



**Report to the New York City Council on
Progress in Preventing Elevated Blood Lead Levels in New York City**

**Submitted by New York City Department of Health & Mental Hygiene
September 2021**

About This Report

Local Law 1 of 2004 requires the New York City Department of Health and Mental Hygiene (DOHMH) to annually report to the New York City Council on the City's progress toward reducing elevated blood lead levels among children and increasing blood lead testing in New York City. This report is submitted in compliance with this requirement.

Data in the report are presented in six sections:

- *Section I* presents data on New York City children under 6 years of age with blood lead levels at or above 5 micrograms per deciliter (mcg/dL). Young children are at greatest risk for elevated blood lead levels.
- *Section II* presents data on elevated blood lead levels for children under 18 years of age including by type of housing (public or private), and by borough.
- *Section III* presents data on pregnant women with elevated blood lead levels. New York State law requires health care providers to assess all pregnant New Yorkers for risk of lead exposure at their first prenatal visit.
- *Section IV* presents data on blood lead testing for children turning 3 years of age in 2020. New York State law requires health care providers to test all children at or around ages 1 and 2.
- *Section V* presents data on safe work practices. Building owners must use safe work practices and trained workers to fix lead paint hazards when doing abatement and general repair work that disturbs lead-based paint.
- *Section VI* presents data on implementation of education and outreach and outlines strategies for continued progress in the prevention of lead exposure among children and communities at high risk.

The COVID-19 public health emergency has led to significant changes in health care utilization – including a drop in blood lead testing among children. For this reason, 2020 surveillance data should be interpreted with caution.

Section I: Elevated Blood Lead Levels Among Children Under 6 Years Old

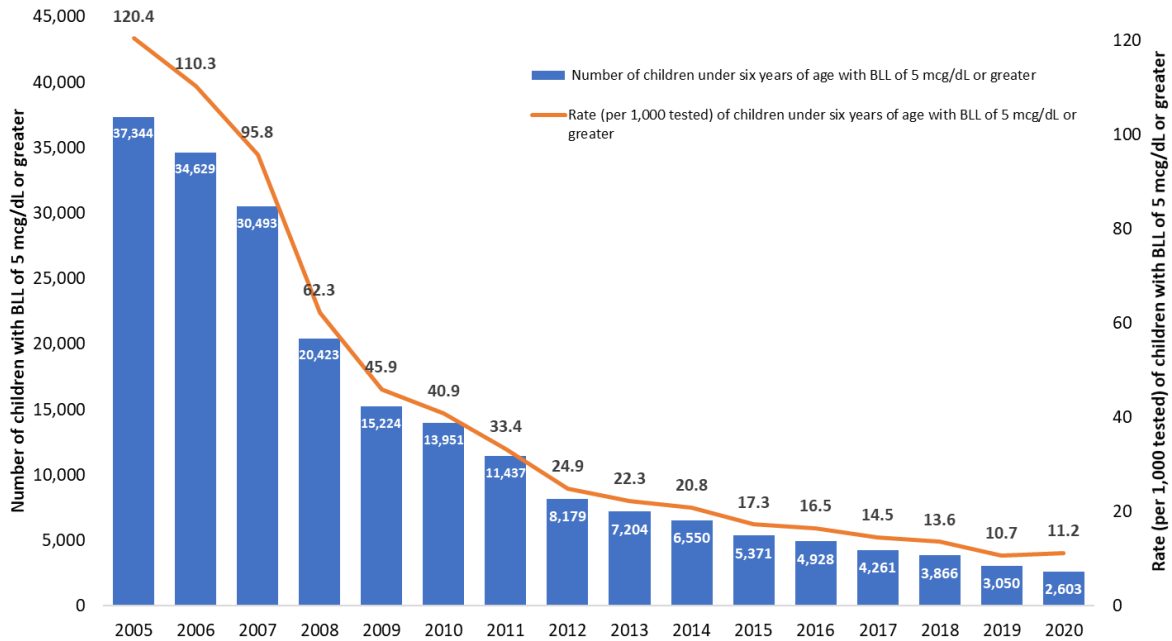
Lead exposure in childhood can lead to serious, long-term consequences, including learning difficulties and behavioral problems. Young children are especially at risk because they explore their environment by placing non-food items in their mouths, potentially exposing them to lead in dust and paint. Lead-based paint hazards remain the most commonly identified exposure source for New York City children with elevated blood lead levels. The number of children whose blood lead levels are at or exceed 5 micrograms per deciliter (mcg/dL) are at a historic low and continue to decline. Since 2005, there has been a 93% decline in the number of children under 6 years of age with a blood lead level of 5 mcg/dL or greater.

