Childhood Lead Poisoning

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Section

1

Executive Summary

Lead poisoning continues to be the number one environmental poison for children in New York State. Lead is highly toxic and is most harmful to children in their early years. Elevated blood lead levels can trigger serious health conditions, ranging from gastro-intestinal symptoms to chronic kidney inflammation or even convulsions. A strong link also exists between such lead levels and reduced IQ and behavioral problems. These secondary impacts can then negatively affect the social and economic prospects of children far into their future.

In addition to the specific impacts on children and their families, elevated blood lead levels result in fiscal costs for the State and its taxpayers. Elevated blood lead levels and lead poisoning often require health care, special education and criminal justice services—with the cost for many of these services ultimately funded by taxpayers.

Children are exposed to lead primarily through hand-to-mouth activity or the inhalation of lead dust. The main source of lead exposure in children is lead-based house paint and the contaminated dust it generates when the paint peels, chips or is disturbed during home renovations when painted surfaces are prepared for repainting. Although lead-based paint was banned by the federal government, the State and New York City decades ago, many residences contain old lead paint, which remains dangerous to children and others as it continues to deteriorate. Lead poisoning from this source will only be eliminated through an aggressive primary prevention program, which focuses on such residences.

Lead poisoning also occurs with exposure to non-paint sources, including folk remedies and the use of imported products. To eliminate lead poisoning from such sources, outreach efforts to educate the public must be continued.

Several interrelated risk factors, including the age of the child, the age of the housing stock, race, ethnicity, immigrant status and socioeconomic status, influence the pervasiveness and persistence of childhood lead poisoning.[1] Furthermore, lead poisoning disproportionately affects racial and ethnic minority children under the age of 6 in low-income families living in older, poorly maintained housing.[2] It is these factors that pose a significant challenge in New York because of the State's older housing stock, high percentage of minority children and high percentage of children living in poverty. The numbers of such children are particularly high in New York City.

The Department of Health and Human Services Centers for Disease Control and Prevention (CDC) administers federal oversight and policy on childhood lead poisoning screening and treatment. The CDC also sets a blood lead level of concern, currently 10 micrograms per deciliter, which triggers intervention by health care providers and health agencies. The CDC recommends that states use local data to develop statewide plans for lead poisoning screening to better target children at greatest risk and, in the absence of such data or guidance, implement universal screening for young children.[3] The New York State Childhood Lead Poisoning Prevention Program and the New York City Department of Health and Mental Hygiene's Childhood Lead Poisoning Prevention Program are influenced by federal guidelines and State law, but differ as a result of separate State and City regulations adopted to implement the individual programs. In addition, the State and City have established different thresholds for the level of concern for blood lead levels.

National, State and City data reported by the CDC indicate that not all children are being screened as recommended and, in fact, the percentage

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[1] New York State Department of Health. 2004. *Eliminating Childhood Lead Poisoning in New York State by 2010*. <http:www.health.state.ny.us/nysdoh/environ/lead/finalplanstate.htm>.

[2] United States Department of Health and Human Services Centers for Disease Control and Prevention Report to Congress for Fiscal Years 2001-2002. *Childhood Lead Poisoning Prevention Activities Under the Lead Contamination Control Act of 1988*. <http://www.cdc.gov/nceh/lead/Legislation%20&%20Policy/Reporttocongress(2001-2002).pdf>.

[3] United States Department of Health and Human Services Centers for Disease Control and Prevention. November 1997. *Screening Young Children for Lead Poisoning: Guidance for State and Local Public Health Officials*. <http://www.cdc.gov/nceh/lead/guide/guide97.htm>.

of children screened for elevated blood lead levels is quite low. In 2005, only 12.6 percent of children age 6 and under were screened for elevated blood levels in the country, and only 12.9 percent of this age group were screened in New York State, excluding New York City. The City screened 46.6 percent of its child population age 6 and under in 2004 (most recent available data for New York City).[4] Such low screening rates unnecessarily place children at risk for negative health and social outcomes that result from elevated blood lead levels. Furthermore, while the New York State Department of Health (Department) attempts to identify duplicate records for children through a data match, some children are counted more than once in the screening rates, which results in inflated data.

While the most recent data shows a decline in the percentage of children with elevated blood lead levels (7.6 percent of those screened in 1997, as compared to 1.6 percent in 2005 for New York State), it is important to emphasize that screening is far from universal as recommended by the CDC and required by the State. Even with low screening rates, the number of newly identified cases each year remains significant. The most recent available national data shows elevated blood lead levels for 46,770 children age 6 and under in the United States in 2005, representing 1.6 percent of all children screened. In the same year, 3,012 children age 6 and under in New York State (excluding New York City), also representing 1.6 percent of all children screened, were newly identified with elevated blood lead levels.[5] Data is only available for New York City in 2004, during which time 3,150 children age 6 and under, representing 1.1 percent of all children screened, had elevated blood lead levels.

While the City screens a larger percentage of children than the State, they have similar proportions of confirmed elevated blood lead levels of those screened (1.1 percent for the City in 2004, as compared to 1.6 percent for the State in 2005). Still, while the City's 1.1 percent of confirmed elevated blood lead levels represents only a small percentage of the overall child population screened, it disproportionately represents the most vulnerable, low-income urban, minority children.[6] For the State, since high numbers of children age 6 and under are not being screened as required, the number of children in the State with elevated blood lead levels is likely much higher.

To combat this health risk, New York State accepted the federal government's Healthy People goal to eliminate lead poisoning in children

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[4] National Center for Environmental Health: Childhood Lead Poisoning Prevention Program. CDC Surveillance Data, 1997-2005. <http://www.cdc.gov/nceh/lead/surv/database/State_Confirmed_byYear_1997_to_2005.xls>.

[5] The data is reported by the National Center for Environmental Health (Childhood Lead Poisoning Prevention Program. CDC Surveillance Data, 1997-2005. http://www.cdc.gov/nceh/lead/surv/database/State_Confirmed_byYear_1997_to_2005.xls).

[6] *Ibid.*

age 6 and under by 2010. The New York State Department of Health (Department) developed a model, however, that found if current trends persist through 2010, the State will *not* eliminate lead poisoning in children age 6 and under.[7] While the incidence of lead poisoning would be significantly less than at present, current State policies will not achieve the 2010 goal to eliminate childhood lead poisoning.

The Department's strategic plan appropriately focuses on three areas: secondary intervention, targeting high-risk populations and primary prevention. Secondary intervention strategies respond to elevated blood lead levels after the problem has occurred; primary prevention strives to eliminate the source of lead exposure. Whether screening blood lead levels as a secondary intervention or abating or containing lead-contaminated residences as a primary prevention tactic, it is logical to focus efforts on child populations that are at risk of lead exposure.

A recent audit conducted by the Office of the State Comptroller focuses on the Department's secondary intervention strategies and includes 18 recommendations for strengthening these efforts to detect and mitigate the effects of lead poisoning. The audit specifically recommends the Department make better use of resources to ensure that all children are screened for lead poisoning as required. The audit also found the Department has developed some primary prevention tools to reduce or eliminate exposures or risk factors before the onset of the condition.

Secondary intervention is necessary to identify and manage care for children with elevated blood lead levels, while preventing lead exposure in the first place is necessary to preclude additional children from suffering the same consequences. Only by combining primary prevention with secondary intervention can childhood lead poisoning actually be eliminated. Recognizing this fact, the CDC issued updated guidelines in 2003, which recommend that statewide plans focus on primary prevention. In conjunction with improving its secondary prevention activities by implementing the audit recommendations, the Department should further enhance primary prevention efforts, and the State should make a strong commitment to accelerate progress toward eliminating childhood lead poisoning in the State.

Eradication of lead poisoning would undoubtedly save millions of dollars in direct and indirect services funded by the State's taxpayers for those with elevated blood lead levels. Most significantly, the elimination of lead poisoning would allow many children to avoid serious health conditions. While the incidence of lead poisoning in New York State has steadily

[7] New York State Department of Health. 2004. *Eliminating Childhood Lead Poisoning in New York State by 2010*.
<http:www.health.state.ny.us/nysdoh/environ/lead/finalplanstate.htm>.

declined over the past several decades, it does not provide a complete picture of the threat. More needs to be done to eradicate this preventable condition and put an end to the unnecessary suffering of the State's most vulnerable residents, our children.

Section

2

Quantifying Lead Exposure

Children are exposed to lead primarily through typical child hand-to-mouth activity by putting lead-contaminated soil, toys or other objects in their mouth or inhaling lead dust. The main source of lead exposure in children is lead-based house paint and the contaminated dust and soil it generates when the paint peels, chips or is disturbed during home renovations or the preparation of painted surfaces for repainting without proper safeguards.[8] Although lead-based paint was banned by the federal government, New York State and New York City decades ago, many residences contain old lead paint which children can ingest or inhale as it continues to deteriorate.[9]

The federal Department of Health and Human Services Centers for Disease Control and Prevention (CDC) is responsible for recommending federal, state and local policy on preventing childhood lead poisoning. The federal government established a Healthy People 2010 goal to eliminate childhood lead poisoning in children age 6 and under by 2010. The CDC sets the threshold for elevated blood lead levels, which trigger intervention by health care providers and/or health agencies. The goal of intervention activities is to identify any significant source of lead to which a child may be exposed, and reduce that exposure. Since 1991, the CDC's "level of concern" has remained at 10 micrograms per deciliter (μg/dL) of whole blood.[10]

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[8] United States General Accounting Office. January 1999. Report to the Ranking Minority Member, Committee on Government Reform, House of Representatives. *Lead Poisoning Federal Health Care Programs Are Not Effectively Reaching At-Risk Children*. GAO/HEHS-99-18. <http://www.gao.gov/archive/1999/he99018.pdf>.

[9] Other sources of lead include folk remedies used by certain ethnic groups, lead-contaminated drinking water, imported lead glazed ceramic-ware and clothing of parents whose work or hobby involves lead.

[10] United States Health and Human Services Centers for Disease Control and Prevention. October 1991. *Preventing Lead Poisoning in Young Children: A Statement by the Centers for Disease Control*. Atlanta: Public Health Service. <http://www.cdc.gov/nceh/lead/publications/books/plpyc/contents.htm>.

In New York State, the Department of Health is responsible for coordinating and implementing the Childhood Lead Poisoning Prevention Program (State Program). The New York State Department of Health (Department) accepted the federal goal to eliminate childhood lead poisoning in children age 6 and under by 2010 as a public health goal for the State, although its definition of lead poisoning is less rigorous than the federal definition. Although the Department and the CDC use the same elevated blood lead level ($\geq$ 10 μg/dL), they do not use the same definition of lead poisoning. The CDC makes no distinction between an elevated blood lead level and lead poisoning—the CDC uses the two terms synonymously. However, in New York, lead poisoning is defined as a blood lead level equal to or greater than 20 μg/dL.[11]

The New York City intervention blood lead level is higher than both the CDC level and the State level and is equal to or greater than 15 μg/dL.[12] There the Department of Health and Mental Hygiene (DOHMH) operates its own Lead Poisoning Prevention Program (City Program), which provides environmental intervention and case management services for children with blood lead levels at or above 15 μg/dL. The State and City Programs are administered separately, have different blood lead level thresholds, but have similar goals. Although both programs are influenced by CDC guidelines and State law, they differ as a result of separate State and City regulations adopted to implement the individual programs.[13]

Despite the fact that childhood lead poisoning has continued to decline over the past several decades, lead continues to be the number one environmental poison for children in New York State. A supplement to a 2004 Department study found that approximately 2,800 children were newly identified as having elevated blood lead levels in calendar year 2003.[14] Although this represents a small percentage of the overall child population, it disproportionately represents the most vulnerable, low-income urban, minority children.[15]

The Department has indicated that while the number of children with lead poisoning will significantly decline if current trends persist through 2010, the

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[11] New York State Department of Health. 2004. *Promoting Lead Free Children in New York State: A Report of Lead Exposure Status Among New York Children 2000-2001*. <http://www.health.state.ny.us/nysdoh/lead/exposure_report/index.htm>.

