

**THOUSANDS OF NEW YORK CITY CHILDREN  
STILL HAVE LEAD LEVELS ABOVE THE LEVEL SET BY THE FEDERAL  
CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC)**

**MORE NEEDS TO BE DONE TO PROTECT NEW YORK CITY CHILDREN FROM  
EXPOSURE TO LEAD FROM LEAD PAINT**

In 1991, the CDC established 10 µg/dL as the definition of lead poisoning.<sup>1</sup> Analyzing recently obtained data from the New York City Department of Health (NYCDOH), NYPIRG has reviewed the test results of **63,014** New York City children who were newly-identified between 1995 and 2000 with a blood lead level at or above 10 micrograms per deciliter (10 µg/dL).<sup>2</sup> These tests were performed on children between ages 6 months and 6 years by health care providers and reported to the NYCDOH. NYCDOH statistics show that only 59% of one year olds and 50% of two year olds are tested.<sup>3</sup>

The data show that over 40 years after the NYCDOH banned the use of lead paint in residential dwellings, many children — especially Black, Hispanic and Asian children — are still exposed to lead. The cause is lead paint. Sometimes it is ingested in the form of paint chips, but scientific research shows that the primary pathway for exposure is from the ingestion of lead contaminated dust.<sup>4</sup> This is happening in **every** borough and **every** Council District. (See Table 1 and Graph 1.)

Although exposure to lead has been declining in New York City, **6,231** children in 2000 were newly-identified by testing with a blood lead level at or above 10 µg/dL. NYPIRG estimates that the total number of children between ages 6 months and 6 years who in 2000 were at or above 10 µg/dL is **11,597**. This number is roughly twice as many as were reported by health care providers to the NYCDOH as a result of testing. (See Graph 2.) NYPIRG bases this higher number on the following calculation: To obtain a rate of lead poisoning, the number of children with positive test results at or above 10 µg/dL (6,231) was divided by the number of children tested in 2000 (321,404). Next, this rate was multiplied by the City’s entire population between ages 6 months and 6 years, which

<b>Table 1</b> New York City Council Districts with the Most and Least Newly-Identified Children Ages 6 Months to 6 Years with a Blood Lead Level at or above 10 µg/dL (1995 to 2000 Combined)			
BOROUGH	COUNCIL MEMBER	MOST	LEAST
Bronx	<b>Rivera</b>	2,152	
	<b>Provenzano</b>		906
Brooklyn	<b>Dilan</b>	3,152	
	<b>Golden</b>		657
Manhattan	<b>Jackson</b>	1,687	
	<b>Miller</b>		377
Queens	<b>Comrie</b>	1,528	
	<b>Avella</b>		348
Staten Island	<b>McMahon</b>	1,095	
	<b>Lanza</b>		322

is roughly 600,000 children. (2000 U.S. Census). The result — 11,597 — is approximately **2%** of the population under 6. For 1995 to 2000, NYPIRG estimates the number of children between ages 6 months and 6 years who were at or above 10 µg/dL is **136,404**.<sup>5</sup> If decisive action had been taken to eradicate lead poisoning back in 1995, thousands of children would have been protected. To avoid repeating this mistake, decisive action must be taken today to reduce exposure to lead paint and lead contaminated dust.<sup>6</sup>

NYPIRG also found that **94%** of children who were identified as lead poisoned between 1995 and 2000 were Black, Hispanic or Asian.<sup>7</sup> (See Graph 3.) Altogether, **two-thirds** of children with a blood lead level at or above 10 µg/dL resided in **just 23 of 51 Council Districts** — 21 of which are represented by Council Members of color.<sup>8</sup> (See Tables 2 and 3 and Map1.)

The data also show that among children who were newly-identified with a blood lead level at or above 10 µg/dL, **43%** resided in Brooklyn, **23%** resided in Queens, **21%** resided in the Bronx, **19%** resided in Manhattan and **3%** resided in Staten Island. (See Graph 4.)

