-Park Slope	7,298	128	17.5	13	1.78	0.95	3.05	
East Flatbush-Flatbush	18,528	315	17.0	48	2.59	1.91	3.43	
East New York	13,735	246	17.9	26	1.89	1.24	2.77	
Greenpoint	5,215	96	18.4	12	2.30	1.19	4.02	
Sunset Park	5,921	83	14.0	14	2.36	1.29	3.97	
Williamsburg-Bushwick	15,369	258	16.8	49	3.19	2.36	4.21	

Table A-3. (continued)

	(1) Tests ^(a)		(2) Elevated blood lead levels ^(b)		(3) Environmental Intervention Blood Lead Levels (EIBLL) ^(c)			
	Tested		Newly identified ≥ 10 $\mu\text{g/dL}$		Newly identified EIBLL		95% CI	
	Number	Rate BLL ≥ 10 /1,000 tested	Number	Rate BLL ≥ 10 /1,000 tested	Number	Rate EIBLL /1,000 tested	Low	High
United Hospital Fund Neighborhood								
Manhattan	55,836	12.3	685	12.3	66	1.18	0.91	1.50
Manhattan unknown or invalid ZIP code	9,683	—	28	—	0	—	—	—
Central Harlem-Morningside Heights	6,833	16.7	114	16.7	17	2.49	1.45	3.98
Chelsea-Clinton	1,762	18.2	32	18.2	3	1.70	0.35	4.98
East Harlem	6,149	16.3	100	16.3	11	1.79	0.89	3.20
Gramercy Park-Murray Hill	1,441	20.8	30	20.8	0	—	—	—
Greenwich Village-Soho	1,231	32.5	40	32.5	0	—	—	—
Lower Manhattan	862	8.1	7	8.1	0	—	—	—
Union Square-Lower East Side	3,907	19.5	76	19.5	2	0.51	0.06	1.85
Upper East Side	4,178	8.9	37	8.9	2	0.48	0.06	1.73
Upper West Side	4,781	14.0	67	14.0	2	0.42	0.05	1.51
Washington Heights-Inwood	15,009	10.3	154	10.3	29	1.93	1.29	2.77
Queens	95,482	12.0	1,150	12.0	135	1.41	1.18	1.66
Queens unknown or invalid ZIP code	6,775	—	38	—	0	—	—	—
Bayside-Little Neck	1,910	5.8	11	5.8	1	0.52	0.01	2.92
Flushing-Clearview	6,921	8.5	59	8.5	8	1.16	0.50	2.28
Fresh Meadows	3,254	8.9	29	8.9	5	1.54	0.50	3.59
Jamaica	15,086	11.6	175	11.6	22	1.46	0.91	2.21
Long Island City-Astoria	7,371	13.4	99	13.4	9	1.22	0.56	2.32
Ridgewood-Forest Hills	8,392	9.8	82	9.8	9	1.07	0.49	2.04
Rockaway	4,838	13.8	67	13.8	4	0.83	0.23	2.12
Southeast Queens	7,835	11.1	87	11.1	15	1.91	1.07	3.16
Southwest Queens	13,311	15.2	202	15.2	18	1.35	0.80	2.14
West Queens	19,789	15.2	301	15.2	44	2.22	1.62	2.98
Staten Island	14,937	8.5	127	8.5	17	1.14	0.66	1.82
Staten Island unknown or invalid ZIP code	123	—	1	—	0	—	—	—
Port Richmond	2,408	16.6	40	16.6	7	2.91	1.17	5.99
South Beach-Tottenville	5,626	2.5	14	2.5	0	—	—	—
Stapleton-St. George	4,202	14.5	61	14.5	10	2.38	1.14	4.38
Willowbrook	2,578	4.3	11	4.3	0	—	—	—

(a) Test types: venous, capillary, unspecified.

(b) Elevated blood lead level is defined as a venous, capillary or unspecified BLL ≥ 10 $\mu\text{g/dL}$.

(c) Environmental Intervention Blood Lead Level (EIBLL) is defined as a venous BLL ≥ 20 $\mu\text{g/dL}$, or 2 blood lead levels of 15–19 $\mu\text{g/dL}$ that were drawn at least 3 months apart, where the second test was a venous sample.

Table A-4

Numbers and rates of (1) children tested for lead poisoning, (2) children with elevated blood lead levels, and (3) children with an Environmental Intervention Blood Lead Level, ages 6 months to less than 6 years, by borough, and United Hospital Fund neighborhood: New York City, 2002.