[12] New York City Department of Health and Mental Hygiene. May 2006. Annual Report 2004: New York City Childhood Lead Poisoning Prevention Program. <http://www.nmic.org/nyccelp/medical-studies/DHMH-lead-2004report.pdf>. The 15 μg/dL level was established in August 2004.

[13] New York Public Health Law, Sections 1370-1376. Chapter 485 of the Laws of 1992.

[14] New York State Department of Health. 2006. *Promoting Lead Free Children in New York State: A Report of Lead Exposure Status Among New York Children 2000-2001*. Supplemental Report.

[15] New York State Department of Health. 2004. *Eliminating Childhood Lead Poisoning in New York State by 2010*. <http:www.health.state.ny.us/nysdoh/environ/lead/finalplanstate.htm>.

State will not eliminate the condition.[16] In addition, a recent audit by the Office of the State Comptroller found that improvements are needed to ensure that all the goals of the State Program are being met. As a result, the State must take additional steps to eradicate lead poisoning. Although it is a preventable condition, as long as lead poisoning continues to exist, the State's children will continue to suffer, and taxpayers will be responsible for funding much of the direct and indirect services that result.

[16] New York State Department of Health. 2004. *Eliminating Childhood Lead Poisoning in New York State by 2010*. <http:www.health.state.ny.us/nysdoh/environ/lead/finalplanstate.htm>.

Section

3

Lead Poisoning as a Public Health Concern

Individual and Societal Impacts of Lead Poisoning

Lead is highly toxic and elevated blood lead levels are linked with a wide array of negative health effects. Once lead enters the body, it travels to soft tissues and organs, such as the liver, kidneys, lungs, brain, spleen and heart. In adults, once lead is absorbed, about 99 percent will exit the body within a couple of weeks through natural excretion. In contrast, much less lead, only about 32 percent, leaves a child's body within the same time period. After several weeks, the majority of the lead moves into the bones and teeth where it can remain for decades. Continued exposure may result in the accumulation of lead in the body, particularly in the bones.[17]

Blood lead levels over 25 μg/dL can lead to anemia, kidney malfunction, osteoporosis, hypertension and lead encephalopathy (disruption of normal brain functioning).[18] Extremely elevated lead levels (70 μg/dL and higher) can cause brain swelling, convulsions and even death.[19] In addition, lead exposure during childhood can have adverse health effects well into adulthood. For example, some studies have linked childhood lead poisoning with hypertension and tooth decay later in life.

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[17] United States Department of Health and Human Services Agency for Toxic Substances and Disease Registry. September 2005. Public Health Statement for Lead. <http://www.atsdr.cdc.gov/toxprofiles/phs13.html#bookmark04>.

[18] New York State Department of Health. 2004. *Eliminating Childhood Lead Poisoning in New York State by 2010*. <http:www.health.state.ny.us/nysdoh/environ/lead/finalplanstate.htm>.

[19] *Ibid.*

Elevated blood lead levels and lead poisoning have also been linked to a wide range of secondary impacts affecting the social and economic prospects of children. For example, for every incremental increase of 10 μg/dL of lead in the blood, IQ scores decline between 2.5 and 3.0 points.[20] Because IQ is lower for children who have been exposed to lead, it is likely that they will complete lower levels of education and have lower paying jobs. Scientific research has also shown that lead-exposed children and adolescents are more likely to have behavioral problems which may require special education. These children also often display delinquent behavior, which can lead to arrest and imprisonment.[21]

In addition to the individual impacts that lead poisoning has on children and their families, lead poisoning creates fiscal impacts to the State and its taxpayers. Elevated blood lead levels can lead to the need for health care, special education and/or criminal justice services, which may incur Medicaid spending. Similarly, special education services, which may be required with this issue, are paid for through federal, state and local tax collections, as are criminal justice services. While the source of the funds used to pay for services for those with elevated blood lead levels is easy to identify, it has been difficult to quantify these costs.

Testing Children for Elevated Blood Levels

Since children with lead poisoning are often symptom-less, universal blood screening to identify elevated lead levels in children is paramount. Screening, the initial blood test, offers the potential to prevent further exposure to a child and also to help keep siblings or other children in the area from future exposure and poisoning. When children with high levels of lead in their blood are identified, "follow-up" blood tests are used to track progress until blood lead levels fall to acceptable levels. For blood lead levels below 20 μg/dL, lowering lead levels primarily involves reducing the source of exposure and nutritional counseling. For lead levels above 20 μg/dL, home inspections, developmental screening and, when appropriate, medical treatment (chelation therapy) are required. Chelation therapy involves injections of a synthetic amino acid (ethylene diamine tetracetic acid), which detoxifies the body of heavy metals like lead.

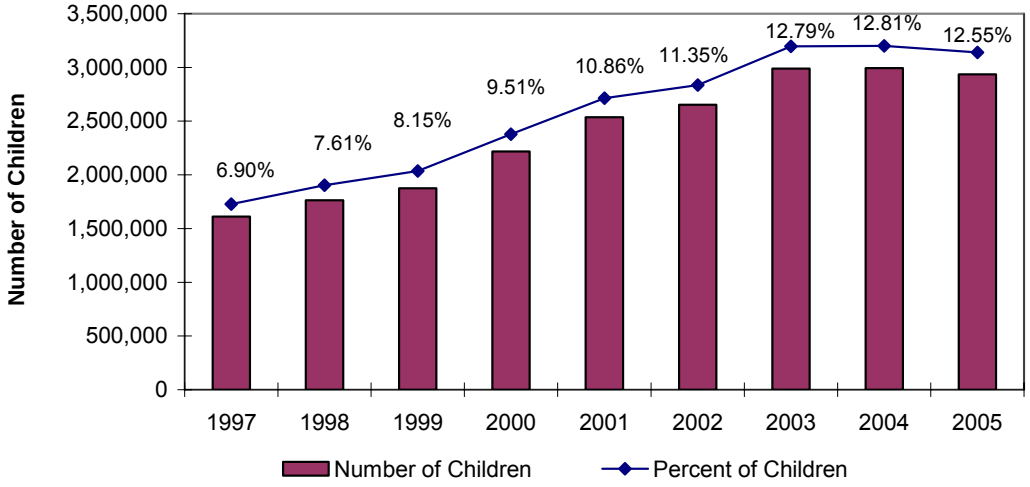
[20] State of New York Office of the Attorney General Health Care Bureau. July 2004. *Getting the Lead Out: Are New York's Managed Care Plans Complying with the State's Childhood Lead Screening Laws?* <http://www.oag.state.ny.us/press/reports/getting_the_lead_out_report.pdf>.

[21] Needleman, H.L., et al. February 1996. "Bone Lead Levels and Delinquent Behavior." *The Journal of the American Medical Association*. 275.6 (February 1996): Abstract.

National

The federal Department of Health and Human Services Centers for Disease Control and Prevention (CDC) recommends that states use local data to develop statewide plans for childhood lead poisoning screening to better target children at the greatest risk. In the absence of such data or guidance, the CDC recommends screening all children ages 1 through 5. The CDC's Lead Poisoning Prevention Branch collects state surveillance data for children age 6 and under who are tested for lead at least once each calendar year.[22] The CDC data shows 2.9 million children age 6 and under, representing 12.6 percent of the eligible child population, were screened at least once in 2005. Although only a small portion of the population is being screened each year, this number has increased over time; from 1997 to 2005, the number of children screened increased 82.1 percent.[23]

United States
Number of Children and Percent
of Children Under Age 6 Screened
1997-2005



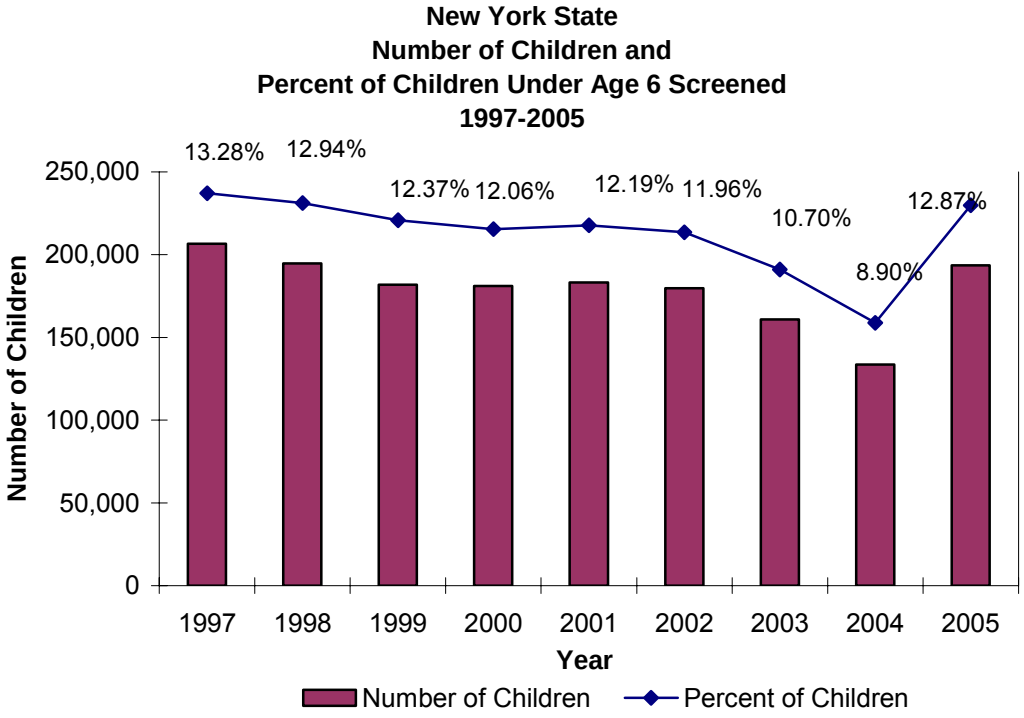
Source: Centers for Disease Control and Prevention, Childhood Lead Poisoning Prevention Program.

[22] A child is counted only once each year in federal Department of Health and Human Services Centers for Disease Control and Prevention (CDC) tables showing the number of children with confirmed elevated blood lead levels (BLLs), regardless of the number of follow-up tests. If a child with a confirmed elevated BLL has no follow-up test or only follow-up tests that are below 10 mg/dL, the child would not be counted with confirmed elevated blood lead levels in a subsequent year.

[23] National Center for Environmental Health: Childhood Lead Poisoning Prevention Program. CDC Surveillance Data, 1997-2005. <http://www.cdc.gov/nceh/lead/surv/database/State_Confirmed_byYear_1997_to_2005.xls>.

New York State

According to the State surveillance data reported for 2005 by the CDC, 193,523 children, or 12.9 percent, age 6 and under were screened, a *decrease* of 6.3 percent from 206,547 children screened in 1997.[24] In comparison, the national number of children screened *increased* 82.1 percent during the same time. The 2005 CDC data for the nation and the State reflect screenings for similar percentages of the child population (12.6 percent for the nation and 12.9 percent for the State).[25]



Source: Centers for Disease Control and Prevention, Childhood Lead Poisoning Prevention Program.

In 1992, New York State enacted lead screening legislation which mandates health care providers to screen children and pregnant women for elevated blood levels.[26] Additional Department of Health (Department) regulations specify that children be screened at age 1 and again at age 2.

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[24] National Center for Environmental Health: Childhood Lead Poisoning Prevention Program. CDC Surveillance Data, 1997-2005. <http://www.cdc.gov/nceh/lead/surv/database/State_Confirmed_byYear_1997_to_2005.xls>.