Lead is a toxic substance. Lead affects children’s health by undermining normal cognitive development, behavior, and growth. When young children ingest lead, its adverse effect has been demonstrated at a blood lead level of 10 µg/dL *and lower*.<sup>9</sup> As yet, scientists have failed to establish a threshold below 10 µg/dL at which there is no harm.<sup>10</sup> Under New York state law, every child must be tested at ages 1 and 2, and at ages 3 to 5 if a child is at risk of exposure because of housing conditions and other factors.<sup>11</sup>

Council Member	Borough	City Council District	No. of Children at or above 10 µg/dL (1995 to 2000)	Black, Latino and Asian Caucus Member
Dilan	Brooklyn	37	3152	Yes
Vann	Brooklyn	36	2782	Yes
Reyna	Brooklyn	34	2543	Yes
Boyland	Brooklyn	41	2263	Yes
Rivera	Bronx	15	2152	Yes
Barron	Brooklyn	42	2043	Yes
Foster	Bronx	16	1972	Yes
Davis	Brooklyn	35	1945	Yes
Baez	Bronx	14	1752	Yes
Serrano	Bronx	17	1707	Yes
Jackson	Manhattan	7	1687	Yes
Clarke	Brooklyn	40	1686	Yes
Rodriguez	Brooklyn	38	1633	Yes
Diaz	Bronx	18	1593	Yes
Yassky	Brooklyn	33	1548	No
Comrie	Queens	27	1528	Yes
Perkins	Manhattan	9	1487	Yes
Jennings	Queens	28	1482	Yes
Monserate	Queens	21	1438	Yes
Sanders	Queens	31	1396	Yes
Stewart	Brooklyn	45	1372	Yes
Reed	Manhattan	8	1310	Yes
DeBlasio	Brooklyn	39	1279	No

Frequently, toddlers and young children are exposed to lead when they ingest small amounts of lead-contaminated house dust during normal hand-to-mouth behavior. In New York City, the most common source of lead is deteriorating lead paint and lead contaminated dust, found primarily in pre-1960 buildings in poor condition.<sup>12</sup> Even at the moderate to low levels of exposure emphasized in this report, scientific evidence shows that lead can adversely impair a child's performance on standardized intelligence tests, and it can affect school performance, educational attainment and, ultimately, success in the labor market.<sup>13</sup>

## RECOMMENDATIONS

NYPIRG **recommends** that the City Council strengthen New York City's lead paint laws by enacting **Introduction (Int.) 101**. Int. 101 is a comprehensive childhood lead poisoning prevention bill sponsored by 31 City Council Members and the Public Advocate. The sponsors are: **Perkins, Lopez, Quinn, Reed, Boyland, Rivera, Brewer, Jackson, Liu, Yassky, Barron, Reyna, Clarke, Sanders, Recchia, Vann, Katz, Gerson, Gioia, Baez, DeBlasio, Serrano, Foster, Monserrate, Jennings, Seabrook, Davis, Addabbo, Moskowitz, Koppell, Martinez and Gotbaum (the Public Advocate)**. If enacted, Int. 101 will:

- **Designate lead contaminated dust as a “lead paint hazard.”** Even though lead contaminated dust is the primary pathway of exposure, the definition of a hazard under current local law — Local Law 38 of 1999 — does not include lead dust. Without this change, lead poisoning will not be eradicated. Federal law **does** include lead dust in its definition of a lead paint hazard.
- **Mandate worker safety, training and certification when lead paint violations and other known lead paint hazards are corrected.** Untrained workers can make lead paint hazards worse.
- **Provide financial assistance to qualifying small landlords to encourage them to inspect for and correct lead paint hazards before children are exposed.** Small landlords may want to correct lead paint problems but are concerned about the expense.
- **Shorten the time frames allowed for the correction of known lead paint hazards.** The longer a lead paint

hazard remains, the greater the possibility that a child will be poisoned.

- **Improve coordination between New York City's Health and Housing Departments.** Better coordination should save the City money and better protect children.
- **Improve data collection about the sources of lead poisoning and how to prevent it.** Not all old housing is dangerous even though it has lead paint. More information about how children are poisoned will allow the City to use its limited resources more efficiently.
- **Require New York City's Housing Department to identify the buildings where children are at risk because of a landlord's record of poor maintenance and to conduct inspections for lead paint hazards.** Enforcement under Local Law 38 is solely a complaint driven system. Parents may not know how to complain or fear doing so.
- **Identify and correct lead paint hazards in schools, daycare and playgrounds because children may be exposed in these places too.**

This bill will replace Local Law 38 of 1999, which inadequately protects children from lead poisoning.

