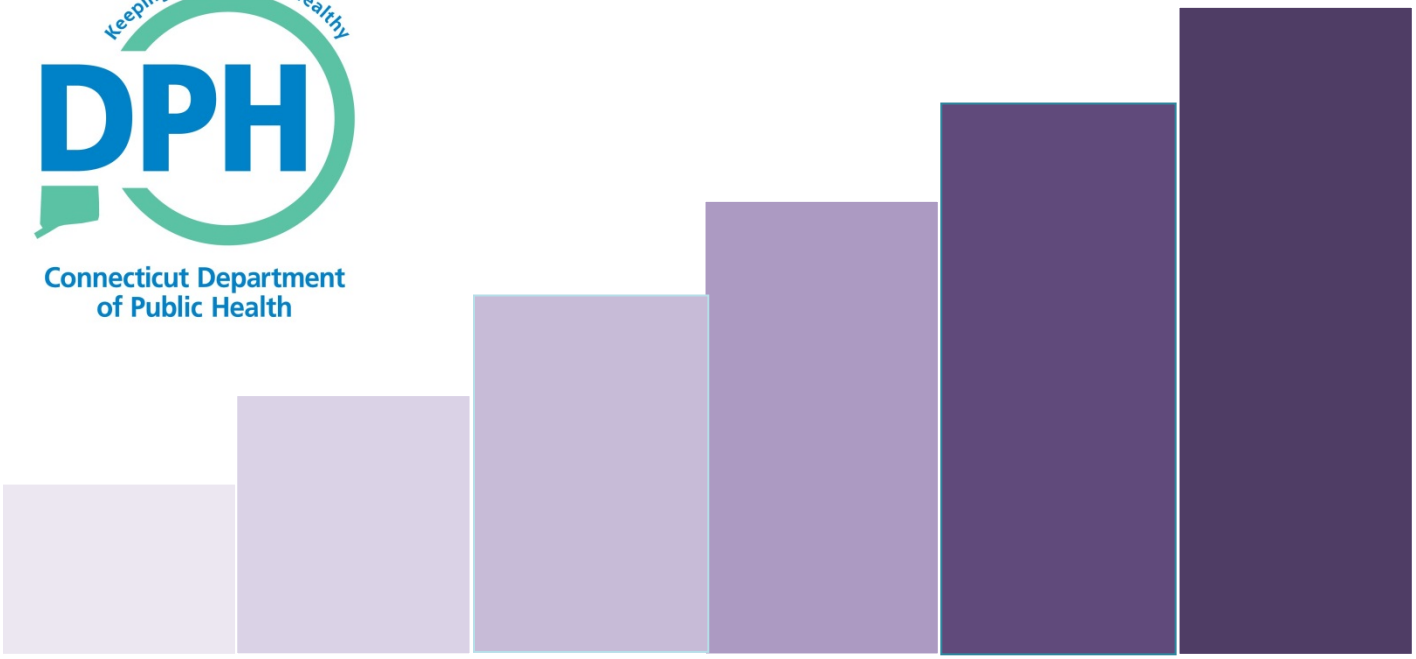


Childhood Lead Poisoning Prevention and Control

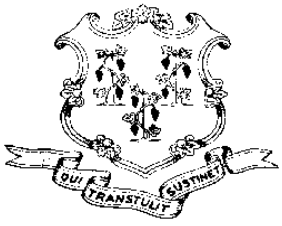
2016 Annual Disease Surveillance Report

State of Connecticut
Department of Public Health
Lead and Healthy Homes Program

This report describes the rates of childhood lead testing by pediatricians, the rates of childhood lead poisoning for children under the age of six, the identification and frequency of lead hazards in residential properties, and the effectiveness of the actions taken by local health departments and districts in response to reported cases of severe childhood lead poisoning.

Published May 9, 2018

If you require aid or accommodation to fully and fairly enjoy this publication, please phone (860) 509-7299



CT Department of Public Health

2016 Annual Disease Surveillance Report

on

Childhood Lead Poisoning Prevention and Control

Commissioner Raul Pino, MD, MPH

Connecticut Department of Public Health

Prepared by:
Tsui-Min Hung, MHS / Jimmy Davila, BS / Krista M. Veneziano, MPH, CHES, RS
Epidemiologists
Connecticut Department of Public Health
Lead and Healthy Homes Program

For additional information about the CT Department of Public Health
Annual Report on Childhood Lead Poisoning, 2016 Edition contact:
Connecticut Department of Public Health
Lead and Healthy Homes Program
410 Capitol Avenue
PO BOX 340308, MS#51LED
Hartford, Connecticut 06134
Phone: (860) 509-7299

5/9/2018

U.S. Environmental Protection Agency, Grant Number PB-99108507-7
Centers for Disease Control and Prevention, CDC-RFA-EH 14-140802PPHF15
and
State of Connecticut

Suggested citation: Hung, T., Davila, J., Veneziano, K. (2018). CT Department of Public Health 2016 Annual Disease Surveillance Report on Childhood Lead Poisoning Prevention and Control. Hartford, CT: Connecticut Department of Public Health.

ACKNOWLEDGEMENTS

Connecticut Department of Public Health

Commissioner

Raul Pino, MD, MPH

Deputy Commissioners

Janet Brancifort, MPH

Yvonne Addo, MBA

Regulatory Services Branch

Environmental Health Section

Chief – Suzanne Blancaflor, MPH, MS

Administrative Assistant – Kathy Graff

Lead and Healthy Homes Program

Program Supervisor– Krista M. Veneziano, MPH, CHES, RS

Staff

Waynett Bobbs, BS

Jimmy Davila, BS

Sherine Drummond, BS

Tsui-Min Hung, MHS

Tina McCarthy, BS

Denise Ortiz, MPH

Kimberly Ploszaj, BS, EMT-B

Table of Contents

CHAPTER 1. KEY FINDINGS 1

CHAPTER 2. UNDERSTANDING THE LEAD DATA 2

CHAPTER 3. BLOOD LEAD SCREENING 4

Blood Lead Screening in 2016 4

Compliance with Blood Lead Testing Requirements 8

Blood Lead Testing By Birth Cohort: Summary statistics for children up to three years of age 9

CHAPTER 4. PREVALENCE OF CHILDHOOD LEAD POISONING 15

CHAPTER 5. INCIDENCE OF CHILDHOOD LEAD POISONING 24

CHAPTER 6. DEMOGRAPHIC CHARACTERISTICS ASSOCIATED WITH CHILDHOOD LEAD POISONING 31

Race and Ethnicity 31

Race 31

Ethnicity 32

Household Income below Poverty Level (Map 6.2) 32

Pre-1978 housing (Map 6.3) 33

CHAPTER 7. ENVIRONMENTAL INVESTIGATIONS FOR CHILDREN WITH ENVIRONMENTAL INTERVENTION BLOOD LEAD LEVELS 39

Housing style 40

Environmental lead hazards 40

Environmental lead hazards identified by source 41

Environmental lead hazards identified by existence of lead paint hazard 41

Reported lead abatement and management activities 42

CHAPTER 8. APPENDICES 45

Table 8.1. By town screening for children under age 6 and 9 months to 2 years old – Connecticut CY 2016 46

Table 8.2. Prevelance - Percent of Children with a Blood Lead Level 0-4 μg/dL and Cumulative Percent of Children with a Blood lead Level of ≥5 μg/dL among Children under 6 Years of Age, by Blood Lead Categories..... 55

Table 8.3. Incidence of lead poisoning among children under six years of age, by town and by blood lead levels – Connecticut CY 2016 63

List of Figures

Figure 3.1. Number of children under 6 years of age who had a lead testing, by calendar year – Connecticut 1995-2016 4

Figure 3.2. Percentage of children 1-2 years of age who had a lead testing – Connecticut 1996-2016 6

Figure 3.3. Screening rate by age at blood lead testing among 2013 birth cohort 10

Figure 3.4. Percentage screened for lead at least once by age and annually under age three among 2013 birth cohort 10

Figure 3.5. At least one testing by second birthday (0 to 23 months), birth cohort 2005 to 2014 13

Figure 3.6. Percentage of children who have had at least one screening by 72 months of age, by year of birth – Connecticut 2000-2010 14

Figure 4.1. Number of children under 6 years of age diagnosed with lead poisoning, CY 2016 17

Figure 4.2. Prevalence of children under 6 years of age who are lead poisoned, by calendar year and by blood lead level – Connecticut 1995-2016 18

Figure 4.3. Number of children under 6 years of age with lead poisoning, by calendar year and by blood lead levels – Connecticut 2002-2016 20