[25] *Ibid.*

[26] New York Public Health Law, Sections 1370-1376. Chapter 485 of the Laws of 1992.

Health care providers are also mandated to continually risk assess children age 6 and under for elevated blood lead levels during routine well-visits.[27]

The Department uses a different methodology than the CDC to track screening statistics in the State. The CDC reports on the number of children age 6 and under screened at least once each calendar year, while the State reports on children screened at least once by 24 months of age by birth cohort year and also tracks the number of those children screened a second time. The most recent report by the Department found that the percentage of children in New York State screened *at least once* by 24 months of age increased from 62.6 percent of children born in 1996 to 66.1 percent of children born in 2001 (most recent data available).[28] However, while the Department attempts to identify duplicate records for children through a data match, some children are counted more than once in the screening rates, which results in inflated data. Unless identifying statistics are exactly the same, the data match does not eliminate duplicate screenings.[29]

Although one lead screening can certainly be beneficial, two screenings are mandated by law because children's exposure to lead can occur at any time.[30] A recent study by the Department found that of 992,902 children initially screened and found to have no elevated blood lead level, only 32.2 percent (320,083) of these children received the second screening. Of the children that were screened a second time, 8 percent (25,286) were found to have elevated blood lead levels, thus demonstrating the importance of a second screening.[31]

A Department analysis of county level screening data found that 16 of the State's counties (excluding New York City) performed the required second screening on at least 30 percent of all eligible children.[32] This is similar to the statewide second screening rate of 32.2 percent.[33] The analysis also identified 10 counties that screened less than 20 percent of eligible children

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[27] Title 10 NYCRR, Section 67-1.2

[28] New York State Department of Health. 2006. *Promoting Lead Free Children in New York State: A Report of Lead Exposure Status Among New York Children 2000-2001*. Supplemental Report.

[29] Likewise, since the source of the data reported by the Centers for Disease Control (CDC) is the New York State Department of Health Data, CDC data is also reflected.

[30] Title 10 NYCRR, Section 67-1.2.

[31] New York State Department of Health. 2004. *Promoting Lead Free Children in New York State: A Report of Lead Exposure Status Among New York Children 2000-2001*. <http://www.health.state.ny.us/nysdoh/lead/exposure_report/index.htm>.

[32] *Ibid.*

[33] These 16 counties were Albany, Cayuga, Chautauqua, Erie, Herkimer, Lewis, Monroe, Nassau, Niagara, Oneida, Onondaga, Orange, Oswego, Otsego, Westchester and Yates.

a second time.[34] Such low screening rates unnecessarily place children at risk of the negative health and social effects that result from elevated blood lead levels.

Managed care plans that participate in Medicaid, as well as other managed care plans, provide the Department with screening statistics which track screening for low-income children who are more likely to be exposed to lead poisoning. In 2000 and 2001, Medicaid screening rates were 76 percent, higher than the statewide screening rate of 66.1 percent reported by the Department.[35] However, Medicaid screening rates actually declined to 74 percent in 2002. A 2004 study of the managed care plans participating in New York's Child Health Plus found that the screening rates were 68 percent in 2000 and 70 percent in 2001, but then declined to 68 percent in 2002.[36] These statistics show that a significant number of low-income children continue to be at risk for not being screened as prescribed by law.

New York City

The CDC surveillance data for New York City shows that from 1997 to 2004 the number of children age 6 and under screened at least once ranged from 297,000 to 319,000. It is notable that in 2004, the number of children screened at least once represented 46.6 percent of the total population of children age 6 and under.[37] More recent CDC data is available for both the nation and State, which reflect increases for both from 2004 to 2005 (to 12.6 percent for the nation and to 12.9 percent for the State). Even with these recent increases in screening, New York City's 2004 screening percentage is still substantially higher—46.6 percent.

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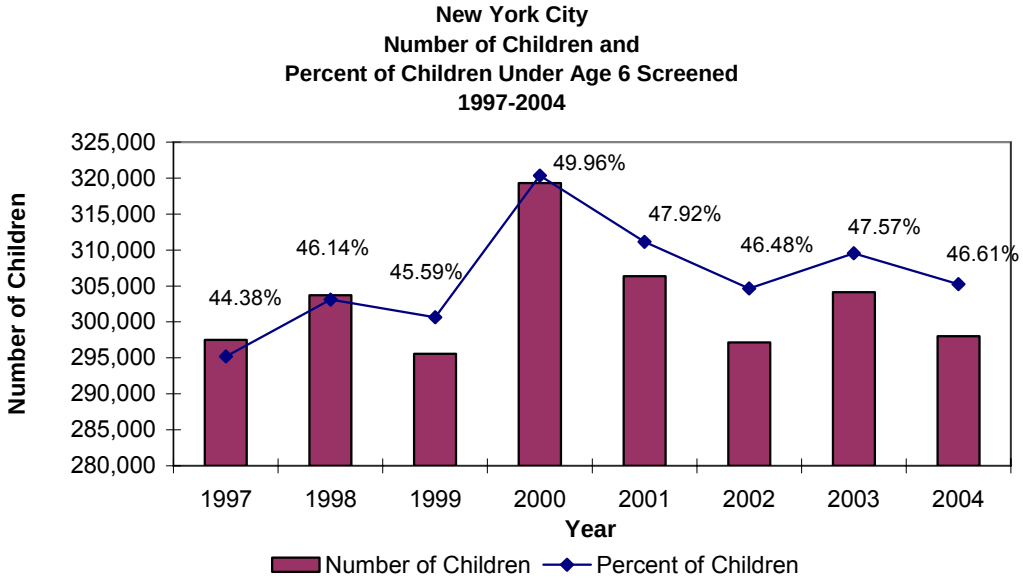
[34] These ten counties were Essex, Genesee, Jefferson, Livingston, Saratoga, Steuben, Tompkins, Washington, Wayne and Wyoming.

[35] The Medicaid screening rate of 76 percent was reported by the State of New York Office of the Attorney General Health Care Bureau (July 2004. *Getting the Lead Out: Are New York's Managed Care Plans Complying with the State's Childhood Lead Screening Laws?* <http://www.oag.state.ny.us/press/reports/getting_the_lead_out_report.pdf>). The 66.1 percent statewide screening rate was reported by the Department of Health in its 2004 report.

[36] State of New York Office of the Attorney General Health Care Bureau. July 2004. *Getting the Lead Out: Are New York's Managed Care Plans Complying with the State's Childhood Lead Screening Laws?* <http://www.oag.state.ny.us/press/reports/getting_the_lead_out_report.pdf>.

[37] National Center for Environmental Health: Childhood Lead Poisoning Prevention Program. CDC Surveillance Data, 1997-2005. <http://www.cdc.gov/nceh/lead/surv/database/State_Confirmed_byYear_1997_to_2005.xls>.



Source: Centers for Disease Control and Prevention, Childhood Lead Poisoning Prevention Program.

The New York City Department of Health and Mental Hygiene (DOHMH) administers the City's Lead Prevention Program (City Program) and keeps a separate record of screening rates for the City's children. The DOHMH also uses a different methodology than the CDC to track screening rates in children. The DOHMH tracks screening in children by birth cohort year and by age.

The DOHMH found that 88 percent of all children born in New York City in 2001 were tested at least once before their third birthday. This represents a 4 percentage point increase in the number of children screened who were born in 2000. However, only 37 percent of children born in 2001 were tested at both ages 1 and 2 as required by law, slightly more the Department's reported statewide screening rate of 32.2 percent. The DOHMH reported that rates also varied by borough, with a high of 71 percent of children under age 3 screened at least once in Manhattan to a low of 52 percent in Staten Island.[38] Both the CDC and DOHM data indicate that New York City screens a greater percentage of children than the State and nation as a whole.

[38] New York City Department of Health and Mental Hygiene. 2004. Report to the New York City Council on Progress in Preventing Childhood Lead Poisoning in New York City in 2004.

Section

4

Existing Policy on Childhood Lead Poisoning

National

The Centers for Disease Control and Prevention (CDC) is responsible for setting national policy on lead poisoning. With the enactment of the Lead Contamination Control Act of 1988, the federal government authorized the CDC to initiate program efforts to eliminate childhood lead poisoning in the United States. Subsequently, the Lead Poisoning Prevention Branch of the CDC was created. This group coordinates federal efforts and provides assistance to state and local entities in carrying out its mission to eliminate childhood lead poisoning. The Lead Poisoning Prevention Branch is authorized to:

- Develop programs and policies to prevent childhood lead poisoning.
- Educate the public and health-care providers about childhood lead poisoning.
- Provide funding to state and local health departments to determine the extent of childhood lead poisoning by screening children for elevated blood lead levels, helping to ensure that lead-poisoned infants and children receive medical and environmental follow up, and developing neighborhood-based efforts to prevent childhood lead poisoning.
- Support research to determine the effectiveness of prevention efforts at federal, state and local levels.[39]

[39] United States Department of Health and Human Services, Centers for Disease Control and Prevention. Lead Poisoning Prevention Program. <http://www.cdc.gov/nceh/lead>.

Although no safe level of lead in the blood has been established, the CDC has historically set a blood lead "level of concern" (currently at 10 μg/dL), which is the threshold of blood lead content which triggers intervention. Over the past several decades, as more research has surfaced showing detrimental health effects at lower than previously thought blood lead levels, the CDC has lowered the level to trigger intervention. Most recently, a 2003 study provided evidence that blood lead concentrations below 10 μg/dL inversely affect children's IQ and, as a result, CDC reviewed the possibility of once again lowering the threshold.[40] In 2004, the CDC decided not to lower the intervention level for the following reasons: no known clinical intervention exits which can lower blood lead levels to less than 10 μg/dL, it is difficult to classify children as having blood lead levels lower than 10 μg/dL because of the inaccuracy of testing, and no evidence exists of a threshold below which adverse effects are not experienced.[41] Therefore, lowering the level would be arbitrary.

Evolution of Acceptable Blood Lead Levels in the United States

Year	Level of Concern
1960	60 μg/dL
1970	40 μg/dL
1975	35 μg/dL
1985	25 μg/dL
1991	10 μg/dL[4]

Source: The United States Department of Health and Human Services Centers for Disease Control and Prevention, 1991.

Although the CDC oversees federal efforts to eliminate childhood lead poisoning, various other federal agencies have also targeted different sources of lead to prevent children's exposure. Over the past several decades, in response to heightened recognition of the widespread physical, cognitive and behavioral impacts of environmental lead exposures, federal environmental standards for lead levels in the air, food and water, and

[40] Canfield, R.L., et al. April 2003. "Intellectual Impairment in Children with Blood Lead Concentrations Below 10 μg/dL." *The New England Journal of Medicine*. 348:1517-1526.

[41] United States Department of Health and Human Services' Centers for Disease Control and Prevention. "Why Not Change the Blood Lead Level of Concern at this Time?" <http://www.cdc.gov/nceh/lead/faq/changebll.htm>.

industry restrictions on lead have been increased substantially.[42] For example, the:

- Environmental Protection Agency (EPA) eliminated lead in gasoline (1973 and 1996) and restricted lead in drinking water (1973, 1986 and 1996), and controls lead contamination at Superfund sites, [43]

- Food and Drug Administration eliminated the use of lead in canned food and beverages beginning in the 1970s and regulates lead in ceramic-ware,[44]

- Occupational Safety and Health Administration sets regulations to protect workers exposure to lead,[45]

- Consumer Product Safety Commission banned lead in residential paint (1978) and has addressed lead content in children's toys and other consumer products, and

- Department of Housing and Urban Development (HUD) administers the Lead Hazard Control Program which controls lead in low-income housing.[46]

Many other federal activities and programs were authorized under Title X of the 1992 Housing and Community Development Act. Title X authorized major changes in federal law on the control of lead-based paint hazards and the reduction of lead exposure. It defined hazard to include deteriorating lead paint and lead contaminated dust and soil. In particular, Title X required coordinated action among several federal agencies regarding lead poisoning, including HUD, the EPA and the CDC. These federal programs involve the following: standards and regulations for lead paint inspections, risk assessment and abatement; enforcement and

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[42] New York State Department of Health. 2004. *Eliminating Childhood Lead Poisoning in New York State by 2010*. <http://www.health.state.ny.us/nysdoh/environ/lead/finalplanhist.htm>.