Children under age 6 with blood lead levels of 5 mcg/dL or greater

In 2020, 2,603 New York City children under 6 years of age were identified with a blood lead level of 5 mcg/dL or greater. This represents a 15% decline from 2019 when there were 3,050 children with blood lead levels of 5 mcg/dL or greater, and a 93% decline since 2005 when there were 37,344 children with blood lead levels of 5 mcg/dL or greater.

In 2020, the rate of children under 6 with elevated blood lead levels was 11.2 per 1,000 children tested, an increase of 5% compared to 2019. This increase is likely because fewer children were tested in 2020, and those tested were likely a higher risk for lead exposure. For this reason, the 2020 trends should be interpreted with caution. The COVID-19 public health emergency has caused dramatic changes in health care utilization which may be driving these changes.

Figure 1. The number and rate (per 1,000 tested) of New York City children under 6 years of age with a blood lead level (BLL) of 5 mcg/dL or greater



Note: The COVID-19 public health emergency has led to significant changes in health care utilization – including a drop in blood lead testing among children. For this reason, 2020 surveillance data should be interpreted with caution. The data above represent unique children per year. Included are all children tested in a calendar year with an elevated blood lead level, regardless of whether the test was confirmed or not, and regardless of whether they had an elevated test in previous years. Adding across years will result in duplicate counts of individual children over time. Between January 2005 and December 2020 there were 167,680 children under the age of 6 who had a blood lead level of 5 mcg/dL or greater.

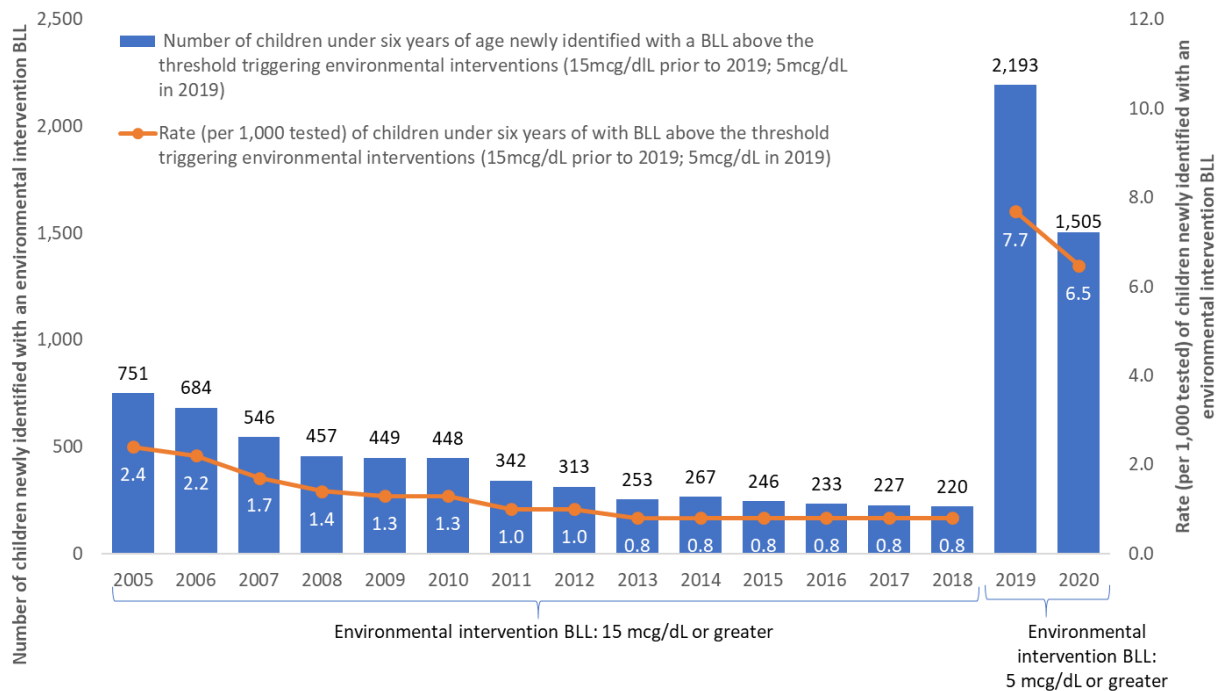
Source: New York City Department of Health and Mental Hygiene Childhood Blood Lead Registry.