Figure 4.4. Percentage and number of children under 6 years of age with blood lead levels ≥5 μg/dL– Connecticut 2016 21

Figure 5.1. Cumulative incidence of lead poisoning among children under 6 years of age, by blood lead levels – Connecticut CY 2016 25

Figure 5.2. Incidence of lead poisoning by blood lead categories among children under 6 years of age, by blood lead levels – Connecticut CY 2016 25

Figure 5.3. Number of existing and new cases of lead poisoning among children under 6 years of age, by blood lead levels – Connecticut CY 2016 26

Figure 5.4. Incidence of lead poisoning among children under 6 years of age, by month– 26

Connecticut CY 2016 26

Figure 5.5. Age of children when first identified as lead poisoned - Number of new cases of lead poisoning among children under 6 years of age, by age at test – Connecticut CY 2016 27

Figure 5.6. Incidence rate of lead poisoning among children under 6 years of age, by age at first identification – Connecticut CY 2016 27

Figure 5.7. Incidence Rate of lead poisoning among children under 6 years of age, by blood lead levels – Connecticut CY 2004-2016 28

Figure 6.1. Percentage of children under 6 years of age with a blood lead level ≥5 μg/dL, by race – Connecticut CY 2016 31

Figure 6.2. Percentage of children under 6 years of age with a blood lead level ≥5 μg/dL, by ethnicity – Connecticut CY 2016 32

Figure 7.1. Percentage of housing style among inspected housing units 40

Figure 7.2. Percentage of environmental lead hazards identified by source 41

Figure 7.3. Percentage of environmental lead hazards related to paint or non-paint hazards 41

Figure 7.4. Abatement and management activities among dwelling units requiring abatement of lead hazards 42

Figure 7.5. Number of months or years to complete abatement among dwelling units where abatement of lead hazards was completed in 2016 (N=89) 43

Figure 7.6. Distribution of time required to complete abatement among dwelling units where abatement of lead hazards was completed in 2016 43

Figure 7.7. Lead management plans among dwelling units where lead abatement was completed in 2016 44

List of Maps

Map 3.1. By Town Blood Lead Screening Rate, Children 9 months to 2 Years Old, Connecticut 2016 7

Map 3.2. Percentage of Children Who Received Two Annual Lead Tests by Age 3* Connecticut Birth Cohort 2013 12

Map 4.1. Number of Children under 6 Years Old with Blood Lead Levels ≥5 μg/dL by Town, Connecticut 2016 22

Map 4.2. Number of Children under 6 Years Old with Blood Lead Levels ≥15 μg/dL by Town, Connecticut 2016 23

Map 5.1. Number of New Cases ≥5 μg/dL By Town Among Children Under 6 Years Old, Connecticut 2016 29

Map 5.2. Number of New Cases ≥15 μg/dL By Town Among Children Under 6 Years Old, Connecticut 2016 30

Map.6.1. Number and Percentage of Black Children Lead Poisoned Under Age 6, Connecticut 2016..... 34

Map 6.2. Number and Percentage of Hispanic Children Lead Poisoned Under Age 6, Connecticut 2016 35

Map 6.3. Number of Lead Poisoned Children with Blood Lead Levels ≥5 μg/dL & Number of Households with Income Below Poverty Level, Connecticut 2016 36

Map 6.4. Number of Lead Poisoned Children with Blood Lead Levels ≥5 μg/dL & Housing Units Built before 1960, Connecticut 2016 37

Map 6.5. Percentage of Lead Poisoned Children with Blood Lead Levels ≥5 μg/dL & Housing Units Built before 1960, Connecticut 2016 38

Lead Free
KIDS
for a Healthy Future

Chapter 1. KEY FINDINGS

The following provides a summary of key findings for lead poisoning disease surveillance conducted by the Lead and Healthy Homes Program during the 2016 calendar year (CY):

- **Statewide Mandatory Blood Lead Testing/Compliance**
  - 82,087 blood lead tests for children under age of 6 received by the Lead and Healthy Homes Program
  - 74,055 children under age of 6 were tested
  - Among the 2013 birth cohort (children who turned 3 years of age in 2015), 83.8% were tested once by age 2 and 99.3% were tested once by age 3
  - Among the 2013 birth cohort, 57.0% of children were tested at age 1 and again at age 2

- **Prevalence of Childhood Lead Poisoning:**

  Children are considered lead poisoned when diagnosed with a confirmed blood lead level ≥5 μg/dL. Among children under 6 years of age who had a confirmed blood lead test:
  - 2,000 (27 per 1,000, i.e. 2.7%) children ≥5 μg/dL
  - 208 (3 per 1,000, i.e. 0.3%) children ≥15 μg/dL
  - 105 (1 per 1,000, i.e. 0.1%) children ≥20 μg/dL

- **Incidence of Childhood Lead Poisoning**

  Number of new cases identified (incidence) among children under 6 years of age who had a confirmed blood lead test:
  - 1,231 (17 per 1,000, i.e. 1.7%) ≥5 μg/dL
  - 149 (2 per 1,000, i.e. 0.2%) ≥15 μg/dL
  - 81 (1 per 1,000, i.e. 0.1%) ≥20 μg/dL

- **Race and Ethnicity Associated with Childhood Lead Poisoning**

  Among children under 6 years of age who had a confirmed blood lead test:
  - Blacks (4.8%) were twice as likely to be lead poisoned at levels ≥5 μg/dL than Whites (2.0%).
  - Hispanics (3.5%) were 1.5 times as likely to be lead poisoned at levels ≥5 μg/dL than Non-Hispanics (2.4%)

- **Environmental Lead Hazard Investigations**

  Among the 126 dwelling units for which environmental investigations were completed and reported for poisoned children:
  - 84.9% were identified with environmental lead hazards
  - 73.0% were multiple-unit dwellings
  - 80.2% were identified with paint hazards
  - 54.0% were identified with dust hazards
  - 41.3% were identified with soil hazards
  - 0.0% with a drinking water hazard

Chapter 2. UNDERSTANDING THE LEAD DATA

Connecticut General Statutes (CGS) Section 19a-110. Report of lead poisoning, requires laboratory reporting of blood lead tests for all individuals. Laboratories are required to submit blood lead test reports (i.e., findings ≥10 μg/dL of lead in blood) within 48 hours of receipt of the test result to the Connecticut Department of Public Health (CT DPH) and the local health department serving the town where the person (child) resides. At least monthly, laboratories are also required to submit to the CT DPH a comprehensive report of all blood lead test results for Connecticut residents.

The CT DPH has maintained a blood lead surveillance system since 1994. In 2010, the CT DPH Lead and Healthy Homes Program upgraded its blood lead surveillance system to a new, more comprehensive web-based system. The system has enhanced the ability to merge birth records and comprehensive environmental data with childhood blood lead data. The surveillance system has had a significant positive impact on the Lead and Healthy Homes Program's capability to utilize surveillance data to enhance child case management efforts. The web-based feature of the system enables secure and remote access by local health department staff. Case management features are built into the system for both child and property case management activities at the local health department level. The system has been offered to local health departments since May 2011. Sixty-five health departments have adopted the CT DPH surveillance system and utilize it on an ongoing basis.

Important Business Rules:

Lead Screening/Testing – A person is considered to have a lead testing if he or she was tested for lead with either a venous or capillary blood draw.

Lead Poisoning – Children who are diagnosed with a blood lead level of ≥5 μg/dL are considered to be lead poisoned. In 2013, the CT DPH lowered the case management action level from 10 μg/dL to 5 μg/dL to correspond with the Centers for Disease Control and Prevention (CDC) reference value (2012, June 7. CDC Response to Advisory Committee on Childhood Lead Poisoning Prevention Recommendations in "*Low Level Lead Exposure Harms Children: A Renewed Call of Primary Prevention*" retrieved October 31, 2012 from http://www.cdc.gov/nceh/lead/acclpp/cdc_response_lead_exposure_recs.pdf). Blood lead levels as low as 5 μg/dL have been shown to affect IQ, ability to pay attention, and academic achievement. This new reference value is based on the children ages 1-5 years who are in the highest 2.5% of children when tested for lead in their blood by CDC's National Health and Nutrition Examination Survey (NHANES).

Prior to 2013, lead poisoning was defined in Connecticut as a blood lead level of ≥10 μg/dL (i.e. "level of concern"). All previous CT DPH published lead poisoning statistics are based on the former "level of concern".

Children who had a blood sample collected for a blood lead testing in 2016 are included in this report regardless of whether the test was analyzed in 2016.

When a child had more than one lead testing in CY 2016, the child was only counted once and the highest confirmed lead result was used. If the child had multiple lead testing while living in more than one town in CY 2016, the statistics regarding the child were applied to the town where the child lived when tested with the highest confirmed lead result.