[43] The first restrictions on lead content in gasoline were made in 1973, and the final phase out of lead was made in 1996. Environmental Protection Agency Press Release. "EPA Takes Final Step in Phase-out of Leaded Gasoline." January 29, 1996. <http://www.epa.gov/history/topics/lead/02.htm>; The Safe Water Drinking Act was enacted in 1973 and amended in 1986 and again in 1996. The EPA regulates lead at Superfund cites under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), commonly known as Superfund, which was enacted by Congress on December 11, 1980.

[44] The last revision for ceramic-ware was in 1991. However, in 1994, the FDA published a regulation for decorative ceramic-ware that is not intended for food use.

[45] Occupational exposure to lead is regulated by the 1978 Occupational Safety and Health Administration (OSHA) Lead Standard.

[46] President's Task Force on Environmental Health Risks and Safety Risks to Children. February 2000. *Eliminating Childhood Lead Poisoning: A Federal Strategy Targeting Lead Paint Hazards*. <http://www.epa.gov/lead/pubs/fedstrategy2000.pdf>.

compliance with regulations; grants to states and local governments; evaluation of current methods and programs; and development of new technologies and laboratory accreditation.[47]

The current goal driving federal program initiatives is the federal Health and Human Services' Healthy People 2010 goal to eliminate blood lead levels above 10 μg/dL in children age 6 and under by 2010. Efforts to eliminate childhood lead poisoning can be categorized as either primary or secondary prevention activities. Primary prevention reduces and/or eliminates the source of exposure or risk factors before the onset of the detectable disease, while secondary prevention reacts to the problem after it has been detected.[48] For example, removing all of the lead-based paint from pre-1960 housing is a primary prevention, while increasing screening efforts to identify children with elevated blood lead levels is a secondary intervention.

Primary prevention of lead poisoning can be achieved through two basic strategies: abatement or interim controls. Abatement is a long-term strategy that involves completely removing the lead hazard to provide a lead-free environment for children. The short-term strategy, interim controls, involves repairing deteriorated paint and requires continual evaluation and management to achieve a lead-safe environment. Both methods have been shown effective in preventing children's exposure to lead hazards.[49]

In conjunction with the 2010 goal, the CDC's Advisory Committee on Childhood Lead Poisoning Prevention recently issued updated recommendations calling for a focus on primary prevention because new research has shown that even very low levels of lead pose a risk to children, so preventing initial exposure is the best way to safeguard children.[50] The report focuses on a housing-based approach to primary prevention because lead-based paint in residential dwellings remains the

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[47] President's Task Force on Environmental Health Risks and Safety Risks to Children. February 2000. *Eliminating Childhood Lead Poisoning: A Federal Strategy Targeting Lead Paint Hazards*. <http://www.epa.gov/lead/pubs/fedstrategy2000.pdf>.

[48] United States Department of Health and Human Services' Centers for Disease Control and Prevention. 2004. *Preventing Lead Exposure in Young Children: A Housing Based Approach to Primary Prevention of Lead Poisoning*. Recommendations from the Advisory Committee on Childhood Lead Poisoning. <http://www.cdc.gov/nceh/lead/publications/Primary%20Prevention%20Document.pdf>.

[49] President's Task Force on Environmental Health Risks and Safety Risks to Children. February 2000. *Eliminating Childhood Lead Poisoning: A Federal Strategy Targeting Lead Paint Hazards*. <http://www.cdc.gov/nceh/lead/about/fedstrategy2000.pdf>.

[50] United States Department of Health and Human Services' Centers for Disease Control and Prevention. 2004. *Preventing Lead Exposure in Young Children: A Housing Based Approach to Primary Prevention of Lead Poisoning*. Recommendations from the Advisory Committee on Childhood Lead Poisoning. <http://www.cdc.gov/nceh/lead/publications/Primary%20Prevention%20Document.pdf>.

most significant source of exposure to lead for children. The CDC outlined eight elements for states and local governments to include in their childhood lead poisoning prevention programs (CLPPPs):

1. Identify high-risk areas, populations and activities associated with housing-based lead exposure.

2. Use local data and expertise to expand resources and motivate action for primary prevention.

3. Develop strategies and ensure services for creating lead-safe housing.

4. Develop and codify specifications for lead-safe housing.

5. Strengthen regulatory infrastructure necessary to create lead-safe housing.

6. Engage in collaborative plans and programs with housing and other appropriate agencies.

7. Evaluate and redesign existing CLPPP elements to achieve primary prevention goals, while ensuring adequate secondary interventions.

8. Evaluate primary prevention progress and identify research opportunities.[51]

New York State

In 1992, New York State passed the Lead Poisoning Prevention Act (Act) in response to new data showing that levels of lead in the bloodstream lower than previously considered could cause adverse health effects. Under the Act, the State Department of Health (Department) is responsible for:

- Implementing the statewide Childhood Lead Poisoning Prevention Program, and assisting and overseeing county health department programs and activities relating to childhood lead poisoning,

- Developing and enforcing regulations for screening children and pregnant women,

[51] United States Department of Health and Human Services' Centers for Disease Control and Prevention. 2004. *Preventing Lead Exposure in Young Children: A Housing Based Approach to Primary Prevention of Lead Poisoning*. Recommendations from the Advisory Committee on Childhood Lead Poisoning. <http://www.cdc.gov/nceh/lead/publications/Primary%20Prevention%20Document.pdf>.

- Coordinating lead poisoning reduction, identification and treatment activities with other federal, state, and local agencies and programs,

- Establishing a statewide registry of children with elevated lead levels, and

- Developing and implementing a public education program on lead exposure, detection and risk reduction.[52]

The Act further provides the Department authority to promulgate regulations on screening and requires that all licensed child care facilities, preschools and nursery schools obtain evidence that children have been screened for lead prior to or within three months of initial enrollment in the program. The law also established the New York State Advisory Council on Lead Poisoning Prevention, which is charged with meeting on an annual basis to develop a comprehensive statewide plan to prevent lead poisoning, coordinate the activities of its member agencies with respect to environmental lead policy and the statewide plan and recommend the adoption of policies with regard to controlling lead hazards in the environment, managing caseloads and educating the public.[53]

The regulations the Department adopted to complement State law require screening of all children at both ages 1 and 2 and an annual lead risk assessment of children ages 6 months to 6 years.[54] Health care providers must ensure that children with an elevated blood lead level equal to or greater than 10 μg/dL obtain risk reduction education and nutritional counseling. For children whose blood lead level is equal to or greater than 20 μg/dL, health care providers must ensure the provision of a complete diagnostic evaluation, which includes, at a minimum, a detailed lead exposure assessment, a nutritional assessment and a developmental screening. Blood lead levels equal to or greater than 20 μg/dL also trigger an environmental assessment, requiring the local health department to inspect a home residence and/or any environment in which the affected child spends eight or more hours per week (such as a day care or a family member's home). Health care providers must also provide these children with medical treatment, if necessary. Medical treatment for lead poisoning includes chelation therapy: the intravenously administering of an amino acid which decreases lead in the bloodstream.

[52] New York Public Health Law, Sections 1370-1376. Chapter 485 of the Laws of 1992.

[53] The New York State Advisory Council on Lead Poisoning Prevention is charged with meeting on an annual basis.

[54] 10 NYCRR, Section 67.

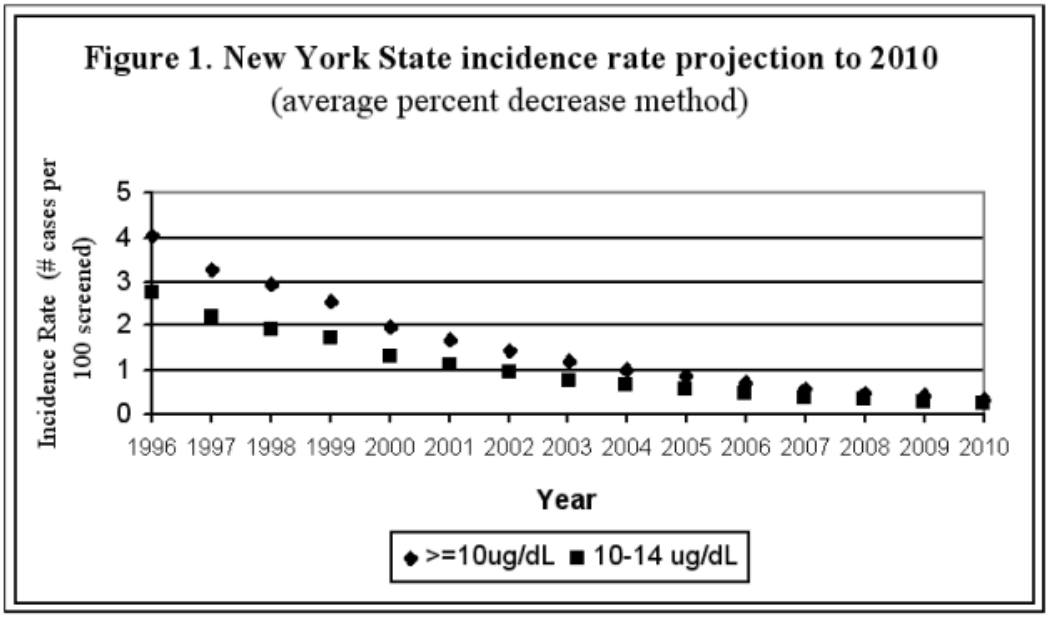
New York State
Department of Health
Intervention Activities Required by Level of Blood Lead Content

Blood Lead Level	Interventions Required by Regulation
Elevated (10 µg/dL – 19 µg/dL)	Risk Reduction Nutritional Counseling
Lead Poisoning (20 µg/dL or above)	Lead Exposure Assessment Nutritional Assessment Developmental Screening Home/Environmental Inspection by Health Department Medical Treatment, if necessary (Chelation Therapy)

After health care providers perform blood lead testing, the samples are sent to a New York State certified laboratory. The laboratories are required to report all blood lead test results back to the Department within five business days of the date of analysis. If the results are elevated (10 µg/dL or higher), the county is required to notify the health care provider who performed the test, and the provider then must follow procedures and State regulations for elevated blood lead levels. If the child was exposed to the lead at a licensed day care facility, the Department works to abate the lead in conjunction with the New York State Office of Children and Family Services (OCFS), as part of its licensing of day care centers. In instances where the blood lead level is equal to or greater than 45 µg/dL, laboratories are required to contact health care providers within 24 hours to ensure that affected children receive immediate medical attention.

Although both the incidence and prevalence of elevated blood lead levels in children have been declining, a recent statistical analysis by the Department predicts that if current trends persist, by 2010 the State will not achieve elimination of elevated blood lead levels in children age 6 and under.[55]

[55] New York State Department of Health. 2004. *Eliminating Childhood Lead Poisoning in New York State by 2010*.
<http:www.health.state.ny.us/nysdoh/environ/lead/finalplanstate.htm>.



Source: *Eliminating Childhood Lead Poisoning In New York State by 2010.* 2004. New York State Department of Health. <http://www.health.state.ny.us/nysdoh/environ/lead/finalplantoc.htm>.