Children under age 6 with blood lead levels at or above the environmental intervention threshold

Prior to June 2019, Local Law 1 of 2004 required DOHMH to conduct environmental investigations for New York City children with an elevated blood lead level of 15 mcg/dL or greater. Since July 2018, DOHMH has been conducting environmental investigations for all children with an elevated blood lead level at or above 5 mcg/dL.

In 2020, 1,505 children¹ younger than 6 years of age were newly identified with an environmental intervention blood lead level of 5 mcg/dL or greater.

Figure 2. The number and rate of New York City children under 6 years of age newly identified with a blood lead level (BLL) at or above the environmental intervention threshold



Note: The COVID-19 public health emergency has led to significant changes in health care utilization – including a drop in blood lead testing among children. For this reason, 2020 surveillance data should be interpreted with caution.

Source: New York City Department of Health and Mental Hygiene Childhood Blood Lead Registry.

¹ This number includes only children with a confirmed elevated blood lead level, who had an elevated test for the first time in a given calendar year. Figure 1, in contrast, shows all children tested in a calendar year with an elevated blood lead level, regardless of whether the test was confirmed or not, and regardless of whether they had an elevated test in previous years.

The burden of lead exposure is highest among children of color and children living in high-poverty neighborhoods

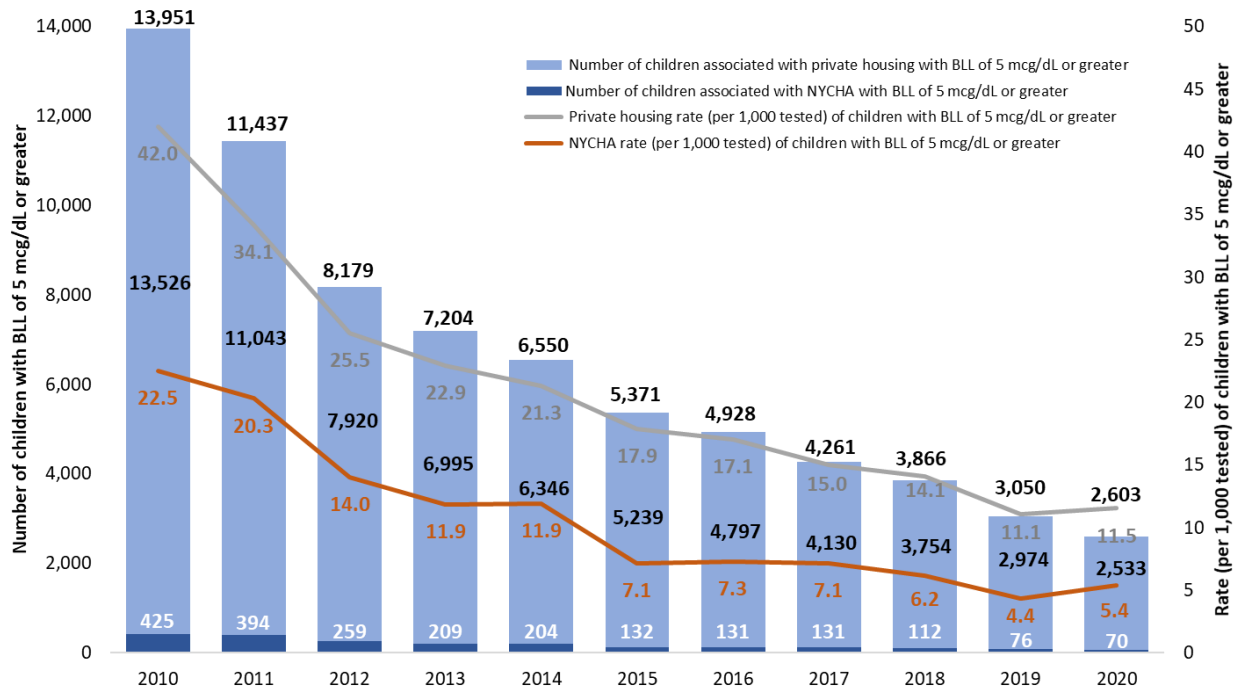
While the number of children with blood lead levels of 5 mcg/dL or greater has decreased over time across racial and ethnic groups and neighborhoods, the burden of lead exposure remains high for children of color and children living in high-poverty neighborhoods.