Ages 6 months to less than 6 years

United Hospital Fund Neighborhood	(1) Tests ^(a)			(2) Elevated blood lead levels ^(b)			(3) Environmental intervention blood lead levels (EIBLL) ^(c)			
	Number	Tested		Newly identified			Newly identified EIBLL			
		Percent tested Vital records ^(d)	Census 2000 ^(e)	Number	Rate BLL ≥ 10 µg/dL	Number	Rate EIBLL /1,000 tested	Number	Rate EIBLL /1,000 tested	95% CI Low
New York City total	296,910	47	50	3,985	13.4	506	1.70	1.70	1.56	1.86
NYC, unknown borough	195	—	—	8	—	0	—	—	—	—
Bronx	62,937	53	51	759	12.1	109	1.73	1.73	1.42	2.09
Bronx unknown or invalid ZIP code	3,970	—	—	13	—	0	—	—	—	—
Crotona-Tremont	10,506	47	47	187	17.8	19	1.81	1.81	1.09	2.82
Fordham-Bronx Park	12,339	50	49	152	12.3	33	2.67	2.67	1.84	3.76
High Bridge-Morrisania	9,886	47	49	134	13.6	14	1.42	1.42	0.77	2.38
Hunts Point-Mott Haven	6,689	51	52	81	12.1	11	1.64	1.64	0.82	2.94
Kingsbridge-Riverdale	2,601	48	45	24	9.2	2	0.77	0.77	0.09	2.78
Northeast Bronx	6,460	57	46	72	11.1	12	1.86	1.86	0.96	3.24
Pelham-Throgs Neck	10,486	49	45	96	9.2	18	1.72	1.72	1.02	2.71
Brooklyn	100,287	46	50	1,622	16.2	225	2.24	2.24	1.96	2.56
Brooklyn unknown or invalid ZIP code	6,431	—	—	27	—	0	—	—	—	—
Bedford Stuyvesant-Crown Heights	15,408	51	54	254	16.5	32	2.08	2.08	1.42	2.93
Bensonhurst-Bay Ridge	4,759	36	40	48	10.1	3	0.63	0.63	0.13	1.84
Borough Park	10,270	31	35	186	18.1	28	2.73	2.73	1.81	3.94
Canarsie-Flatlands	6,809	49	46	55	8.1	10	1.47	1.47	0.70	2.70
Coney Island-Sheepshead Bay	7,413	40	42	123	16.6	18	2.43	2.43	1.44	3.84
Downtown-Brooklyn Heights-Park Slope	5,643	36	41	113	20.0	13	2.30	2.30	1.23	3.94
East Flatbush-Flatbush	14,311	48	54	228	15.9	37	2.59	2.59	1.82	3.56
East New York	9,793	56	56	219	22.4	23	2.35	2.35	1.49	3.52
Greenpoint	4,086	31	35	86	21.0	12	2.94	2.94	1.52	5.13
Sunset Park	4,596	35	44	61	13.3	12	2.61	2.61	1.35	4.56
Williamsburg-Bushwick	10,768	53	54	222	20.6	37	3.44	3.44	2.42	4.74

Table A-4. (continued)

United Hospital Fund Neighborhood	(1) Tests ^(a)		(2) Elevated blood lead levels ^(b)		(3) Environmental intervention blood lead levels (EIBLL) ^(c)			
	Number	Percent tested Vital records ^(d)	Newly identified ≥ 10 µg/dL		Newly identified EIBLL			
			Number	Rate BLL ≥10 /1,000 tested	Number	Rate EIBLL /1,000 tested	95% CI Low	High
Manhattan	45,206	42	571	12.6	47	1.04	0.76	1.38
Manhattan unknown or invalid ZIP code	8,696	—	26	—	0	—	—	—
Central Harlem-Morningside Heights	5,228	42	91	17.4	11	2.10	1.05	3.76
Chelsea-Clinton	1,506	26	30	19.9	3	1.99	0.41	5.82
East Harlem	4,615	47	68	14.7	8	1.73	0.75	3.42
Gramercy Park-Murray Hill	1,265	21	26	20.6	0	—	—	—
Greenwich Village-Soho	1,068	28	38	35.6	0	—	—	—
Lower Manhattan	670	34	6	9.0	0	—	—	—
Union Square-Lower East Side	3,162	24	72	22.8	2	0.63	0.08	2.28
Upper East Side	3,754	26	35	9.3	2	0.53	0.06	1.92
Upper West Side	4,210	30	64	15.2	2	0.48	0.06	1.72
Washington Heights-Inwood	11,032	44	115	10.4	19	1.72	1.04	2.69
Queens	75,800	49	919	12.1	110	1.45	1.19	1.75
Queens unknown or invalid ZIP code	5,303	—	26	—	0	—	—	—
Bayside-Little Neck	1,625	54	10	6.2	1	0.62	0.02	3.43
Flushing-Clearview	5,810	41	54	9.3	8	1.38	0.59	2.71
Fresh Meadows	2,712	44	25	9.2	4	1.47	0.40	3.78
Jamaica	11,748	54	143	12.2	20	1.70	1.04	2.63
Long Island City-Astoria	5,740	35	75	13.1	6	1.05	0.38	2.28
Ridgewood-Forest Hills	6,537	42	70	10.7	5	0.76	0.25	1.78
Rockaway	3,992	54	57	14.3	4	1.00	0.27	2.57
Southeast Queens	6,084	55	69	11.3	9	1.48	0.68	2.81
Southwest Queens	10,284	50	164	15.9	17	1.65	0.96	2.65
West Queens	15,965	39	226	14.2	36	2.25	1.58	3.12