New York, like all other states receiving CDC grant funding for lead poisoning prevention efforts, was required to develop a strategic plan to eliminate elevated blood lead levels by 2010. The most recent three point strategic plan outlined by the Department was last updated in August of 2004 and covers upstate New York. The State plan focuses on surveillance (screening), targeting high-risk populations and primary prevention.

Surveillance is important for identifying and managing care for children with elevated blood lead levels. The Department's surveillance goals are to ensure: all children are screened at ages 1 and 2 and are continually risk assessed until age 6, the public is aware of the sources and dangers of lead poisoning, all families have basic knowledge to reduce exposure to lead, and the surveillance system in place provides the information needed to advance prevention activities and evaluate ongoing initiatives.[56] Furthermore, identifying these children then allows remediating the source of exposure to prevent other children from exposure to lead. In order to achieve its surveillance goals, the Department outlined six specific objectives:

1. Increase provider awareness of New York State screening regulations and the rationale for universal screening.

[56] New York State Department of Health. 2004. *Eliminating Childhood Lead Poisoning in New York State by 2010*. <http:www.health.state.ny.us/nysdoh/environ/lead/finalplanstate.htm>.

2. Enhance the implementation of screening requirements in provider practice.

3. Assure that homeless children receive lead screening in all communities.

4. Increase public demand for screening.

5. Increase public awareness of the sources of lead and common methods to decrease lead exposure.

6. Ensure the reliability of the existing surveillance system as an effective tool for identification of the nature and scope of the existing problem, high-risk populations and the effectiveness of interventions.[57]

The plan's second focus is to target the low-income children living in pre-1950 housing who are at the greatest risk for lead poisoning. Furthermore, pre-1950 housing should be targeted to prevent further exposure of these children, as well as future exposure of other children.[58] To achieve the goal of this focus area, which is to reduce community-level disparities for childhood lead poisoning prevention, the Department outlined four objectives:

1. Communities with the highest burden of lead hazards and lead poisoning will be identified and targeted for intensive intervention.

2. The Department will support the formation of childhood lead poisoning prevention coalitions in targeted high-risk communities.

3. Childhood lead poisoning prevention coalitions will develop and implement a range of local strategies to accomplish the elimination of childhood lead poisoning in high-risk communities.

4. The Department will play a leadership role at the State level by working with other governmental agencies to ensure coordination of activities related to childhood lead poisoning prevention and to maximize opportunities for prevention and intervention.[59]

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[57] New York State Department of Health. 2004. *Eliminating Childhood Lead Poisoning in New York State by 2010*. <http:www.health.state.ny.us/nysdoh/environ/lead/finalplanstate.htm>.

[58] *Ibid.*

[59] *Ibid.*

Finally, the State plan places a new emphasis on primary prevention. In the past, the majority of State efforts focused on secondary intervention. The Department's goals for primary prevention include identifying lead hazards before children are exposed, enhancing community knowledge to identify and select methods for lead hazard control, and ensuring that homeowners, contractors and other appropriate parties comply with federal and State requirements.[60]

To achieve its primary prevention goals, the Department developed the following specific objectives:

1. Incorporate lead hazard identification in all Department programs with a home visitation component.[61]

2. Expand the Healthy Neighborhood Program to include additional high-risk target areas.

3. Develop a lead hazard identification component for visual environmental inspection programs within other State agencies.

4. Disseminate updates on potential lead hazards to support prevention efforts.

5. Support and provide education programs that address the relatively simple, low-cost tools and measures that can contribute significantly to lead based paint safety.

6. Ensure that current federal requirements are followed and that Department regulations are consistent with federal requirements.

7. Ensure that Department guidance documents for field staff are consistent with federal requirements.[62]

New York City

New York City has historically taken a leading role in childhood lead poisoning prevention. In 1960, New York City was one of the first jurisdictions to ban the use of lead-based paint in residential dwellings. Ten years later, in 1970, the Lead Poisoning Prevention Program (City Program)

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[60] New York State Department of Health. 2004. *Eliminating Childhood Lead Poisoning in New York State by 2010*. <http:www.health.state.ny.us/nysdoh/environ/lead/finalplanstate.htm>.

[61] To actually eliminate lead poisoning, the lead hazard must then be either eliminated or contained.

[62] New York State Department of Health. 2004. *Eliminating Childhood Lead Poisoning in New York State by 2010*. <http:www.health.state.ny.us/nysdoh/environ/lead/finalplanstate.htm>.

of the New York City Department of Health and Mental Hygiene (DOHMH) was established to prevent lead poisoning, promote screening and provide intervention services for lead-poisoned children.[63] In 1982, the City adopted one of the first laws in the nation requiring building owners to address lead paint hazards in apartments of young children before poisoning could occur.

Local Law 1 of 1982 was one of the strongest lead poisoning prevention laws, focusing on primary prevention in the country. The law assumed that pre-1960 housing contained lead paint and required building owners to actively inspect units on a regular basis for lead paint based hazards where children under age 7 resided.[64] Under Local Law 1, a lead hazard was defined as the *existence* of paint with specific lead content and dust. Any child under age 7 found to reside where a lead hazard existed was considered in danger, and the owners of the building were issued a violation and ordered to immediately abate or repair the lead hazard. Building owners were not only responsible for remediation of the lead hazard, but could also face civil penalties if a child was found to be lead poisoned.

In the mid-1980s, the New York City Coalition to End Lead Poisoning filed a lawsuit against the City, which resulted in court orders directing the City to fully and properly implement the law.[65] In 1999, as a result of the court orders, increasing pressures from the real estate lobby and a 1996 New York State Court of Appeals decision that reinforced building owners' ongoing responsibilities, the City Council rolled back the lead poisoning laws by enacting Local Law 38.[66] The changes under Local Law 38:

- Shifted the burden of detecting and responding to lead hazards from building owners to tenants,
- Defined lead hazards as peeling lead paint and eliminated lead dust from regulatory control,
- Required only partial abatement of lead hazards,
- Scaled back the safety measures and training required during lead removal, and

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[63] New York City Department of Health and Mental Hygiene. May 2006. *Annual Report 2004: New York City Childhood Lead Poisoning Prevention Program*. <http://www.nmic.org/nyccelp/medical-studies/DHMH-lead-2004report.pdf>.

[64] Local Law 1 of 1982. New York City.

[65] New York Public Interest Research Group. *NYPIRG's Campaign to End Lead Poisoning: The Lead Poisoning Issue in New York City*. <http://www.nypirg.org/lead/history.html>.

[66] *Ibid.*

- Extended the timeframes for enforcement to as long as half a year.[67]

In response to the scaled back law, several organizations, including the New York Public Interest Research Group and the New York Coalition to End Lead Poisoning, filed a lawsuit against the City declaring that Local Law 38 was inadequately protecting children.[68] The Supreme Court struck down Local Law 38 in 2000 and reinstated Local Law 1 of 1982. In August 2004, the New York City Childhood Lead Poisoning Prevention Act of 2003 (Local Law 1 of 2004) went into effect and replaced the 1982 law. The new law names the Department of Housing and Preservation Development (HPD) as the agency responsible for implementing and enforcing the law, but also directs the DOHMH to promulgate and interpret rules relating to the law.[69]

Under Local Law 1 of 2004 owners of residential buildings with three or more dwelling units are responsible for determining whether children under age 7 reside in the building and inspecting such premises for lead paint hazards. Existence of lead paint that is peeling or present on a deteriorating surface (such as windows and doors) in a dwelling where a child under age 7 resides is considered an immediate hazardous violation.[70] When a lead hazard is found to exist, the owner is responsible for safely abating or repairing the hazard. Rules promulgated by HPD and DOHMH require owners to hire federally certified workers to perform lead abatement or containment, or if doing the work themselves, owners must follow specific safe work practices. In addition, building owners are also required to reinspect dwelling units at key junctures, such as apartment turnover. Finally, at the time of a new lease, owners are required to inquire whether a child under age 7 will reside in the unit and must include in the lease a notification of the tenant and owner obligations under the law.

The HPD inspects dwellings when the DOHMH identifies a child with an elevated blood lead level and/or in response to complaints by tenants about lead hazards. If a lead hazard is found, the HPD issues the building owner a notice of violation. The owner then has 21 days to abate or contain the hazard unless otherwise specified.[71] In addition, under rules established to complement the law, owners are required to provide relocation if correcting the violation cannot be done without harming tenants. If the owner fails to remediate the hazard in the specified timeframe, the HPD is responsible for

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[67] New York Public Interest Research Group. *NYPIRG's Campaign to End Lead Poisoning: The Lead Poisoning Issue in New York City*. <http://www.nypirg.org/lead/history.html>.

[68] *Ibid.*

[69] Local Law 1 of 2004. New York City.

[70] *Ibid.*

[71] *Ibid.*

abating the hazard and can place a lien on the property to recover the costs of abatement from the owner. After the owner has completed abatement or containment, the individual must certify to the HPD that the lead hazard has been remediated or contained and must include a copy of a lead dust clearance test. This test checks for lead contaminated dust on floors, window sills and other hard surfaces which cannot be detected by a visual inspection. The law authorizes the HPD and DOHMH to establish rules requiring clearance tests to assure that all components of lead hazards are removed. Finally, the certification must include a sworn statement by employees who performed the work stating that the violation was corrected in accordance with the law.

Other notable components of the City's policy to eliminate childhood lead poisoning include:

- Referrals for inspection by the City Program to the HPD for building-wide inspection for other lead hazards once a lead hazard is identified in any one dwelling unit of a building.

- A Provider Online Registry, which is a secure Internet database that gives providers access to immunization and blood lead histories in order to ensure that all children under age 7 have been screened, as required by law.

In December 2005, the DOHMH City Program issued its most recent plan to eliminate childhood lead poisoning. The plan, similar to the Department of Health plan for the State, also focuses on primary prevention and outlines three specific goals: prevent children's exposure to lead paint, prevent children's exposure to non-paint lead sources and promote blood lead testing, especially for those at high risk for lead poisoning.[72] To achieve this goal, the City plan also specifies dates of completion and strategies:

Prevent Children's Exposure to Lead Paint. By December 31, 2010, identified lead paint hazards will be safely corrected in at least 21,600 apartments.

- Continue to order abatement or containment of lead paint hazards in homes of children with environmental intervention blood lead levels.

- Promote compliance with Local Law 1 requirements for lead paint hazard identification and repair through education and enforcement.

[72] New York City Department of Health and Mental Hygiene. December 2005. *New York City Plan to Eliminate Childhood Lead Poisoning*. <http://www.nyc.gov/html/doh/downloads/pdf/lead/lead-plan.pdf>.

- Proactively identify high-risk buildings and apartments for Local Law 1 inspections and other lead poisoning prevention activities.

- Promote lead paint hazard repair in one- and two-family homes, particularly in high-risk neighborhoods.

- Increase the number of trained workers and promote the use of lead-safe work practices during lead hazard repair and other work that disturbs lead paint.

- Educate parents and the general public about lead paint hazards and ways to prevent exposure to lead.

- Promote safe lead hazard repair in day care facilities.[73]

Prevent Children's Exposure to Non-Paint Lead Sources. By December 31, 2010, reduce prenatal exposure to lead and reduce maternal and child exposure to imported products that contain lead.

- Increase DOHMH's ability to identify non-paint sources of lead exposure and to assess their impact on New York City children.

- Educate the general public and at risk immigrant groups about products, such as food, spices, pottery and folk remedies, that may contain lead.

- Explore options for reducing the availability of lead-containing products.

- Reduce prenatal exposure to lead through outreach to medical providers and women at risk.

- Protect infants and children from exposure to lead in drinking water by collaborating with the New York City Department of Environmental Protection.[74]

Promote Blood Lead Testing, Especially for Those at High Risk for Lead Poisoning. By 2010, 90 percent of children age 1 and 90 percent of children age 2 will be tested for lead poisoning.