- In 2020, 65% of children under 6 years of age with blood lead levels of 5 mcg/dL or greater were from high-poverty neighborhoods (defined as zip codes with 20% or more of the population living below poverty level).
- The rate of children under 6 years of age with blood lead levels of 5 mcg/dL or greater in high-poverty areas was 13.0 per 1,000 children tested, more than 40% higher than the rate in the wealthiest areas (9.0 per 1,000 children tested).
- In 2020, Asian, Black and Latino children represented 78% of children under age 6 newly identified with blood lead levels of 5 mcg/dL or greater.

Children living in public housing had a lower risk for lead exposure than children citywide

Children living in homes maintained by the New York City Housing Authority (NYCHA) have, on average, a lower risk of lead exposure than those living in private housing. This difference in risk of exposure is likely because housing stock throughout the city is older than housing maintained by NYCHA.

Figure 3. Children under age 6 living in NYCHA housing have consistently lower rates of elevated blood lead levels (BLL) than children living in private housing.



Note: The COVID-19 public health emergency has led to significant changes in health care utilization – including a drop in blood lead testing among children. For this reason, 2020 surveillance data should be interpreted with caution. The data above represent unique children per year. Included are all children tested in a calendar year with an elevated blood lead level, regardless of whether the test was confirmed or not, and regardless of whether they had an elevated test in previous years. Adding across years will result in duplicate counts of individual children over time. Between January 2010 and December 2020 there were 57,939 children under the age of 6 who had a blood lead level of 5 mcg/dL or greater; 1,845 (3%) of these children were associated with NYCHA.

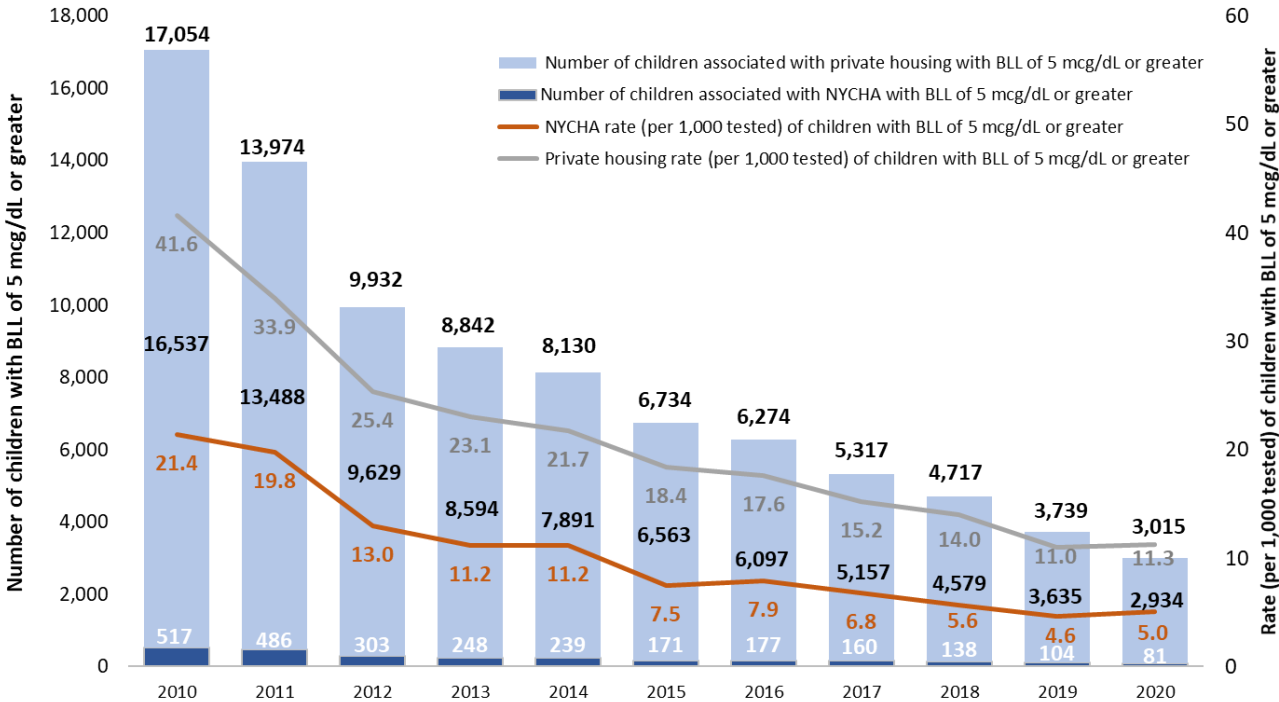
Source: New York City Department of Health and Mental Hygiene Childhood Blood Lead Registry.