Table A-4. (continued)

United Hospital Fund Neighborhood	(1) Tests ^(a)		(2) Elevated blood lead levels ^(b)	(3) Environmental intervention blood lead levels (EIBLL) ^(c)					
	Tested			Newly identified EIBLL					
	Number	Percent tested Vital records ^(d) Census 2000 ^(e)		Number	Rate BLL ≥ 10 $\mu\text{g/dL}$ /1,000 tested	Number	Rate EIBLL /1,000 tested	95% CI Low High	
Staten Island	12,485	39	38	106	8.5	15	1.20	0.67	1.98
Staten Island unknown or invalid ZIP code	108	—	—	0	—	0	—	—	—
Port Richmond	1,878	36	33	32	17.0	6	3.19	1.71	6.95
South Beach-Tottenville	4,916	41	38	13	2.6	0	—	—	—
Stapleton-St. George	3,420	38	39	50	14.6	9	2.63	1.20	5.00
Willowbrook	2,163	39	38	11	5.1	0	—	—	—

(a) Test types: venous, capillary, unspecified.

(b) Elevated blood lead level is defined as a venous, capillary or unspecified BLL ≥ 10 $\mu\text{g/dL}$.

(c) Environmental Intervention Blood Lead Levels (EIBLL) is defined as a venous ≥ 20 $\mu\text{g/dL}$, or 2 blood lead levels of 15–9 $\mu\text{g/dL}$ that were drawn at least 3 months apart, where the second test was a venous sample.

(d) In this column, population counts used as the denominator for percent of children tested were calculated from summing NYC births 1995–2000. Data were obtained from the NYC Department of Health Office of Vital Statistics.

(e) In this column, population counts used as the denominator for the percent of children tested come from the US Census 2000.

Table A-5**Neighborhood codes and their corresponding names, New York City***

	Code	Neighborhood Name
Bronx		
	BX1	Kingsbridge-Riverdale
	BX2	Northeast Bronx
	BX3	Fordham-Bronx Park
	BX4	Pelham-Throgs Neck
	BX5	Crotona-Tremont
	BX6	High Bridge-Morrisania
	BX7	Hunts Point-Mott Haven
Brooklyn		
	BK1	Greenpoint
	BK2	Williamsburg-Bushwick
	BK3	Downtown-Brooklyn Heights-Park Slope
	BK4	Bedford Stuyvesant-Crown Heights
	BK5	East New York
	BK6	Sunset Park
	BK7	Borough Park
	BK8	East Flatbush-Flatbush
	BK9	Canarsie-Flatlands
	BK10	Bensonhurst-Bay Ridge
	BK11	Coney Island-Sheepshead Bay
Manhattan		
	M1	Washington Heights-Inwood
	M2	Central Harlem-Morningside Heights
	M3	East Harlem
	M4	Upper West Side
	M5	Upper East Side
	M6	Chelsea-Clinton
	M7	Gramercy Park-Murray Hill
	M8	Greenwich Village-Soho
	M9	Union Square-Lower East Side
	M10	Lower Manhattan
Queens		
	Q1	Long Island City-Astoria
	Q2	West Queens
	Q3	Flushing-Clearview
	Q4	Bayside-Little Neck
	Q5	Ridgewood-Forest Hills
	Q6	Fresh Meadows
	Q7	Southwest Queens
	Q8	Jamaica
	Q9	Southeast Queens
	Q10	Rockaway
Staten Island		
	S1	Port Richmond
	S2	Stapleton-St. George
	S3	Willowbrook
	S4	South Beach-Tottenville

* United Hospital Fund (UHF) classifies New York City into 42 neighborhoods, comprised of contiguous ZIP codes.

Need Help or Information?

Call: 311

With just one phone call you can:

- **Get information on lead poisoning prevention or treatment;**
- **Find out how to report peeling paint or unsafe lead-based paint removal work;**
- **Sign up for free workshops for parents, health-care providers, building owners, and community leaders;**
- **Get information on early intervention services for children at risk for developmental delays or learning disabilities; and**
- **Arrange for an LPPP staff member to speak to your organization about lead poisoning prevention.**



**Department of Health and Mental Hygiene
The City of New York**

**Michael R. Bloomberg
Mayor**

**Thomas R. Frieden, M.D., M.P.H.
Commissioner**