## CONCLUSION

Childhood lead poisoning is a preventable disease. The source of children's lead exposure is well-documented, the techniques for assessing their risks are well-developed, and the methods for eliminating the hazards in their environment are well-established in scientific studies and federal regulations and recommendations. In particular, the City Council must adopt Int. 101 in order to incorporate lead-contaminated dust into the local law definition of a "lead paint hazard" and to make other reforms to the law. With this report — which illustrates how many children were lead poisoned and where they are located — New York City Council Members and others now can judge how the problem of childhood lead poisoning directly affects their constituents, their neighborhoods and the City as a whole. It's time to get the lead out of children!

## METHODOLOGY

The lead poisoning testing data used in this report were obtained from the NYCDOH on April 26, 2002, under the Freedom of Information Law (FOIL). Covering the years 1995 to 2000, these data were provided in six separate tables, each one showing the number of children between age 6 months and 6 years who were tested for lead poisoning during a calendar year and who were newly identified as having an elevated blood lead level. Each table was aggregated to show (1) the number of children who were tested for lead poisoning in each New York City ZIP Code and (2) the number of children in each ZIP Code who had a blood lead level at or above either 10  $\mu\text{g}/\text{dL}$  or 20  $\mu\text{g}/\text{dL}$ .

To produce this report, NYPIRG's Community Mapping Assistance Project (CMAP) converted the NYCDOH ZIP Code data to their corresponding New York City Council District. There are several methods to convert data in this manner, and NYPIRG chose the following approach in order to best represent the population patterns for children under the age of six years.

The first step was to determine the population patterns throughout each ZIP Code based on block-level 2000 Census data for the population of children under 6. We then calculated the percentage of each ZIP Code's population for children under 6 represented by each Census block within the ZIP Code. We multiplied the NYCDOH ZIP Code data by each block percentage, in order to distribute the NYCDOH data by Census block across each ZIP Code. Each Census block was also assigned to the City Council district in which it was located. The distributed NYCDOH data was then aggregated by City Council district. This resulted in the totals by City Council district for number of children tested, number of children with elevated blood lead levels, total population, and total population under six years. This method assumes that the distribution of lead testing and poisoning cases are distributed the same way as the population of children under six years of age.

The borough and citywide totals based on these City Council-level calculations may not match the totals provided by NYCDOH for the following reasons. Excluded from this report because the data did not have a ZIP Code are the results of 3,842 tests where children had blood lead levels at or above 10  $\mu\text{g}/\text{dL}$ . Also, our methodology required rounding the percentages resulting from block-level allocation, which may slightly change the total amounts.

## NOTES

1. In October, 1991, the Federal Centers for Disease Control and Prevention (CDC) issued revised guidelines entitled, Preventing Lead Poisoning In Young Children. These guidelines lowered the case definition of lead poisoning from 25 micrograms per deciliter (25 µg/dL) to 10 µg/dL and provided recommendations for intervention and actions to respond to and prevent lead poisoning.

In response to the revised CDC guidelines, the NYCDOH amended the NYC Health Code in November 1992. The amendments changed the NYCDOH case definition of lead poisoning from a level of 25 µg/dL to 20 µg/dL. The NYCDOH began conducting a routine environmental investigation for any child whose venous blood lead level (BLL) was equal to or greater than 20 µg/dL. The amendments also made it a requirement to report all blood lead levels at 10 µg/dL to the NYCDOH. In 1999, the NYCDOH began conducting routine environmental investigations for children who have two venous BLLs of 15 - 19 µg/dL at least 3 months apart or one venous BLL of 20 µg/dL or higher. <http://www.nyc.gov/html/doh/html/lead/lbasics.html>.