A confirmed test result is defined as one of the following:

1) A venous blood draw
2) A capillary blood draw with a result of <5 μg/dL if the preceding test was not an elevated blood lead level of ≥5 μg/dL[1]

[1] Children tested with a capillary ≥5 μg/dL are required to have a venous test as a confirmatory test.

Chapter 3. BLOOD LEAD SCREENING

Blood Lead Testing in 2016

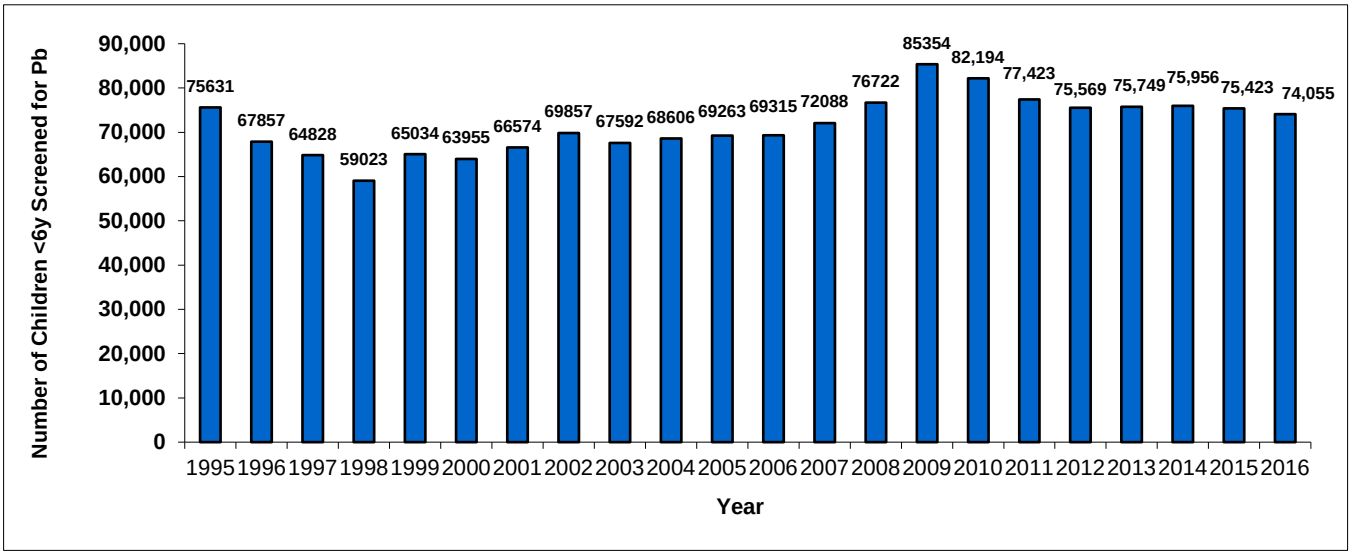
Connecticut law mandates that medical providers must conduct annual lead screening (i.e., blood lead testing) for each child 9 to 35 months of age, effective January 1, 2009. Furthermore, the law requires that any child between 36-72 months of age who has not been previously tested must also be tested by the child's medical provider, regardless of risk[†].

During CY 2016:

- The Lead and Healthy Homes Program received 82,087 blood lead test results for children under the age of 6
- 74,055 children under 6 years of age were tested for lead poisoning
- 56,079 (73.7%) children between 9 months and 2 years old were tested for lead poisoning

Statewide Screening

Figure 3.1. Number of children under 6 years of age who had a lead testing, by calendar year – Connecticut 1995-2016



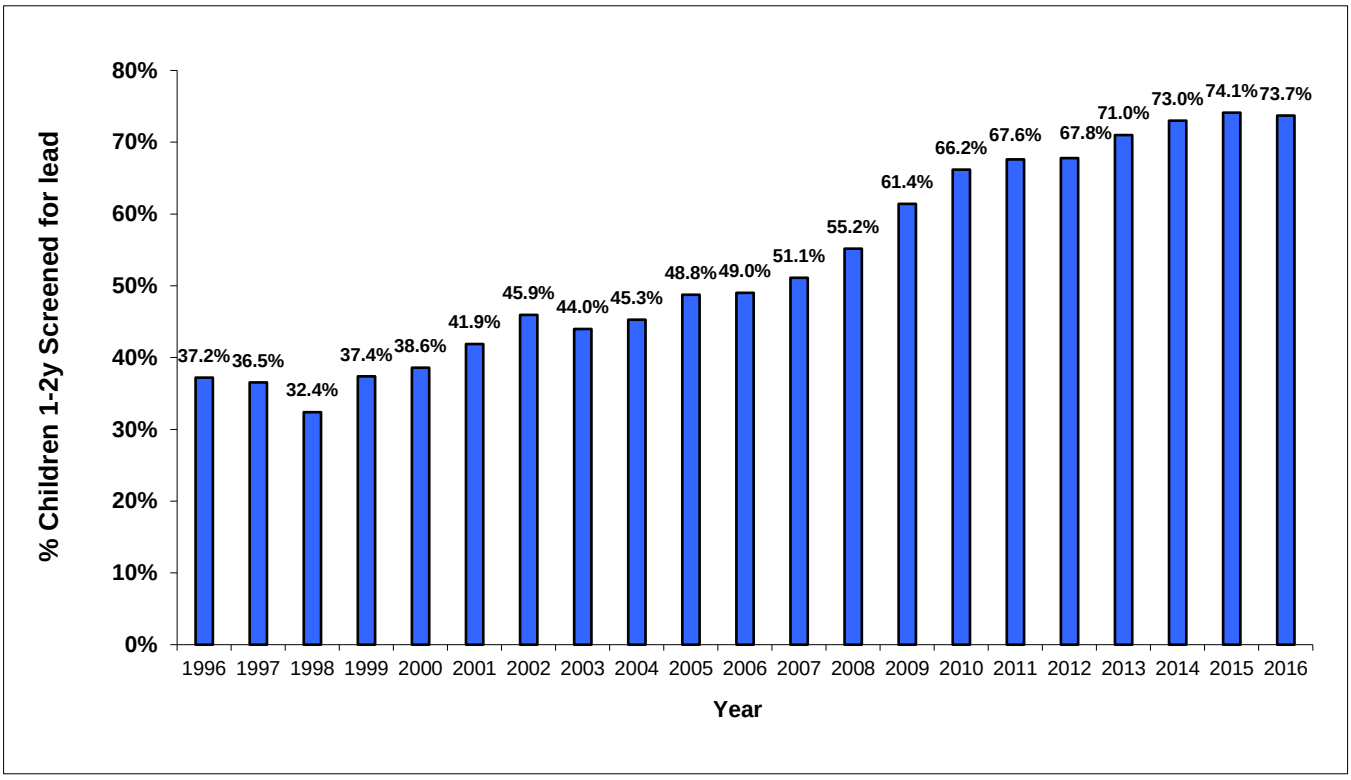
In CY 2016, 74,055 children under 6 years of age were tested for lead at least one time. The demographic characteristics for these children are reported in Table 3.1. This figure displays the raw data counts and decreased statistics may not represent declining testing rates. Since 2007, the number of births in Connecticut has consistently declined. The number of births dropped 13.5% (5659 children) from 2006 to 2014 and consistently decreased annually until 2014.

[†] *Conn. Gen. Stat. §19a-111g. Pediatric lead testing and risk assessment. Exemption.*

Table 3.1. Demographics of children under 6 years of age who had a lead screening – Connecticut CY 2016 (N=74,055)

Demographics	Number	Percent
Age		
0-8 months	471	0.6%
9-11 months	5,418	7.3%
12-23 months	26,338	34.9%
24-35 months	24,794	33.5%
36-47 months	7.892	10.7%
48-59 months	6,352	8.6%
60-71 months	3,261	4.4%
Gender		
Male	38,095	51.5%
Female	35,946	48.5%
Unknown	14	<0.1%
Race		
White	46,853	63.3%
Black	9,609	13.0%
Asian	3,668	5.0%
Native American	155	0.2%
Hawaiian or Pacific Islander	0	0.0%
Other (Including Multiple Races)	2,335	3.1%
Unknown	11,435	15.4%
Ethnicity		
Hispanic	18,831	25.4%
Non-Hispanic	45,462	61.4%
Unknown	9,762	13.2%

Figure 3.2. Percentage of children 1-2 years of age who had a lead testing – Connecticut 1996-2016‡



In CY 2016, 56,079 (73.7%) children between 9 months and 2 years of age were tested for lead poisoning. There was a decrease of 5.4%§ in the screening rate from 2015 to 2016.