- In 2020, of more than 12,000 children under 6 years of age living in NYCHA housing who were tested for lead, 70 had blood lead levels at or above 5 mcg/dL. This represents a decline of 8% compared to 2019 when there were 76 children, and a decline of 84% since 2010, when there were 425 children living in NYCHA housing with an elevated blood lead level at or above 5 mcg/dL.
- In 2020, the rate of children less than 6 years old living in NYCHA housing with blood lead levels at or above 5 mcg/dL was 5.4 per 1,000 children tested, less than half the citywide rate of 11.2 per 1,000 children tested and the rate for children living in private housing (11.5 per 1,000 tested).

Section II: Elevated Blood Lead Levels Among Children Under 18 Years Old

Blood lead levels among children under age 18 follow a similar pattern as blood lead levels for younger children. In 2020, the rate of children under age 18 living in NYCHA housing with blood lead levels at or above 5 mcg/dL was 5.0 per 1,000 children tested, less than half the citywide rate and the rate among children living in private housing (10.9 per 1,000 children tested and 11.3 per 1,000 children tested, respectively).

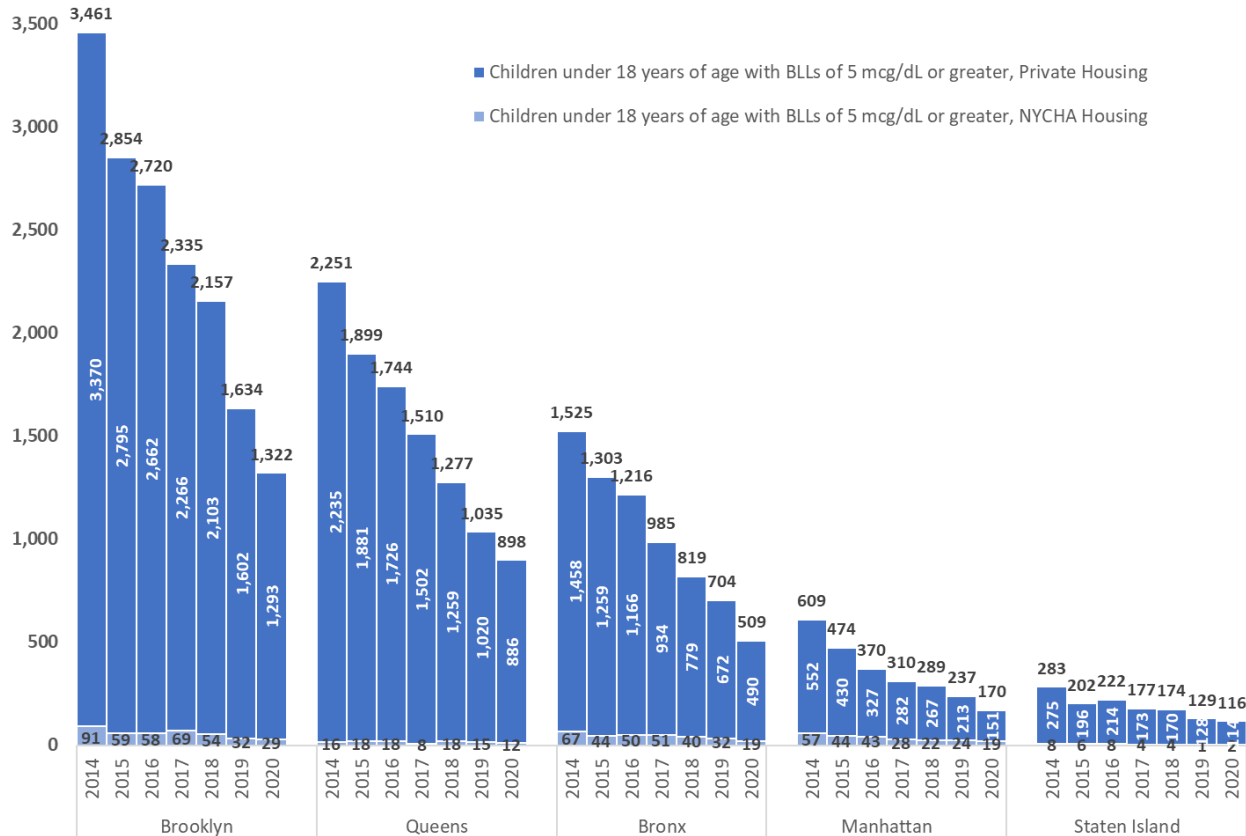
Figure 4. Children under age 18 living in NYCHA housing have consistently lower rates of elevated blood lead levels (BLL) than children living in private housing.