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[73] New York City Department of Health and Mental Hygiene. December 2005. *New York City Plan to Eliminate Childhood Lead Poisoning*. <http://www.nyc.gov/html/doh/downloads/pdf/lead/lead-plan.pdf>.

[74] *Ibid.*

- Educate health care providers, especially those serving high-risk populations, about New York State blood lead testing regulations and the importance of testing children at both ages 1 and 2.

- Educate families with young children about the importance of blood lead testing, especially at ages 1 and 2.

- Increase testing of children from low-income families by collaborating with Medicaid-managed care organizations.

Section

5

Risk Factors Associated with Childhood Lead Poisoning

Several interrelated risk factors, including age of the child, the age of the housing stock, race, immigrant status, ethnicity and socioeconomic status, influence the pervasiveness and persistence of childhood lead poisoning.[75] Racial and ethnic minority children of low-income families living in older, poorly maintained housing have a disproportionately high incidence of lead poisoning. New York State is uniquely challenged by lead poisoning because it faces material threats from *all* of the risk factors.

Although anyone can be exposed to or suffer from lead poisoning, children are particularly vulnerable. Young children, under age 3, are especially vulnerable to exposure because of their typical hand-to-mouth behavior, which can result in ingestion of lead paint chips, lead dust and/or lead contaminated soil. In addition, the risk of lead poisoning is particularly high in children because they absorb lead into their systems at higher rates than adults. Children's bodies mistake lead for calcium, which is chemically similar and is something that children's rapidly growing bodies need in great amounts. During the critical mental and physical stages of development, children are particularly vulnerable to the toxic and long-lasting effects of lead exposure.[76] Finally, New York has the third largest population of children under age 5 (after California and Texas). In 2000 (most recent data available), approximately 1.2 million children under the age of 5 lived

[75] New York State Department of Health. 2004. *Eliminating Childhood Lead Poisoning in New York State by 2010*. <http:www.health.state.ny.us/nysdoh/environ/lead/finalplanstate.htm>.

[76] New York City Department of Health and Mental Hygiene. December 2005. *New York City Plan to Eliminate Childhood Lead Poisoning*. <http://www.nyc.gov/html/doh/downloads/pdf/lead/lead-plan.pdf>.

in New York State, compared to the national average of approximately 375,000 children per State.[77]

The age of the housing stock is also a risk factor for lead poisoning. Although the federal government banned lead paint in 1978, the majority of older (pre-1960) housing stock still contains lead paint. Lead paint is the leading cause of lead poisoning in children. Lead poisoning from paint can occur when children ingest lead paint chips and/or lead dust caused by renovations or abatements that are not conducted properly. Nationally, approximately 35 percent of housing was built before 1960, when the lead content in paint was still very high.[78] New York has more housing built before 1960 than any other state, at 60 percent of all housing.[79] The risks are even higher for children living in New York City where 67.2 percent of the housing stock was built prior to 1960.[80]

Minority children have a much higher incidence of lead poisoning. National data illustrates that the risk for African American children is five times that of White-Caucasian children.[81] Similar patterns are found in New York City. For example, in 2004, children under age 18 living in New York City with newly identified environmental intervention blood lead levels (15 μg/dL) were identified as follows: 37 percent African American, 32 percent Hispanic, 18 percent Asian and 9 percent White-Caucasian.[82]

Immigrant status is also become a risk factor for lead poisoning in New York State, particularly in New York City. According to the New York City Department of Health and Mental Hygiene (DOHMH), in 2004, 18 percent of new environmental intervention blood lead level cases involved children under the age of 18 who were born outside the United States, while only 14 percent of all New York City children were foreign-born. Additionally, 91

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[77] United States Census: United States Data set. DP-1. Profile of General Demographic Characteristics: 2000. <http://factfinder.census.gov/servlet/QTTable?_bm=y&-geo_id=01000US&-qr_name=DEC_2000_SF1_U_DP1&-ds_name=DEC_2000_SF1_U&-redoLog=false>.

[78] United States Census: U.S. Data Set. <http://censtats.census.gov/data/US/01000.pdf#page=4>.

[79] United States Census: New York State Data Set. <http://factfinder.census.gov/servlet/BasicFactsTable?_lang=en&_vt_name=DEC_2000_SF3_U_DP4&_geo_id=04000US36>.

[80] United States Census. New York City Data Set. *DP-4 Profile of Selected Housing Characteristics: 2000*. <http://factfinder.census.gov/servlet/QTTable?_bm=y&-context=qt&-qr_ name=DEC_2000_SF3_U_DP4&-ds_name=DEC_2000_SF3_U&-CONTEXT=qt&-tree_id=403&-all_geo_types=N&-geo_id =16000US3651000&-search_results=16000US3651000&-format=&-_lang=en>.

[81] United States Department of Health and Human Services Centers for Disease Control and Prevention Report to Congress for Fiscal Years 2001-2002. *Childhood Lead Poisoning Prevention Activities Under the Lead Contamination Control Act of 1988*. <http://www.cdc.gov/nceh/lead/Legislation%20&%20Policy/Reporttocongress(2001-2002).pdf>.

[82] New York City Department of Health and Mental Hygiene. May 2006. *Annual Report 2004: New York City Childhood Lead Poisoning Prevention Program*. <http://www.nmic.org/nyccelp/medical-studies/DHMH-lead-2004report.pdf>.

percent of pregnant women in New York City with blood lead levels at or above 20 μg/dL were foreign-born. Forty-four percent had migrated to the United States within a year prior to their initial blood test, indicating that they may have come to the United States with lead poisoning.[83]

The DOHMH also found that 77 percent of lead-poisoned children under age 18 born in the United States had peeling or deteriorating lead paint in their homes, but only 59 percent of foreign-born children did. This suggests that immigrant children are exposed to lead by something other than lead paint, such as folk remedies.[84] Two examples of such remedies are greta and santrinj. Greta is a fine powder that is administered orally to treat stomachaches in some Hispanic households. It is also used as a ceramic glaze and is sold in some pottery stores. Greta has a lead content of 97 percent and exposure to this substance by children can easily be fatal. Santrinj, which is used by some Saudis, is a red powder that is applied to gums to remedy teething pain in infants. Santrinj, containing 98 percent lead oxide, is also used as a primer for paint for metallic surfaces.[85]

Lead exposure occurs most often to persons living below the federal poverty level because they are more likely to live in older, deteriorating residences that contain lead paint. In 2005, 12.6 percent of the national population lived below the poverty level, which is less than New York's rate of 14.5 percent for the same year.[86] The greater risk for lead exposure posed to children living in poverty is evident in upstate New York. In Monroe County, 90 percent of children referred to the county health department between 1995 and 1999 for environmental lead management were from families living on public assistance. Additionally, 95 percent of lead-poisoned children in Monroe County are from the city of Rochester, which has more poverty, a greater prevalence of poor housing conditions and an older housing stock than the statewide average.[87]

A Department of Health (Department) analysis of county level data found that the risk factors discussed above are good predictors of elevated blood

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[83] New York City Department of Health and Mental Hygiene. May 2006. *Annual Report 2004: New York City Childhood Lead Poisoning Prevention Program*. <http://www.nmic.org/nyccelp/medical-studies/DHMH-lead-2004report.pdf>.

[84] *Ibid.*

[85] Centers for Disease Control and Prevention. 2002. *Managing Elevated Blood Lead Levels Among Young Children: Recommendations from the Advisory Committee on Childhood Lead Poisoning Prevention.* <http://www.cdc.gov/nceh/lead/CaseManagement/caseManage_appendixes.htm>.

[86] Current Population Statistics: A Joint Project between the Bureau of Labor Statistics and the Bureau of the Census. Poverty Status by State in 2005: Below 100 percent and 125 percent of Poverty-All Ages. <http://pubdb3.census.gov/macro/032006/pov/new46_100125_01.htm>.

[87] State of New York Office of the Attorney General Health Care Bureau. July 2004. *Getting the Lead Out: Are New York's Managed Care Plans Complying with the State's Childhood Lead Screening Laws?* <http://www.oag.state.ny.us/press/reports/getting_the_lead_out_report.pdf>.

lead levels. The study found that these risk factors are widespread in areas throughout the State where a high proportion of children suffer from elevated blood lead levels. The study also identified 36 of the State's 1,700 non-New York City zip codes as having at least five new cases for every 100 children screened. These 36 high incidence zip codes comprised only 2 percent of statewide non-New York City zip codes, but represented 41 percent of the non-New York City population of children with elevated blood lead levels.[88]

The Department found that these zip code areas were high risk due to the following: a substantially higher proportion of pre-1950 housing stock (59 percent) compared to the statewide average (37 percent) and a higher proportion of children under the age of 5 living in poverty (38.1 percent) compared to the statewide average (13.8 percent). In one county (Erie) with several high incidence zip codes, over 47 percent of children under age 5 were living in poverty, more than three times the statewide average.[89]

[88] New York State Department of Health. 2004. *Promoting Lead Free Children in New York State: A Report of Lead Exposure Status Among New York Children 2000-2001*. <http://www.health.state.ny.us/nysdoh/lead/exposure_report/index.htm>.

[89] *Ibid.*

Section

6

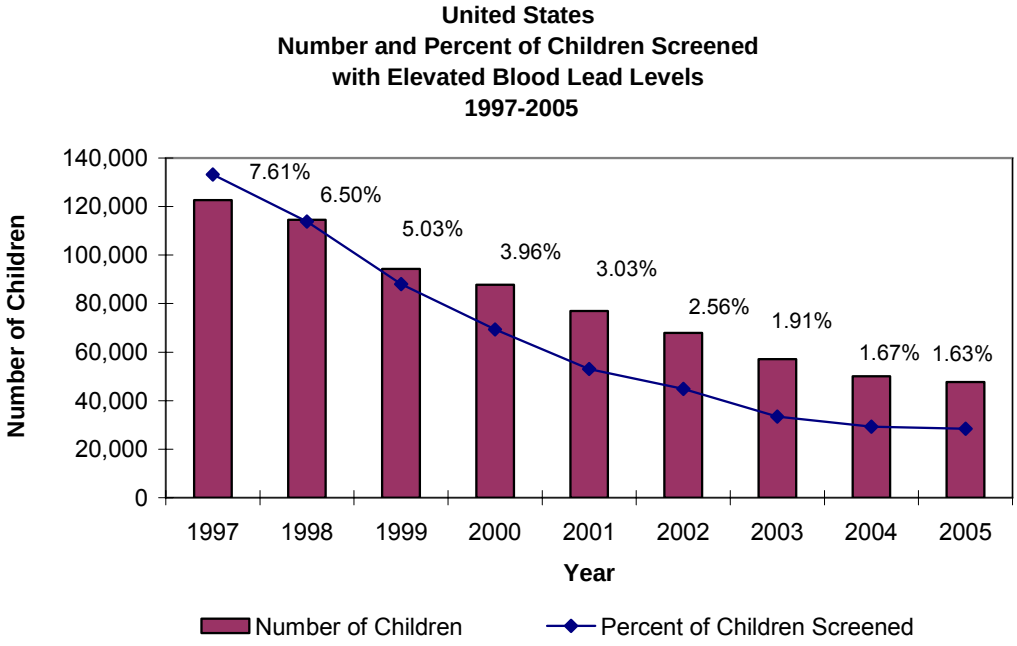
The Incidence of Childhood Lead Poisoning

Screening children enables government agencies to gather data on the incidence of lead poisoning. Health officials define incidence as newly identified cases of children with elevated blood lead levels. Incidence does not include previously identified, but ongoing cases of lead poisoning (prevalence). Current national, State and City data show that although the incidence of lead poisoning is declining, a significant number of children each year are newly identified with elevated blood lead levels.