By Town Screening

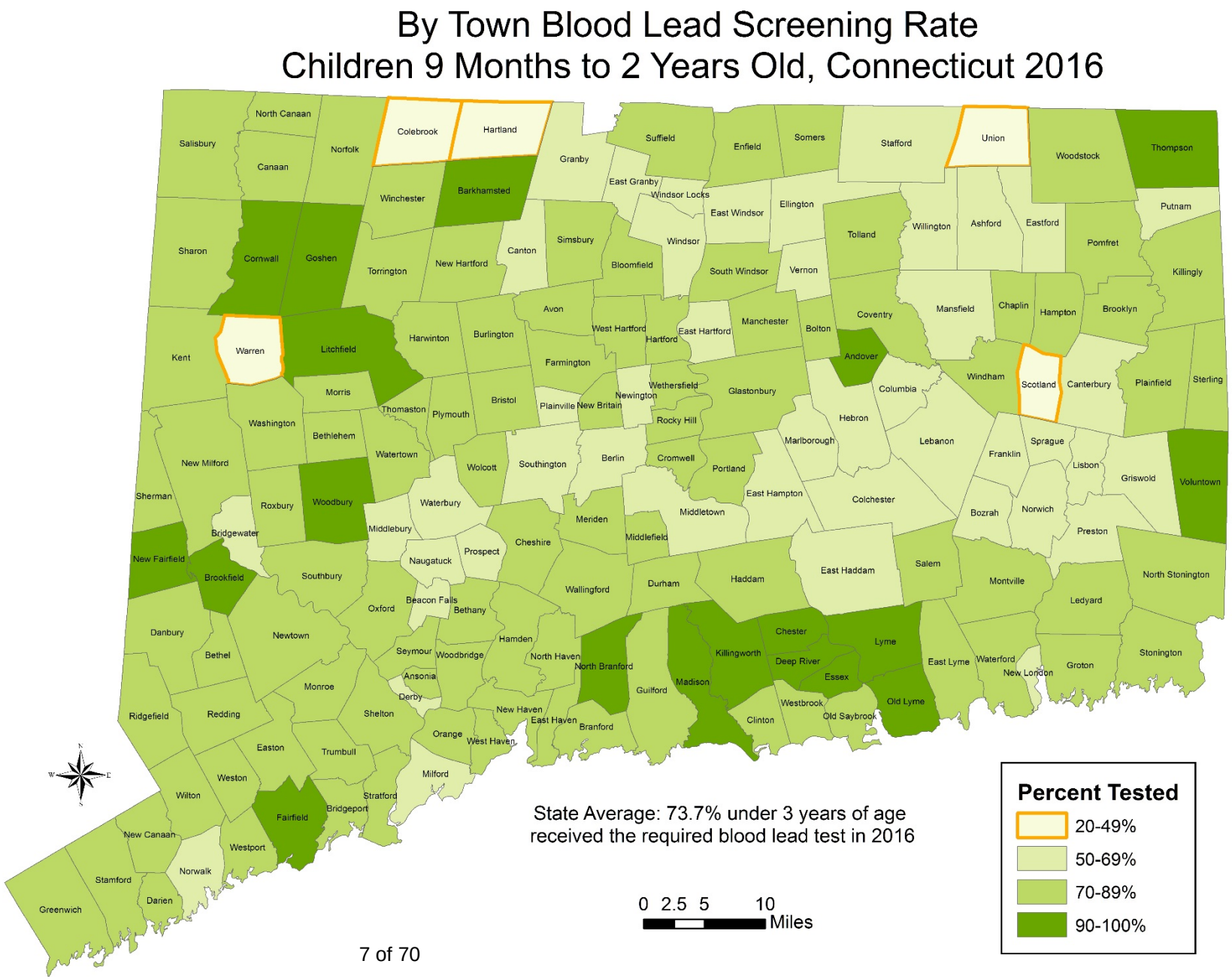
A map illustrating screening rates, by town, for children between 9 months and 2 years old is shown on the next page (Map 3.1). For detailed information on screening by town for children between 9 months and 2 years of age, see Appendix Table 8.1.

---

‡ Starting with the 2011 report, the CT DPH modified how screening rates were evaluated for one and two year olds. State law requires medical providers to test children between 9 to 35 months of age. As such, the CT DPH included the 9 months through11 months test results to the analysis. In prior reports, children between 9 through 11 months of age were not counted.

§ Starting with this report, percentage changes are relative changes using the previous year's data in the denominator and the difference between the two years in the numerator.

Map 3.1.


By Town Blood Lead Screening Rate
Children 9 Months to 2 Years Old, Connecticut 2016
North Canaan
Salisbury
Canaan
Norfolk
Colebrook
Hartland
Granby
Suffield
Enfield
Somers
Stafford
Union
Woodstock
Thompson
Putnam
Winchester
Barkhamsted
East Granby
Windsor Locks
East Windsor
Ellington
Tolland
Willington
Ashford
Eastford
Pomfret
Killingly
Sharon
Cornwall
Goshen
Torrington
New Hartford
Canton
Simsbury
Bloomfield
Windsor
South Windsor
Vernon
Coventry
Mansfield
Chaplin
Hampton
Brooklyn
Kent
Warren
Litchfield
Harwinton
Burlington
Avon
West Hartford
Hartford
East Hartford
Manchester
Bolton
Andover
Windham
Scotland
Canterbury
Plainfield
Sterling
Farmington
Wethersfield
Newington
Glastonbury
Columbia
Morris
Thomaston
Plymouth
Bristol
Plainville
New Britain
Rocky Hill
Hebron
Washington
Bethlehem
Watertown
Marlborough
Lebanon
Sprague
Franklin
New Milford
Wolcott
Southington
Berlin
Cromwell
Portland
Lisbon
Griswold
Voluntown
Sherman
Roxbury
Woodbury
Waterbury
East Hampton
Colchester
Middlebury
Middletown
Bozrah
Norwich
Bridgewater
Meriden
Middlefield
Preston
New Fairfield
Brookfield
Naugatuck
Prospect
Cheshire
Salem
Montville
North Stonington
Southbury
Wallingford
Durham
Haddam
East Haddam
Ledyard
Oxford
Beacon Falls
Bethany
Danbury
Newtown
Hamden
Chester
Lyme
Seymour
Woodbridge
North Haven
North Branford
Killingworth
Deep River
Essex
East Lyme
Waterford
New London
Groton
Stonington
Bethel
Ansonia
Madison
Guilford
Monroe
Derby
Shelton
New Haven
East Haven
Branford
Clinton
Westbrook
Old Saybrook
Old Lyme
Ridgefield
Redding
Orange
West Haven
Easton
Trumbull
Milford
Weston
Wilton
Stratford
Fairfield
Bridgeport
New Canaan
Westport
Norwalk
Stamford
Darien
Greenwich
State Average: 73.7% under 3 years of age
received the required blood lead test in 2016
0 2.5 5 10
Miles
Percent Tested
20-49%
50-69%
70-89%
90-100%

Compliance with Blood Lead Testing Requirements:

Screening rates among birth cohorts who turned 2 years old, 3 years old, and 6 years old in 2016

All healthcare providers in Connecticut are required to conduct annual blood lead testing for children between 9 to 35 months of age. Compliance with the law is assessed by measuring the proportion of children born in Connecticut during a given year who have had one blood lead test by age one/at age one or age two and two annual tests by age three.

In this report, the Department of Public Health Lead and Healthy Homes Program is able to evaluate the effectiveness of universal screening laws (i.e., mandated blood lead testing) for children under the age of three by assessing the screening rate among the 2013 birth cohort as the entire 2013 birth cohort reached three years of age (36 months) in 2016.