Note: The COVID-19 public health emergency has led to significant changes in health care utilization – including a drop in blood lead testing among children. For this reason, 2020 surveillance data should be interpreted with caution.
 The data above represent unique children per year. Included are all children tested in a calendar year with an elevated blood lead level, regardless of whether the test was confirmed or not, and regardless of whether they had an elevated test in previous years. Adding across years will result in duplicate counts of individual children over time. Between January 2010 and December 2020 there were 69,620 children under the age of 18 who had a blood lead level of 5 mcg/dL or greater; 2,211 (3%) of these children were associated with NYCHA.

Source: New York City Department of Health and Mental Hygiene Childhood Blood Lead Registry.

Figure 5. Number of children under 18 years of age with blood lead levels (BLL) of 5 mcg/dL or greater by borough and type of residence, New York City 2014-2020



Note: The COVID-19 public health emergency has led to significant changes in health care utilization – including a drop in blood lead testing among children. For this reason, 2020 surveillance data should be interpreted with caution.

Source: New York City Department of Health and Mental Hygiene Childhood Blood Lead Registry.

- Between 2014 and 2020 the number of children under age 18 with blood lead levels of 5 mcg/dL has declined across all boroughs. These declines ranged from 59% in Staten Island to 72% in Manhattan.

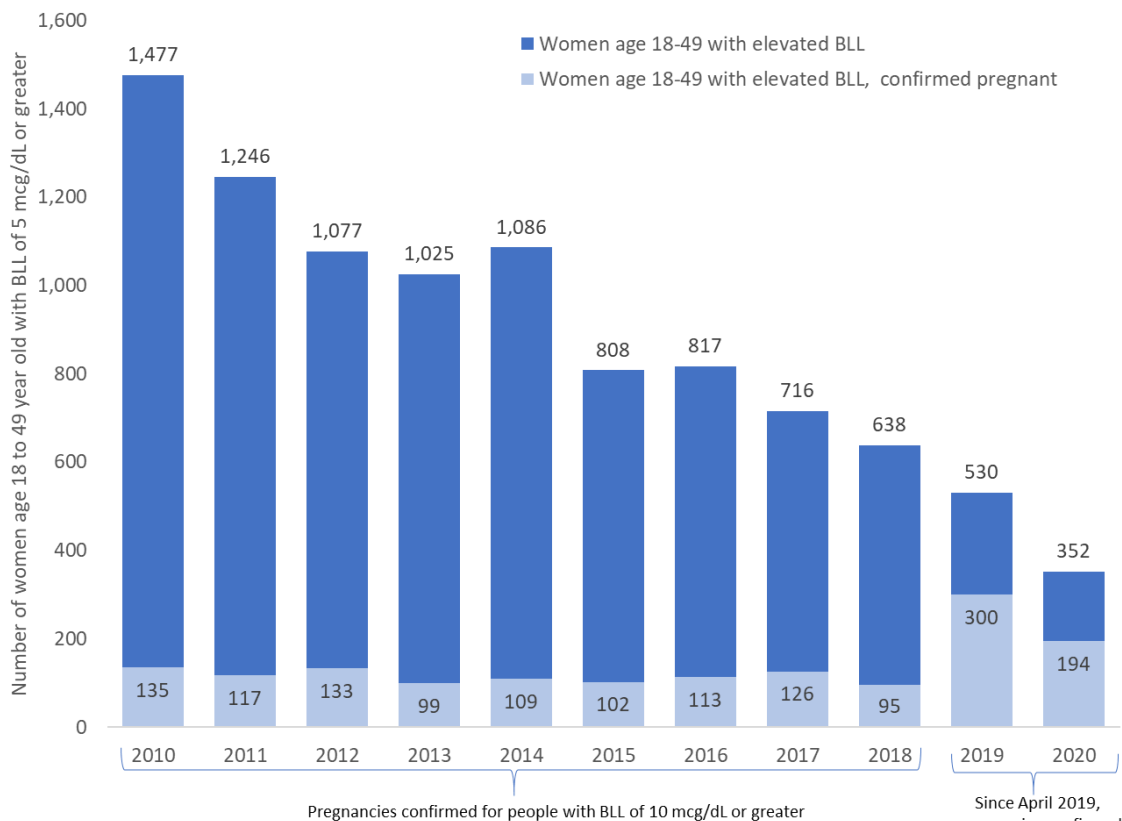
Section III: Pregnant People with Elevated Blood Lead Levels