National

According to the federal Department of Health and Human Services Centers for Disease Control and Prevention (CDC), in 2005, approximately 46,770 children in the nation had confirmed blood lead levels above 10μg/dL. This represents 1.6 percent of all children screened compared to 1997 when 7.6 percent of all children screened had elevated blood lead levels. While the percent of children identified with elevated blood lead levels declined 78.9 percent from 1997 to 2005, only 12.6 percent of children age 6 and under were screened. Since such a small percentage of children were screened, the actual number of children with elevated blood lead levels is likely to be much higher.[90]

[90] National Center for Environmental Health: Childhood Lead Poisoning Prevention Program. CDC Surveillance Data, 1997-2005. <http://www.cdc.gov/nceh/lead/surv/database/State_Confirmed_byYear_1997_to_2005.xls>.



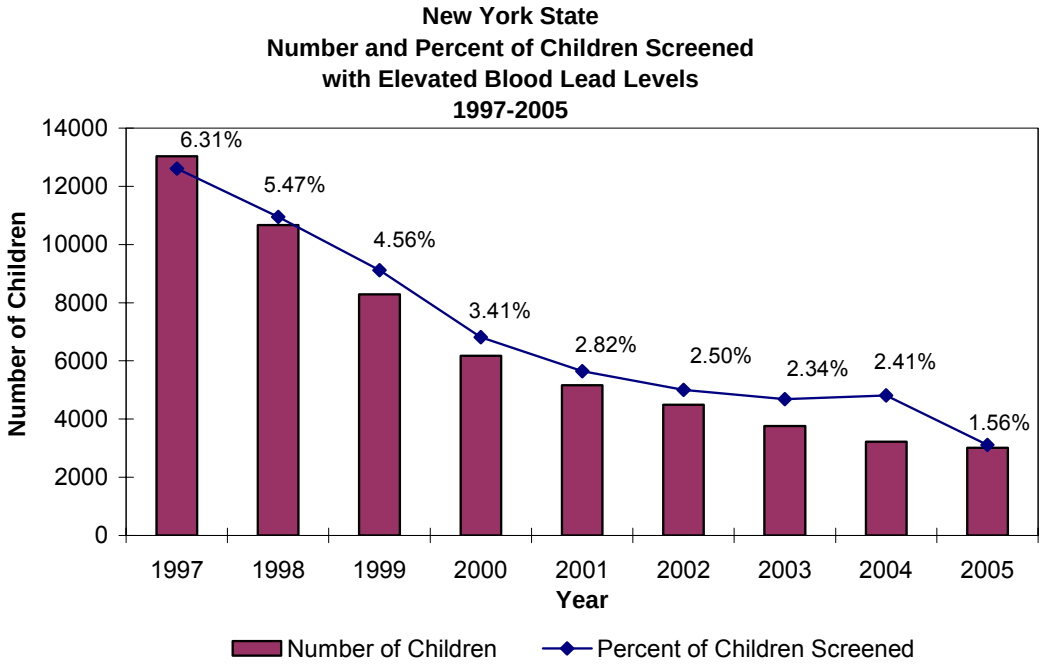
Source: Centers for Disease Control and Prevention, Childhood Lead Poisoning Prevention Program.

New York State

The CDC found that 3,012 children in New York State had blood lead levels above 10 μg/dL in 2005, representing 1.6 percent of the total number of children screened, a decrease of 74.6 percent from the 6.3 percent in 1997.[91] In comparison, the nation as a whole experienced a decline of 78.9 percent in the percentage of confirmed cases of children screened during the same time. The nation, however, also increased the percentage of children screened from 6.9 percent in 1997 to 12.6 percent; however, the percentage of children screened in New York State is also down, from 13.3 percent in 1997 to 12.9 percent in 2005.[92]

[91] National Center for Environmental Health: Childhood Lead Poisoning Prevention Program. CDC Surveillance Data, 1997-2005. <http://www.cdc.gov/nceh/lead/surv/database/State_Confirmed_byYear_1997_to_2005.xls>.

[92] *Ibid.*



Source: Centers for Disease Control and Prevention, Childhood Lead Poisoning Prevention Program.

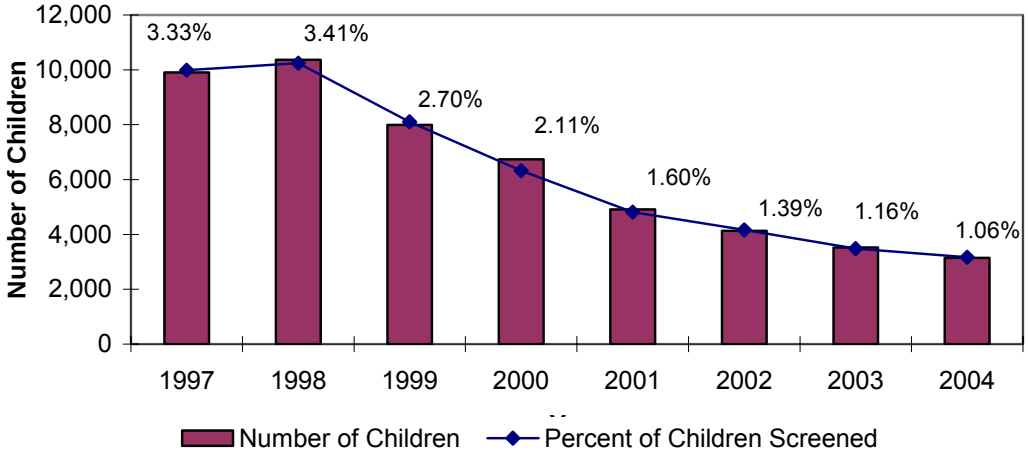
The New York State Department of Health (Department) also tracks incidence for the State (excluding New York City). The data reported by the Department varies slightly from the CDC data. The Department reported that the incidence of children with blood lead levels of 10-19 μg/dL decreased 12.9 percent from 2,735 in 2002 to 2,383 in 2003. The incidence of children with blood lead levels equal to or greater than 20 μg/dL declined 4.1 percent from 440 to 422 during the same time period. New York State experienced a dramatic decrease in incidence from 1998 to 2003, with a 48.9 percent decline from 5,491 to 2,805 in newly identified blood lead levels of 10 μg/dL or greater.[93] However, since all children age 6 and under are not being screened as required, it is likely that the number of children with elevated blood lead levels is much higher.

[93] New York State Department of Health. 2006. *Promoting Lead Free Children in New York State: A Report of Lead Exposure Status Among New York Children 2000-2001*. Supplemental Report.

New York City

The CDC's most recent data for New York City is for 2004, with the incidence of children with elevated blood lead levels at 3,150, representing 1.1 percent of total children screened. This reflects a decrease from 1997 when test results were confirmed for 9,906 children, representing 3.33 percent of all children screened.[94] The City's proportion of children with confirmed test results to total children screened in 2004 was also lower when compared to either 2004 or 2005 data for the nation and State.

New York City
Number and Percent of Children Screened with Elevated Blood Lead Levels
1997-2004



Source: Centers for Disease Control and Prevention, Childhood Lead Poisoning Prevention Program.

In other 2004 data, the DOHMH reported that the incidence of children with blood lead levels between 10 and 19 μg/dL was 2,839, a decrease of 5.2 percent from the previous year. The decrease reflects the continuation of a significant trend that resulted in an overall 83.4 percent decrease in the incidence of blood lead levels equal to or greater than 10 μg/dL from 1995 to 2004. In 2004, the incidence of children with a blood lead level equal to

[94] National Center for Environmental Health. Childhood Lead Poisoning Prevention Program. CDC Surveillance Data 1997-2004. <http://www.cdc.gov/nceh/lead/surv/stats.htm>.

or greater than 20 μg/dL was 354, a 77.6 percent decrease from 1,578 children in 1995.[95]

[95] New York City Department of Health and Mental Hygiene. 2004. *Report to the New York City Council on Progress in Preventing Childhood Lead Poisoning in New York City*. <http://www.nyc.gov/html/doh/downloads/pdf/public/press05/ccleadreport2004.pdf>.

Section

7

Audit Overview

New York State Department of Health - Oversight of the Childhood Lead Poisoning Prevention Program

A recent audit by the Office of the State Comptroller was conducted to determine whether the Department of Health (Department) has provided effective oversight of New York State's Childhood Lead Poisoning Prevention Program (Program) to ensure that:

- Children age 6 and under are properly screened,
- Laboratories are reporting test results in a timely manner,
- Proper follow-up actions are taken when warranted,
- Pregnant women are assessed for elevated blood lead levels,
- Day care facilities are obtaining certificates of lead screening,
- The Department is providing oversight of county efforts, and
- The New York State Advisory Council on Lead Poisoning Prevention (Council) is performing its duties.

The audit found several inefficiencies in the areas of screening, laboratory reporting, follow-up activities, prenatal screening, day care facilities, county oversight and the Council. For example:

- Pregnant women and children are not being screened at prescribed intervals,

- Laboratories are not reporting test results to the Department in a timely manner,

- Day care facilities are not obtaining certificates of lead, and

- The Council has not met its responsibilities.

The audit report determined that improvement is needed and made 18 recommendations to the Department related to secondary intervention.

Screening

The Department requires health care providers, as a part of well visits, to assess children age 6 and under for lead poisoning risk and screen children at ages 1 *and* 2 for elevated blood lead levels. Auditors obtained downloads from several of the State's electronic tracking databases and identified 380,933 children eligible for screening between April 1, 2002 and December 31, 2004. The audit found that between 113,704 (29.8 percent) and 153,249 (40.2 percent) children were not screened for lead as required by law. The audit further found that the Department does not conduct data matches to identify specific children who are eligible, but have not been screened for lead poisoning. If it did so, the Department could identify these children and contact their parents.

Auditors also found that of 1.4 million eligible children, approximately 99,000 children (7 percent) did not receive a second lead screening. Again, auditors found that the Department does not routinely conduct analysis to identify children who received only one of their required lead screenings. The audit made five recommendations related to screening:

1. Use available databases and/or other resources to identify children who have not been screened for lead poisoning and refer these children to their provider or county health department for screening.

2. Develop a process to enable counties to use the databases available to identify children who have not been screened and refer them to their health providers.

3. Develop and implement regulations that contain penalty and enforcement provisions that enable the Department and the counties to enforce lead screening and risk assessment requirements.

4. Develop and implement regulations requiring providers to follow up on those children for whom they do not receive lead screening results.

5. Work with counties to expand the Department's Provider Based Immunization Initiative (PBII). This is a program in which county lead and immunization officials review the files of health care providers to determine lead screening, immunization rates and missed opportunities.

Laboratory Reporting

All elevated blood lead level (10 μg/dL) test results must be reported to the Department within five business days of the date of analysis. After sampling records of approximately 2 million children with elevated blood lead levels, auditors found that 201,000 (10 percent) were not reported to the Department by laboratories within five business days, as required. In fact, test results for 69 percent of the 201,000 children with elevated blood lead levels took between 8 and 20 days to be reported, and the test results for the remaining 31 percent took 21 days or more.

Laboratories are required to report blood lead levels of 45 μg/dL or greater to the child's health care provider within 24 hours so that immediate action can be taken. Currently, the Department cannot determine whether laboratories are reporting blood lead levels of 45 μg/dL or greater to providers within 24 hours as required. The audit also found that the Department does not contact a laboratory until it reports almost 50 percent of its tests late. The audit made three recommendations related to laboratory reporting:

1. Identify laboratories which do not report results of blood lead analysis to the Department within five business days as required and follow up to ensure laboratories comply in the future.

2. Obtain necessary information to determine whether laboratories report the results of blood lead analysis equal to or greater than 45 μg/dL to providers within 24 hours.