The analysis uses the total number of children who received a lead test while residing in Connecticut, regardless of where the child was born, divided by the total number of births in the given year from the Connecticut vital registry. The numerator includes all children born in the given year who had a lead test associated with a Connecticut address regardless of the child's birth state. This method accounts for population relocation. This method is adopted by the CDC's National Environmental Public Health Tracking (EPHT) Program to assess lead screening in young children among the grantee states. One unknown weakness in this method of calculation is that it may overestimate the screening rate**, especially for smaller geographic areas.

$$\text{Screening rate} = \frac{\text{Children born in the given year who received a blood lead tests reported with a CT address}}{\text{\# of live births* in a given year in CT}}$$

** CDC EPHT program conducted screening rate analyses at county level and the results indicated some counties had screening rates over 100%. CDC explains this by stating the limitation of the analysis method: "The number of children born from Vital Statistics does not include children who have moved in or out of the area since birth. Therefore, as a denominator, it may under or over estimate the number of children in a birth cohort." (Centers for Disease Control and Prevention. Environmental Health Tracking Program and Lead Poisoning Prevention Program. Blood Lead Levels by Birth Cohort. Accessed From: www.cdc.gov/ephtracking. Accessed on May 13, 2016. http://ephtracking.cdc.gov/showIndicatorPages.action?selectedContentAreaAbbreviation=6&selectedIndicatorId=33&selectedMeasureId=)

*live births reported with a Connecticut address excluding out of state births by Connecticut residents

Blood Lead Testing By Birth Cohort:

Summary statistics for children up to three years of age

2014 Birth Cohort (turned 2 years old in 2016)

Assessment of first required testing

Among children born in 2014,

- 17.8% were tested before age 1 (defined as under 12 months)
- 71.6% were tested at age 1 (defined as 12 months to 23 months)
- 86.1% were tested once by age 2 (defined as under 24 months)

2013 Birth Cohort (turned 3 years old in 2016)

Assessment of required first and second annual testing

The 2013 birth cohort provides us with an opportunity to evaluate medical provider compliance with required blood lead testing for children between 9 to 35 months.

Among children born in 2013,

- 17.1% were tested before age 1 (defined as under 12 months)
- 71.8% were tested at age 1 (defined as 12 months to 23 months)
- 85.6% were tested once by age 2 (defined as under 24 months)
- 83.8% were tested by age 2 (defined as under 24 months)
- 99.3% were tested by age 3 (defined as under 36 months)
- 57.0% were screened at age 1‡‡ and again at age 2

‡‡ Including children 9 to 11 months old

Figure 3.3. Screening rate by age at blood lead testing among 2013 birth cohort

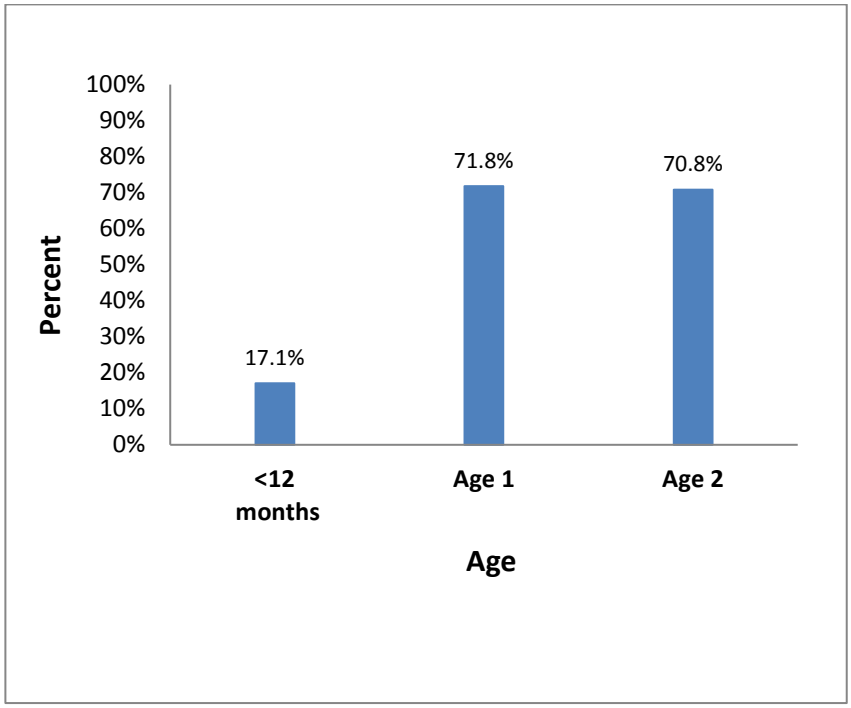
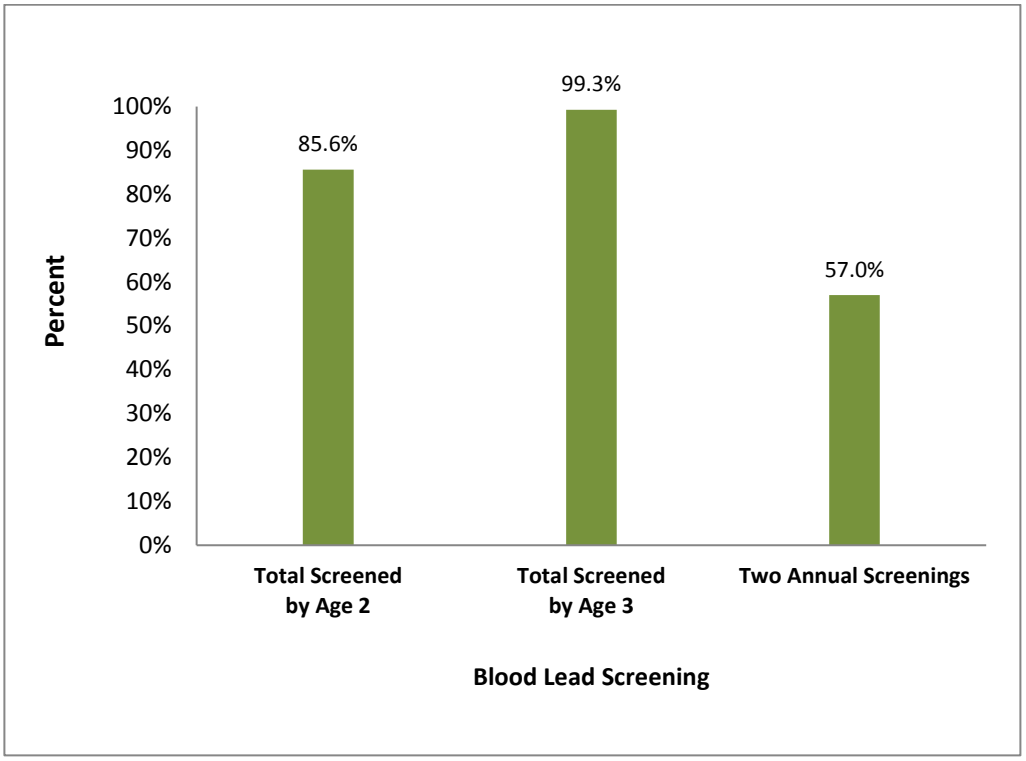


Figure 3.4. Percentage screened for lead at least once by age and annually under age three among 2013 birth cohort



Figures 3.3. and 3.4. illustrate the data for the 2013 birth cohort described on page 10 of this report. The 2013 birth cohort provides an opportunity to evaluate medical provider compliance with required blood lead testing for children between 9 to 35 months of age.

The data indicates that healthcare providers are testing children for lead at least once by age three. However, efforts need to be made to remind healthcare providers of the requirement to test children under the age of three annually; 99.3% of children are tested for lead at least one time by age three, but only 57.0% are tested the required two times before turning three years of age. Despite that, the screening rate for the required two annual testings increased 10.7% from 2013 (51.5%) to 2016 (57.0%).

A map (Map 3.2.) illustrating by town screening rates for the 2013 birth cohort is shown on the next page. Looking more closely at lead screening rates by town provides the Lead and Healthy Homes Program with the opportunity to evaluate healthcare provider practices in specific geographic areas. The program uses the data to inform and focus outreach efforts in collaboration with local health departments and district departments of health.

Map 3.2.