2. This report focuses primarily on the number of children with low to moderate levels of lead poisoning at or above 10 µg/dL. (See Maps 1 and 2; Graphs 1, 2 and 4; and Tables 1, 2, 3, 4A and 4B.) Even at these levels, lead poisoning causes cognitive and developmental damage. S.Grosse et al., "Economic Gains Resulting from the Reduction in Children's Exposure to Lead in the United States," Environmental Health Perspectives, Vol. 110, No. 6 (June 2002). NYPIRG also obtained NYCDOH data pertaining to the number of children with a higher level of lead poisoning, usually at or above 20 µg/dL. Some of these data are also presented. (See Note 8; Maps 3 and 4; Graph 3; and Table 5.)

3. NYCDOH Press Release dated April 17, 2002.

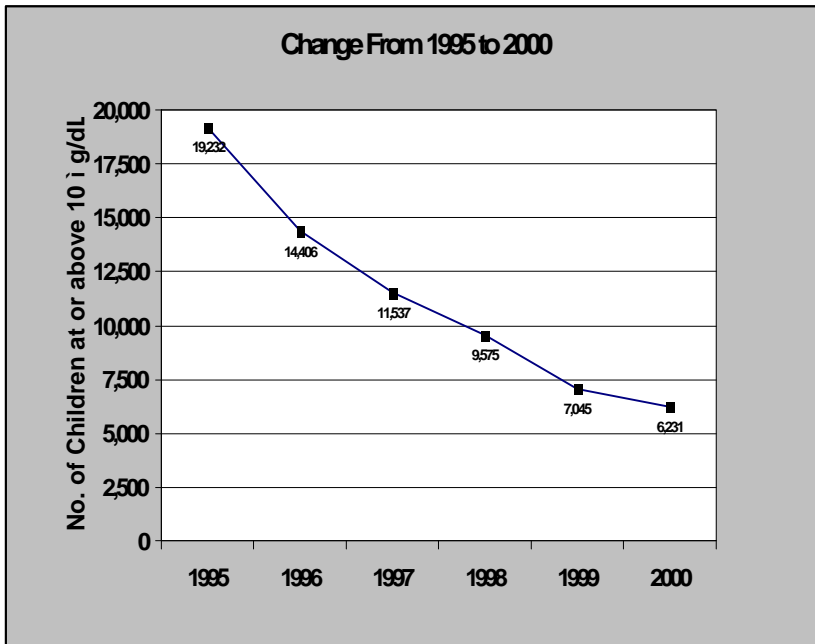
4. Lead dust is invisible to the naked eye and highly toxic even in very small quantities. When lead paint deteriorates, it can generate large amounts of lead dust. Lead paint on friction surfaces such as windows and door jambs also generates lead dust through abrasion. Lead paint on impact surfaces such as baseboards and doors generate lead dust through regular wear and tear. Lead paint on accessible surfaces such as window sills pose a great risk to toddlers who explore the world through "mouthing." When surfaces covered with lead paint are broken to make repairs, a significant amount of lead dust may be generated.

Until its ban in 1960, New York City permitted the use of indoor lead paint. Presently, lead paint hazards in homes are considered the most important source of lead exposure in U.S. children. Screening Young Children for Lead Poisoning: Guidance for State and Local Public Health Officials, Centers for Disease Control and Prevention (1997) at 9; "A Guide to New York City Local Law 38 of 1999: Keeping Your Home Safe from Lead-based Paint," NYCDOH website: <http://www.nyc.gov/html/doh/html/lead/lead38.html>. An estimated 2 million New York City housing units contain some lead paint, of which approximately 323,000 residential units are home to children under six years of age. New York City Department of Housing Preservation and Development (HPD) Request for Grant Assistance Lead-Based Paint Hazard Control (to HUD), July 31, 1997, at 19. Although some children ingest lead paint chips, it is now undisputed that lead dust constitutes the major pathway for ingestion. United States Department of Health & Human Services, CDC,

Preventing Lead Poisoning in Young Children (1991) at 18-19; United States Department of Housing and Urban Development, National Survey of Lead and Allergens in Housing, Final Report, Volume I: Analysis of Lead Hazards, April 18, 2001, at 1-2; Lanphear, BP, et al., "Lead-Contaminated House Dust and Urban Children's Blood Lead Levels," 86 Am. J. Public Health 1416-1421 (1996).