Lead exposure can harm both the fetus and pregnant person, increasing the risk of miscarriage, causing birth defects and leading to learning and behavior problems in children. New York State law requires medical providers to assess pregnant people for lead exposure at their first visit. Prior to 2019, DOHMH provided risk assessments to all pregnant people with blood lead levels of 10 mcg/dL or greater. Since April 2019, DOHMH provides risk assessments to all pregnant people with a blood lead level of 5 mcg/dL or greater.

In 2020, 352 people of childbearing age (18 to 49 years old) were identified with elevated blood lead levels (5 mcg/dL or greater). Of these, 194 were confirmed pregnant, more than 80% of whom were foreign-born, with more than 30 different countries of birth reported. People from only five countries represented more than 50% of all cases:

- 31% were born in Mexico
- 18% South Asian countries of Bangladesh, Pakistan and India
- 6% were born in Guatemala

Figure 6. Number of people of childbearing age (18 to 49 years) with blood lead levels (BLL) of 5 mcg/dL or greater, total and confirmed pregnant, New York City 2010-2020



Note: The COVID-19 public health emergency has led to significant changes in health care utilization. For this reason, 2020 surveillance data should be interpreted with caution.

Source: New York City Department of Health and Mental Hygiene Adult Blood Lead Registry.

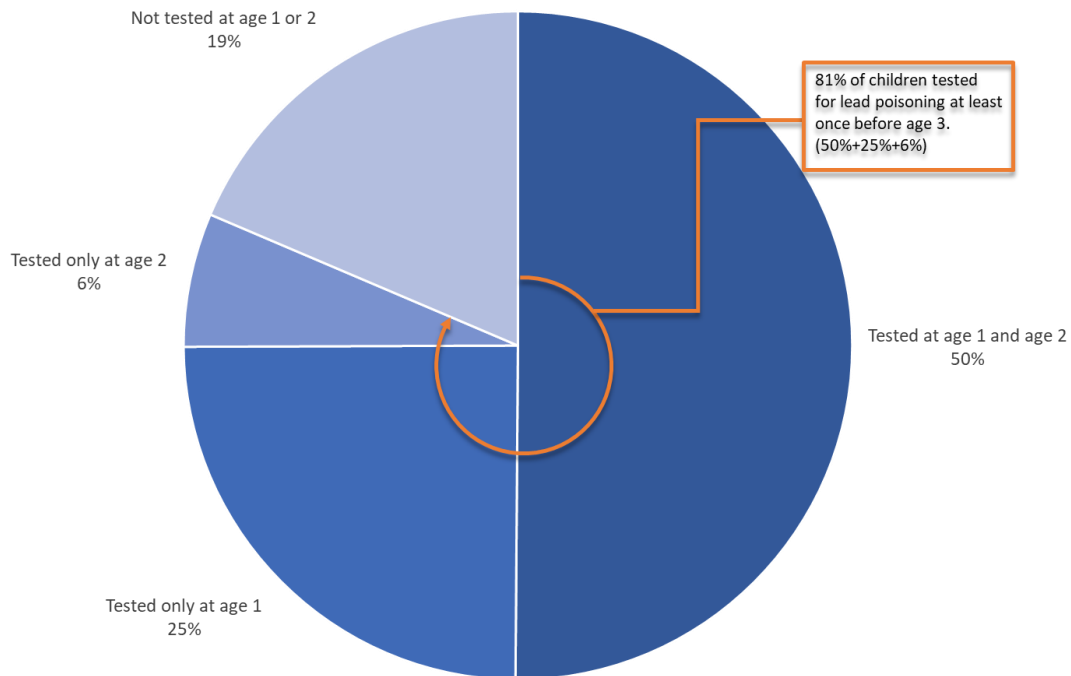
Section IV: Blood Lead Testing for Children Ages 3 Years and Younger

Early identification of lead-exposed children is critical to prevent further exposures. Since most children with elevated blood lead levels have no symptoms, blood lead testing is the only way to identify them. In New York State, health care providers are required by law to test all children at or around age 1 and age 2, and to annually assess and test those at risk of lead poisoning starting at age 6 months up to age 6.