Percentage of Children Who Received Two Annual Lead Tests by Age 3*
Connecticut Birth Cohort 2013

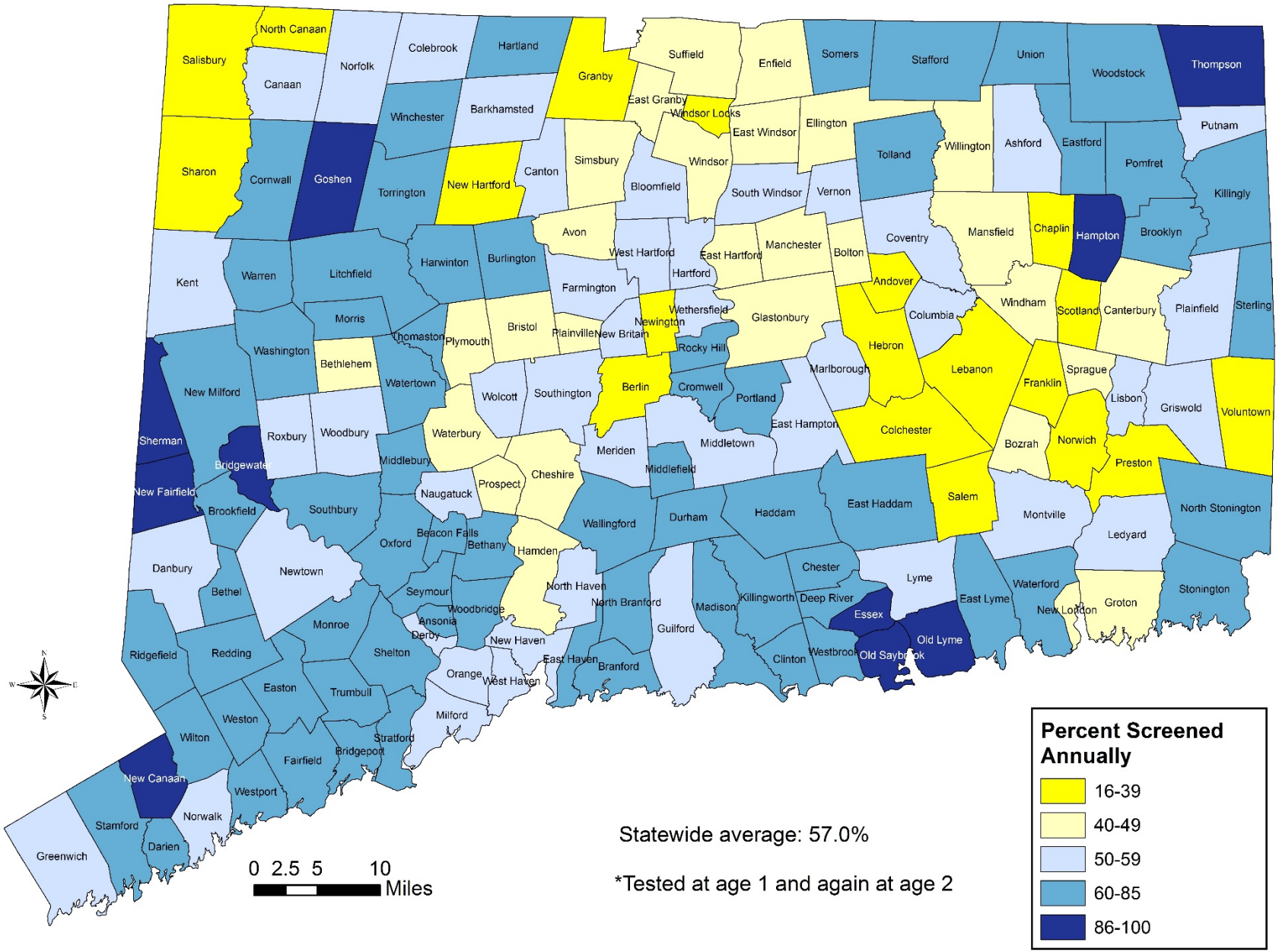
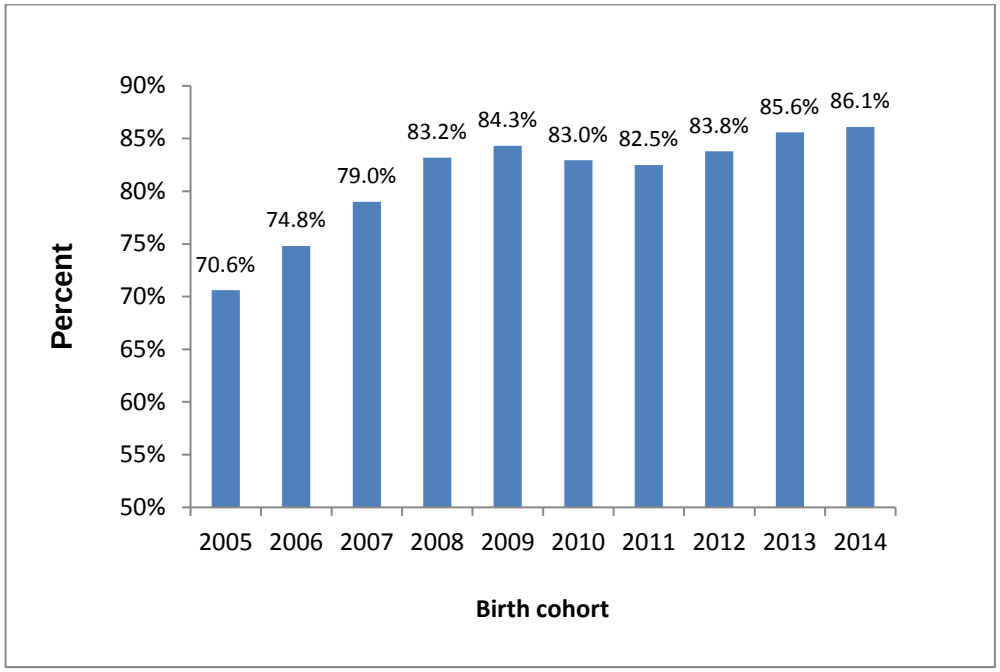


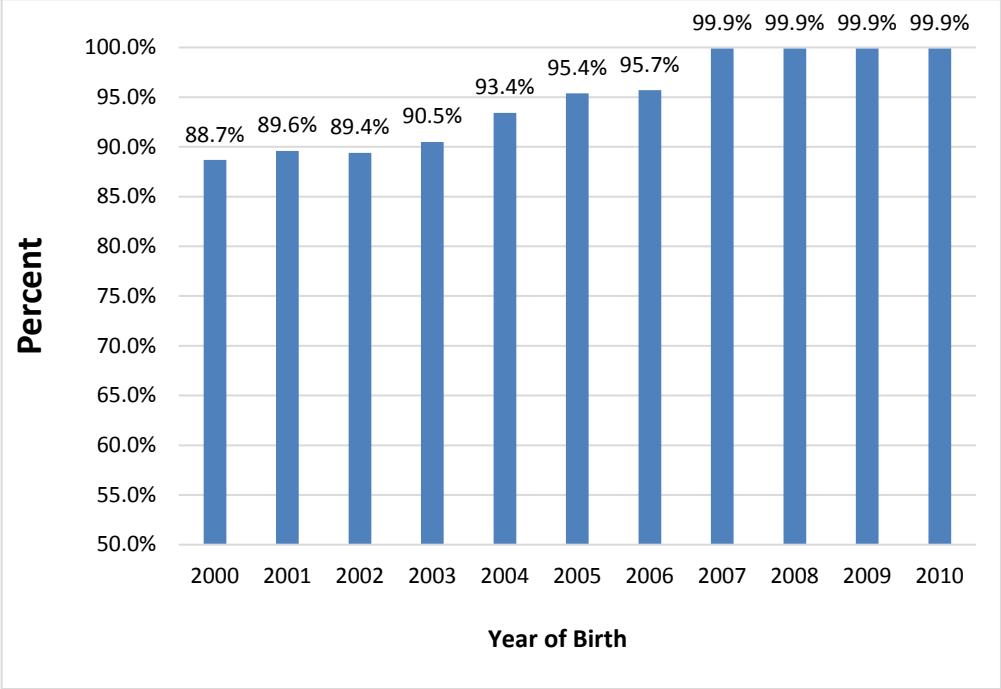
Figure 3.5. At least one testing by second birthday (0 to 23 months), birth cohort 2005 to 2014



Another method for evaluating the effectiveness of mandatory testing for young children is to compare blood lead testing rates between birth cohorts. Since every child should be tested annually between 9-35 months of age, then minimally, every child should have had at least one blood lead test by age two. Figure 3.5 illustrates the percentage of children who were tested for lead by their healthcare providers at least one time before turning two years old. The screening rate for the assessed birth cohort in this current analysis, 2014 birth cohort is 86.1%. A slightly increased trend is observed in the testing rates by second birthdays from birth cohorts 2011 to 2014.

Birth Cohort Analysis for Children under Six

Figure 3.6. Percentage of children who have had at least one screening by 72 months of age, by year of birth – Connecticut 2000-2010



Many children, prior to 2009, were not tested for lead before reaching three years of age. If a healthcare provider determines that a child older than three and under the age of 6 has never been tested for lead, the provider is then required to test that child. Therefore, an analysis of lead testing for birth cohorts that have reached 6 years of age by 2016 should also be considered. Figure 3.6 illustrates that, over time, more children under the age of 6 are being screened by healthcare providers, indicating that providers are complying with statutory requirements for testing older children who were previously never tested. The increase in blood lead screening among birth cohorts (illustrated by Figure 3.6 above) is also coupled with a decrease in childhood lead poisoning rates (page 18, Figure 4.2.) strongly suggesting that mandatory screening laws combined with primary prevention measures are an effective tool for reducing both the burden and incidence of childhood lead poisoning in Connecticut.