5. This estimate is consistent with NYCDOH statistics showing that only 59% of one year olds and 50% of two year olds are tested. NYCDOH Press Release dated April 17, 2002. Moreover, the number of children with lead poisoning may be higher if children who are not receiving a lead test at the proper intervals are also children who live in the City's worst housing.

6. While the annual number of newly-identified children with a blood lead level at or



above 10 µg/dL has been declining, it appears that the decline from year to year — in terms of the number of children identified — is becoming smaller and that thousands of children still will become lead poisoned in the future.

7. According to the NYCDOH, reliable race/ethnicity data are not available for children at or above 10 µg/dL but below the environmental investigation level.

8. NYPIRG also analyzed data for children with a blood lead level high enough to trigger a NYCDOH environmental investigation. (See Note 1.) In 2000, 519 children were newly-identified at or above 20 µg/dL and 155 children were newly-identified at between 15-19 µg/dL. For brevity, NYPIRG in this report refers to all reported cases that require environmental intervention as a blood lead level at or above 20 µg/dL. Between 1995 and 2000, the total number of children with a reported blood level at or above 20 µg/dL was 5,963, and 311 children were between 15-19 µg/dL. Two-thirds of children with a blood lead level at or above 20 µg/dL resided in just 20 of the City Council's 51 Districts, 18 of which are represented by Council Members of color. (See Table 5 and Map 4.)

9. Hearing on "Lead-Based Paint Poisoning: State and Local Responses" before the U.S. Senate Committee on Banking, Housing and Urban Affairs, Subcommittee on Housing and Transportation, Prepared Statement of Dr. Bruce Lanphear, November 13, 2001, at 1-2.

10. Lead — like ionizing radiation — is established now as a non-threshold toxicant.

11. Based on previously released NYCDOH data, NYPIRG estimates that 54% of children with lead poisoning are above 2.5 years old.

12. “A Guide to New York City Local Law 38 of 1999: Keeping Your Home Safe from Lead-based Paint,” NYCDOH website: <http://www.nyc.gov/html/doh/html/lead/lead38.html>. New York City has the nation’s oldest housing, with the nation’s highest percentage of pre-1950 (47.1%) and pre-1960 (63.5%) residential housing. Nationally, 99% of buildings constructed before 1940 and 85% of buildings constructed before 1960 have some lead paint. National Academy of Sciences National Research Council, Measuring Lead Exposure in Infants, Children, and Other Sensitive Populations (1993) at 113. “[O]lder homes are more likely to have [lead paint] than newer homes. An estimated 24 percent ( $\pm 6\%$ ) of homes built between 1960 and 1977 have [lead paint], but the percentage increases to 69 percent ( $\pm 9\%$ ) for homes built between 1940 and 1959, and to 87 percent ( $\pm 5\%$ ) for homes built before 1940.” United States Department of Housing and Urban Development, National Survey of Lead and Allergens in Housing, Final Report, Volume I: Analysis of Lead Hazards, April 18, 2001, at 4-1.

13. In S.Grosse *et al.*, “Economic Gains Resulting from the Reduction in Children’s Exposure to Lead in the United States,” *Environmental Health Perspectives*, Vol. 110, No. 6 (June 2002), the authors explain the scientifically documented adverse association between lead exposure and cognitive ability, which they say “is supported by epidemiologic and experimental evidence and is widely accepted by scientists.” *Id.* at 568.

According to the authors, “The best-established measure of neurologic deficit associated with early lead exposure is reduced cognitive performance as measured on standardized tests of general intellectual ability, or IQ.” *Id.* at 563. Moreover, they say, “Cognitive ability affects school performance, educational attainment, and success in the labor market, and hence is positively associated with earnings. . . . The best documented adverse health effect of moderate-to-low levels of lead exposure among children is impaired neurodevelopment, specifically, performance on standardized intelligence tests.” *Id.* at 563-64.

The authors conclude that even a small loss of intelligence associated with this level of lead poisoning may result in a significant potential decrease in lifetime earnings among adults exposed to lead as children.

This report was written by Andrew Goldberg and David Palmer. The maps were produced by Meg McCarron.