Most New York City children were tested for lead poisoning at least once before age 3

- In 2020, an estimated 81% of New York City children turning 3 years of age were tested for lead poisoning at least once. Half (50%) of them were tested at or around age 1 and age 2, as required by New York State law.
- Although the COVID-19 public health emergency has led to significant changes in health care utilization – including a drop in blood lead testing, the impact was the greatest on older children. In 2020, compared to 2019, there was a 23% decline in testing among 3 to 5-year-olds, and 36% decline among children age 6 and older vs. 16% decline among children under 3. However, most children turning 3 years old in 2020 have received at least one blood lead test well before turning 3.

Figure 6. Most New York City children are tested for lead poisoning at least once before age 3



Source: New York City Department of Health and Mental Hygiene Childhood Blood Lead Registry and Office of Vital Statistics.

Section V: Safe Work Practices

New York City's housing stock is old and could have older layers of lead-based paint in dwelling units or common areas, especially in buildings built prior to 1960. For this reason, to prevent potential lead exposure, building owners are required to take active measures to ensure that deteriorated surfaces are remediated and abated, and must use safe practices for any construction, abatement or repair activities that disturb painted surfaces.

DOHMH monitors that owners are using safe work practices when complying with a Health Commissioner's Order to abate a lead paint hazard and inspects building worksites in response to 311 calls about unsafe work practices. In 2020, DOHMH inspected or monitored remotely 774 buildings with young children to check whether work disturbing lead paint was being done safely. DOHMH found non-compliance in 92 of these buildings and issued 110 orders or notices of violation.

Section VI: Education, Outreach and Strategies for Continued Progress

New York City has made great progress in reducing elevated blood levels in children. Between 2005 and 2020, there was a 93 percent decline in the number of children younger than 6 years of age with a blood lead level of 5 mcg/dL or greater. This success is the result of a proactive and comprehensive approach to preventing lead exposure in childhood. Nevertheless, living in older, poorly maintained housing where lead-based paint exists continues to be the most commonly identified risk factor for lead exposure among New York City children.

Education and outreach focused on childhood lead poisoning prevention

In 2020:

- DOHMH distributed more than 42,000 copies of printed educational materials on prevention of lead poisoning among children, pregnant persons, workers in high risk occupations such as construction, as well as materials on lead contamination in consumer products. These materials were printed in 12 languages: English, Spanish, Bengali, Urdu, Hindi, Chinese, Arabic, Russian, Punjabi, French, Yiddish, and Haitian Creole.
- More than 11,000 New Yorkers participated in over 350 education and outreach events that raised awareness about need for timely testing of children for lead poisoning, home health hazards such as peeling paint, and health risks of exposure to lead-contaminated consumer products. These events were organized in collaboration with community- and faith-based organizations, government organizations, schools, hospitals, clinics, day cares and libraries.

Strategies for continued progress

DOHMH implements targeted interventions for communities most at risk. Prevention strategies include:

- Eliminating or reducing lead-based paint hazards and other sources of lead in homes and communities through investigation, enforcement, education, and technical assistance.
- Promoting blood lead testing for children, pregnant people, and newborns through outreach to families, health care providers, and Medicaid Managed Care organizations.
- Increasing awareness about risk factors for lead exposure by targeting culturally appropriate advertising campaigns to communities at risk.
- Providing care coordination services to children with an elevated blood lead level, as well as pregnant people with an elevated blood lead level and their newborns.
- Building partnerships with community, social service, and faith-based organizations; home visiting programs; weatherization groups; neighborhood housing groups; medical providers; and agencies concerned with child and environmental health.
- Addressing other home-based health issues during prevention efforts, such as reducing home asthma triggers and safety hazards.

This report and more information about childhood lead levels are available through the NYC DOHMH website at: nyc.gov/lead

Additional data on childhood lead exposure are also available through the NYC DOHMH Environment and Health Data Portal at nyc.gov/health/tracking.