Our analysis shows 99.9% of children had at least one lead screening by 6 years of age among children born in 2010. The statistic method deployed is consistent with the CDC's methods for creating the childhood lead poisoning Nationally Consistent Data and Measures (Indicator: Blood Lead Levels by Birth Cohort. http://ephtracking.cdc.gov/showIndicatorPages.action. Accessed May 13, 2016). By looking at each individual child, we identified some children born in Connecticut that did not receive a blood lead screening by age 6. We are unable to confirm if these children resided in Connecticut until age 6. As the aforementioned CDC states (page 8) screening rates could be over 100% in some geographic areas using the CDC method. However, this statistic serves as an indicator for trends and progress in the prevention of lead poisoning.

Chapter 4. PREVALENCE OF CHILDHOOD LEAD POISONING

Prevalence of childhood lead poisoning is defined as the proportion of children under six years of age with a confirmed lead test in CY 2016 whose blood lead levels were ≥5 μg/dL. The previous reference value in place since 1991 was 10 μg/dL. A growing body of research identified that blood lead levels below 10 μg/dL can harm children in terms of their IQ, cognitive functions, and academic achievement. In May 2012, the CDC recommended a new "reference value" of 5 μg/dL[‡‡], for lead poisoning among young children. The State of Connecticut adopted the new reference value in May 2013. As such, Connecticut local health departments and district departments of health are required to initiate public health case management actions for children with a confirmed blood level of ≥5 μg/dL.

Prevalence includes child lead poisoning cases that may have occurred prior to 2016, and remained lead poisoning cases into CY 2016.

Prevalence of Environmental Intervention Blood Lead Levels –

Prevalence of childhood lead poisoning cases of ≥15 μg/dL is defined as the proportion of children under 6 years of age with a confirmed lead test in CY 2016 whose blood lead levels were ≥15 μg/dL.

Prevalence of childhood lead poisoning cases ≥20 μg/dL is defined as the proportion of children under 6 years of age with a confirmed lead test in CY 2016 whose blood lead levels were ≥20 μg/dL.

[‡‡] "Experts now use a reference level of 5 micrograms per deciliter to identify children with blood lead levels that are much higher than most children's levels. This new level is based on the U.S. population of children ages 1-5 years who are in the highest 2.5% of children when tested for lead in their blood. The current reference value is based on NHANES data from 2007-2008 and 2009-2010. CDC will update the reference value every 4 years using the two most recent NHANES surveys." (Centers for Disease Control and Prevention. Childhood Lead Poisoning Prevention Program. Update on Blood Lead Levels in Children. Accessed from: http://www.cdc.gov/nceh/lead/ACCLPP/blood_lead_levels.htm. Accessed on 5/13/2016)

Response Policies for Actionable Blood Lead Levels in 2016 –

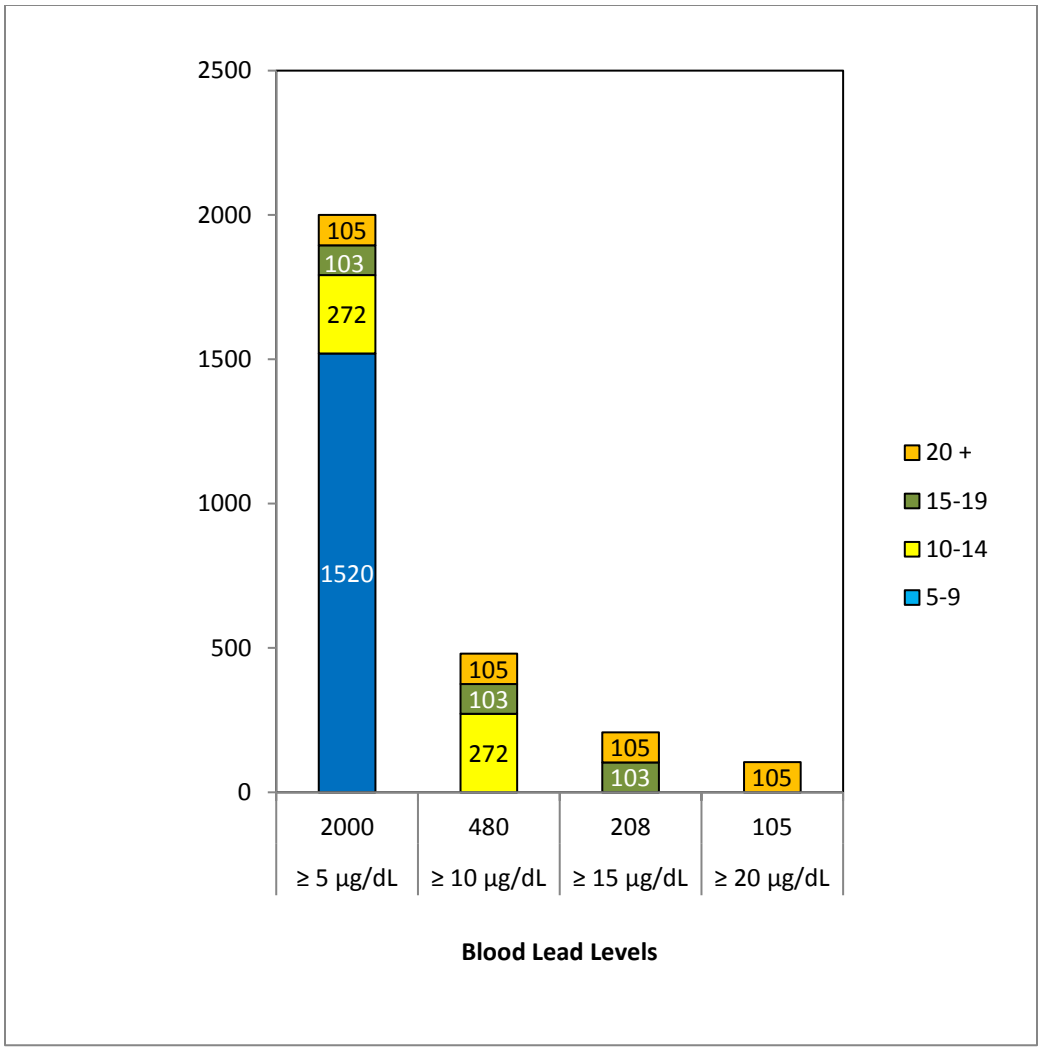
Per Connecticut General Statutes (CGS) sections 19a-110(d), and 19a-111, local health departments are responsible for responding to reported venous blood lead levels of 10 μg/dL or more. With the adoption of the new reference value of 5 μg/dL, all local health departments/districts were required, by July 2013, to implement new response policies related to education/outreach and case management at lower blood lead values. When a child's venous blood lead level is at or above the reference value or a capillary ≥10 μg/dL, the local health department/district must provide the parent or guardian with information describing the dangers of lead poisoning, precautions to reduce the risk of lead poisoning, information about potential eligibility for services under the Birth-to-Three Program, and laws and regulations pertaining to lead abatement. In addition to mandated response policies, local health departments/districts also carry out lead poisoning prevention activities annually, enabled by CGS section 19a-111j.

A local health department/district must conduct an on-site comprehensive lead inspection and order the abatement of identified lead hazards for the dwelling unit where a child under 6 years of age resides who has had two venous blood lead levels of 15 to 19 μg/dL for tests taken at least 3 months apart. When a child's venous blood lead level reaches 20 μg/dL, a local health department/district must conduct an epidemiological investigation (which includes an on-site comprehensive lead inspection and completion of the epidemiological investigation form [interviews with parents or caregivers to determine all potential sources of lead exposure]) and order the abatement of the identified sources of lead exposure for that child. Research found that lead laws such as these enacted in Connecticut can effectively reduce the number of young children exposed to residential lead hazards and reduce the subsequent cases of lead poisoning in the properties identified with lead hazards[§§].

Some local health departments/districts opt to conduct investigations and order the abatement of identified lead hazards at lower levels of diagnosed lead poisoning. Those environmental data elements are not included in this report.