3. Lower the Department's threshold of non-compliance used in its quality assurance analysis and refer those laboratories repeatedly identified as not reporting timely to the Clinical Laboratory Evaluation Program for follow up.

Follow-Up Activities

The law requires that children with elevated blood lead levels receive several follow-up activities. Overall, the audit found that children identified as having elevated blood lead levels are receiving the required follow-up interventions, including follow-up testing, explanation of test results, nutritional counseling and developmental screening, advice on relocation

during abatement, testing of siblings, medical treatment, environmental management and referral to other agencies. The audit made two recommendations related to follow-up activities:

1. Require counties to follow up on children until elevated blood lead levels fall to an acceptable level.

2. Monitor county performance toward meeting specific timeframes for follow-up activities set forth in its policy and procedure manuals.

Prenatal Screening

Prenatal health care providers are required to provide each pregnant woman with anticipatory guidance on lead poisoning, assess each pregnant woman for risk of exposure, and screen or refer each pregnant woman with a high risk for elevated blood lead levels for screening. The audit found that out of 29 prenatal care providers surveyed, 12 (41.3 percent) stated they do not assess pregnant women for risk. Of these, two providers stated they did not have materials on risk assessment, and three providers stated more literature is needed. The audit made one recommendation to the Department:

1. Develop an initiative similar to the PBII currently used for child health care providers to ensure that all prenatal care providers, including private providers, are assessing pregnant women for risk as required.

Day Care Mandates

State regulations require child care providers to obtain certification of lead screening for each child prior to or within three months of initial enrollment. The audit found that out of 32 responses received from day care providers, 14 (43.8 percent) stated they do not require documentation of lead screening. The audit made two recommendations:

1. Work with officials from the New York State Office of Children and Family Services (OCFS) and the New York City Department of Health and Mental Hygiene's (DOHMH's) Bureau of Day Care to ensure that day care facilities are obtaining certificates of screening as required.

2. Provide each day care facility with educational materials pertaining to lead poisoning to be used for their own knowledge, as well as given to parents.

County Oversight

The Department provides oversight to counties in a number of ways. In order to provide guidance, the Department requires counties to submit quarterly reports, and complete and submit an annual work plan and requires regional office staff to complete a report following each site visit to the counties. The audit found that the work plans do not contain quantifiable goals, which would be useful in tracking progress. The audit also found that regions did not complete site visit reports in a timely manner. For example, reports for 39 of 58 counties were not completed in a timely manner, with reports for 6 out of the 39 counties taking more than two years. The audit made four recommendations to the Department related to day care facilities:

1. Require that county work plans include quantifiable goals and that counties make substantial progress toward meeting the goals.

2. Revise the data section of the quarterly reports to require specific information that will allow for determining whether follow-up activities were completed for all addresses.

3. Develop and implement standardized written procedures to be used by all regions for site visits to counties.

4. Work with Western regional office to ensure officials meet Department expectations in the future.

New York State Advisory Council on Lead Poisoning Prevention

Chapter 485, subdivision 1370-b of the laws of 1992 created the New York State Advisory Council on Lead Poisoning Prevention (Council). The law requires the Council to meet regularly and provide a report to the Executive and Legislature annually on the development and implementation of its statewide strategic plan. The audit found that although the Council is supposed to meet regularly to carry out its responsibilities, no meetings were held between 1997 and May 2004. In addition, the Council has not issued its mandated annual report since 1998. Finally, there are several vacant posts in the Council, and when vacancies are not filled in a timely manner, there is a loss of input from member agencies during meetings, including ideas and recommendations for implementing the Program. The audit made one recommendation:

1. Monitor Council activities and membership to ensure that all Council obligations are met.

Section

8

Conclusion

Although current regulations and other Department policies are having a positive effect on decreasing childhood lead poisoning and reducing elevated blood lead levels, improvements are needed as indicated by the recent audit by the Office of the State Comptroller. The audit focuses on secondary intervention by recommending improvements in the Department's response to the problem after it has been detected. In addition to improvements related to secondary interventions, however, primary prevention is critical. It is only through primary prevention efforts, either abatement or containment, that childhood lead poisoning can actually be eliminated.

In addition to the audit recommendations, the Office of the State Comptroller urges the Department to refocus its efforts on primary prevention to eliminate or control lead paint hazards, the main source of lead exposure in children. The Office of the State Comptroller further recommends that the Department continue to use the federal Department of Health and Human Services Centers for Disease Control and Prevention's (CDC's) guidance, which focuses on a housing-based approach to primary prevention, and expand the State's existing prevention infrastructure to accelerate progress towards the goal of eliminating childhood lead poisoning in children by 2010.

While it appears that the Department's 2004 strategic plan either partially or fully addresses all of the eight primary prevention recommendations issued by the CDC, a formal evaluation of the plan should be undertaken. It is critical to determine whether the Department has actually implemented the specific objectives of the plan.

The State Plan's Primary Prevention Strategies

Identify High-Risk Areas, Populations and Activities Associated with Housing-Based Lead Exposure.

The purpose of identifying high-risk populations is to target resources in areas where these children reside. In addition to reducing previously exposed children by identifying high-risk areas and remedying the source of lead exposure, other children are prevented from future exposure. The State released a report in 2004 which identified high incidence zip codes where more than 5 out of every 100 children screened had elevated blood lead levels. It is not clear whether this activity was done only once or if the Department plans to continue identifying high incidence zip codes to tailor intervention plans in those areas.

The Department should continually identify these populations and could expand its efforts by using geographic information systems to map out specific neighborhoods with a high proportion of pre-1950 housing and housing where low-income children reside. The Office of the State Comptroller concurs with the CDC's recommendation to give high priority to remediation in high-risk areas.

The CDC also recommends coordinating activities with existing programs that target communities and families at high risk, such as the Women, Infants and Children (WIC) program and Head Start.

Use Local Data and Expertise to Expand Resources and Motivate Action for Primary Intervention.

The State plan discusses childhood lead poisoning prevention coalitions that engage local partners to enhance activities, maximize resources and mobilize support. The plan, however, does not outline how these coalitions will develop or who will take the lead in organizing and motivating the entities involved. The Department did take one action to motivate the community with a mass mailing to health care providers in 2005. The Commissioner of the Department issued a letter regarding lead screening, reminding health care providers of their obligation to screen children at specific intervals and the dangers that result from lead poisoning. The letter also included updated statistics on the percent of eligible children screened and the continued prevalence of lead poisoning.

The Department should send out similar mailings to day care facilities, prenatal care providers and other stakeholders, which outline the dangers of lead poisoning and recap their responsibilities for preventing childhood lead poisoning.

Develop Strategies and Ensure Services for Creating Lead-Safe Housing.

The CDC recommends that state programs integrate lead safety into other health and housing activities. For example, the CDC suggests incorporating lead hazard screening, dust testing and referral activities in home visits by health departments or other agencies as a part of other programs. The State plan indicates that the Department intends to identify all home visit programs and work with program staff to identify opportunities to provide educational material on lead poisoning, locate lead hazards in residential dwellings where children reside and screen children.

In addition, the CDC recommends that state and local governments provide training in lead-safe work practices and dust sampling. The State plan indicates that staff performing home visits in appropriate programs will receive basic training on lead poisoning and visual lead hazard identification. The State plan calls for:

- Re-emphasizing to the local health departments the benefit of clearance testing for lead dust in dwellings after lead hazard control activities,

- Providing training to local health department environmental lead staff regarding wipe samples for assessment of lead in dust, and

- Revising the environmental health manual for items regarding lead dust testing after lead hazard control activities have been completed.

The Department should develop regulations which *require* dust sampling after remediation to ensure that the lead source is completely removed or controlled. Although current regulations only require a visual inspection of a residence after abatement or containment has occurred, dust sampling is the preferred method since lead dust left on hard surfaces, such as floors, doors and windowsills, continues to expose children to lead poisoning.

Develop and Codify Specifications for Lead-Safe Housing.

The Environmental Protection Agency (EPA) and Housing and Urban Development (HUD) establish benchmarks for lead safety; however, local jurisdictions decide when and how to apply these benchmarks. The CDC recommends that state and local regulations require minimum lead-safe housing treatments for property repair and maintenance, and cites that codified housing standards create a clear understanding among all stakeholders regarding the need to create lead-safe housing. New York State regulations outline specific procedures for lead sampling, environmental testing and reporting, notice and demand of a violation, environmental intervention and abatement or containment, and

enforcement provisions. In the event that the Department determines a lead hazard exists, a notice and demand is issued to the property owner. The Department must specify the method of abatement or containment to the property owner before remediation begins. Abatement involves permanently removing the lead hazard; nonetheless, property owners can engage in risk reduction of lead hazards at any point—temporarily reducing exposure to lead. However, these regulations respond to the problem after it has been detected.

The Department should develop regulations which require property owners to reinspect and remediate any lead-based paint hazards before transfer of title and/or the term of a new lease begins. In other states, such as Maryland and Indiana, property owners are required to meet certain standards at property turnover and other key junctures which prevents future tenants from exposure.

Strengthen Regulatory Infrastructure Necessary to Create Lead-Safe Housing.

The CDC states that laws and regulations should establish or clarify legal authority of government agencies to ensure lead-safe housing through various measures, such as enforcing housing codes and requiring lead-safe practices. In addition to existing regulations, the State plan indicates that the Department intends to:

- Work with representatives from other State agencies to form a workgroup to identify current State housing regulations that could be enforced to assure that housing is maintained in a lead-safe condition,

- Focus on methods to increase enforcement of existing regulations and to increase public education regarding the existence of these requirements,

- Review existing State regulations regarding changes for consistency with federal requirements, and

- Receive and review public comment regarding suggested changes to regulations.

Engage in Collaborative Plans and Programs with Housing and Other Appropriate Agencies.

The State plan indicates that the Department will identify programs that incorporate visits to the home, including the Healthy Neighborhoods Program, Community Health Worker Program, local health department home visiting nurses and the Healthy Families New York home visiting program.

Evaluate and Redesign Existing Childhood Lead Poisoning Prevention Program (CLPPP) Elements to Achieve Primary Prevention Goals, While Ensuring Adequate Secondary Interventions.

The State's updated strategic plan includes both primary prevention and surveillance (a secondary intervention) as two of its three main focus areas.[96] The plan recognizes the need to focus on preventing children's exposure to lead, while ensuring that children already exposed are identified and cared for, as necessary. However, no public documentation exists to show whether or not the Department has implemented the steps outlined in its plan to achieve these goals.

Evaluate Primary Prevention Progress and Identify Research Opportunities.

Finally, the State included an evaluation plan in the strategic plan which follows the CDC's Framework for Program Evaluation in Public Health. It appears that the Department has not submitted findings to stakeholders and the Lead Advisory Council on a regular basis, as provided in the State plan. Without documentation, it is not clear that the Department is regularly evaluating its progress and adapting the plan. In addition, the plan does not include a component to identify research opportunities.

The Department should commit to evaluate its Program annually, publicly report findings and revise the plan accordingly. Furthermore, the Department should include research goals and objectives in the State plan.

Future Direction

Although lead poisoning is a preventable condition, as long as it continues to exist, the State's children will suffer and taxpayers will be responsible for funding much of the direct and indirect services that result. If current trends persist, the incidence and prevalence of lead poisoning would be significantly less than at present, but the State would not eliminate lead

[96] Targeting high-risk populations is the third focus area.

poisoning in children age 6 and under by 2010.[97] As a result, the State must take additional steps to achieve this goal. Until primary prevention efforts move forward, lead poisoning will continue to be the number one environmental poison for children in New York State.

[97] New York State Department of Health. *Eliminating Childhood Lead Poisoning in New York State by 2010*. 2004. <http:www.health.state.ny.us/nysdoh/environ/lead/finalplanstate.htm>.

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