[§§] Primary prevention of lead poisoning in children: a cross-sectional study to evaluate state specific lead-based paint risk reduction laws in preventing lead poisoning in children. Chinaro Kennedyet. Al. *Environmental Health*2014

Figure 4.1. Number of children under 6 years of age diagnosed with lead poisoning, CY 2016



Number of children identified as lead poisoned in 2016:

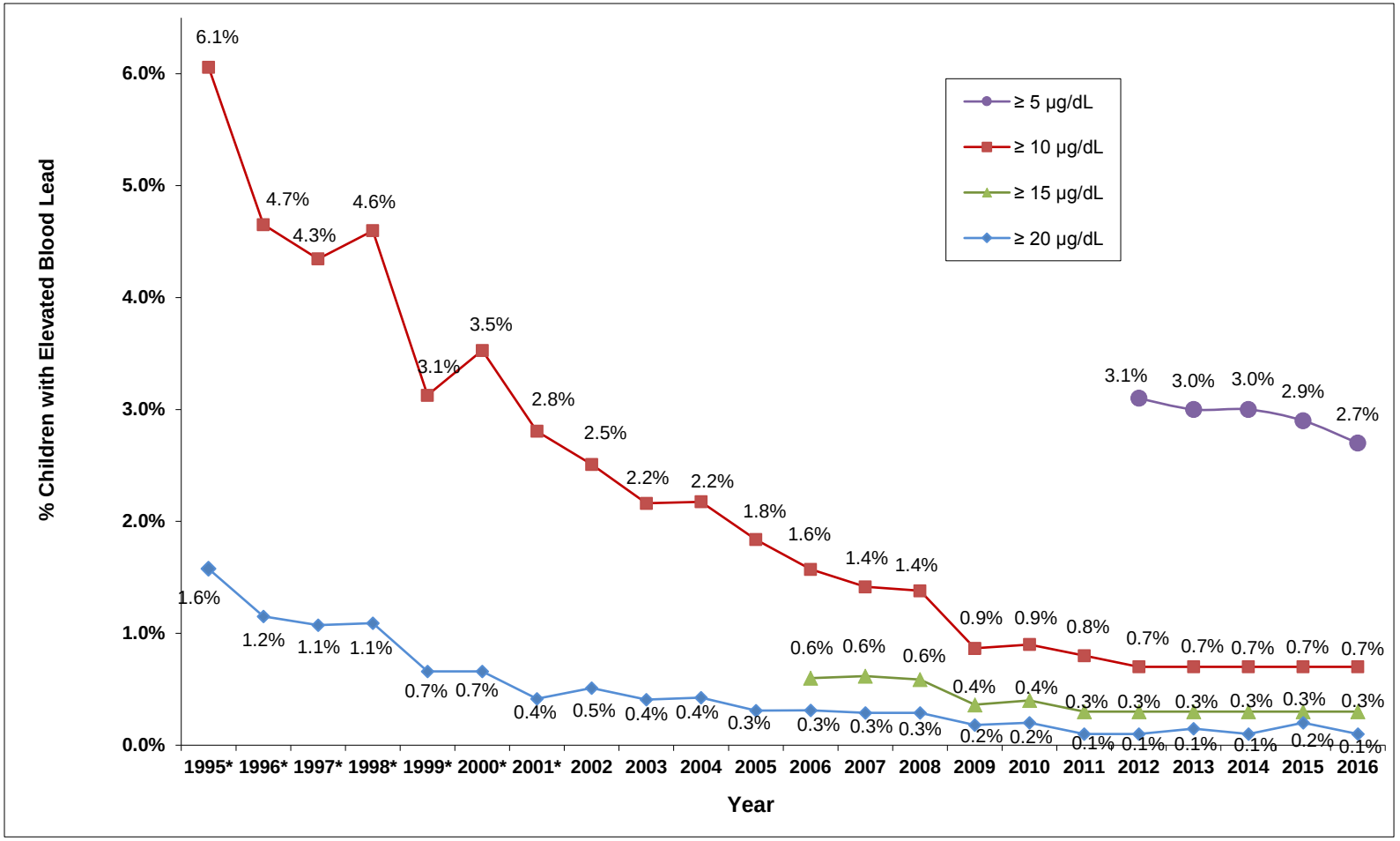
- 2,000 ≥ 5 µg/dL[***]
- 480 ≥10 µg/dL[†††]
- 208 ≥15 µg/dL[‡‡‡]
- 105 ≥20 µg/dL

[***] Inclusive with blood lead levels ≥10 µg/dL, ≥15 µg/dL, and ≥20 µg/dL

[†††] Inclusive with blood lead levels ≥15 µg/dL and ≥20 µg/dL

[‡‡‡] Inclusive with blood lead levels ≥20 µg/dL

Figure 4.2. Prevalence of children under 6 years of age who are lead poisoned, by calendar year and by blood lead level – Connecticut 1995-2016§§§

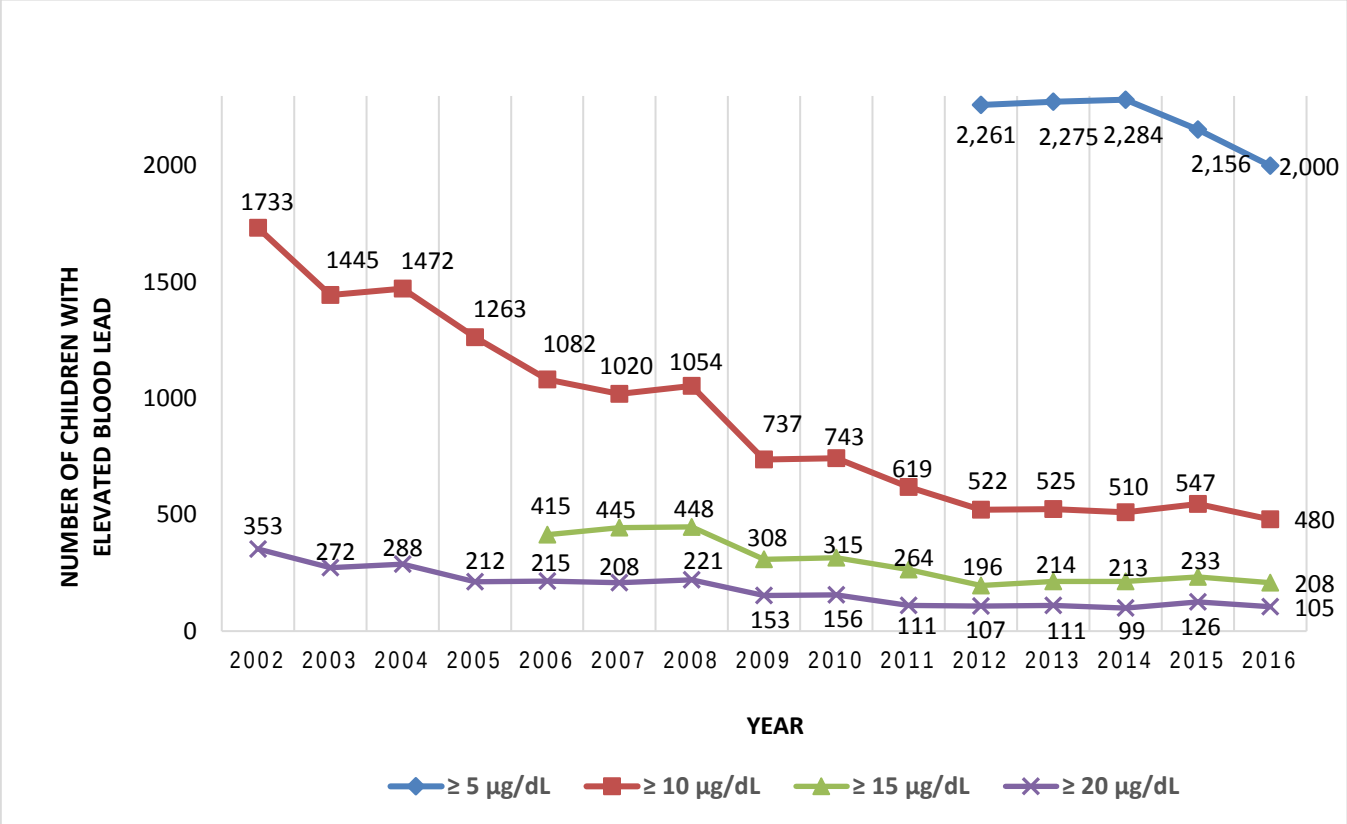


*Data of 1995-2001 are based on analysis using number of tests instead of number of children screened as the unit of analysis.

Per CGS Sec. 19a-110(d), *"On and after January 1, 2012, if one per cent or more of children in this state under the age of six report blood lead levels equal to or greater than ten micrograms per deciliter, the director shall conduct such on-site inspection and order such remediation for any child having a confirmed venous blood lead level equal to or greater than ten micrograms per deciliter in two tests taken at least three months apart".* Based on the 2016 blood lead surveillance, 0.7% of children under the age of 6 in Connecticut were diagnosed with a confirmed blood lead levels ≥10 μg/dL. Since CY 2009, the prevalence of childhood lead poisoning cases of ≥10 μg/dL dropped below 1%.

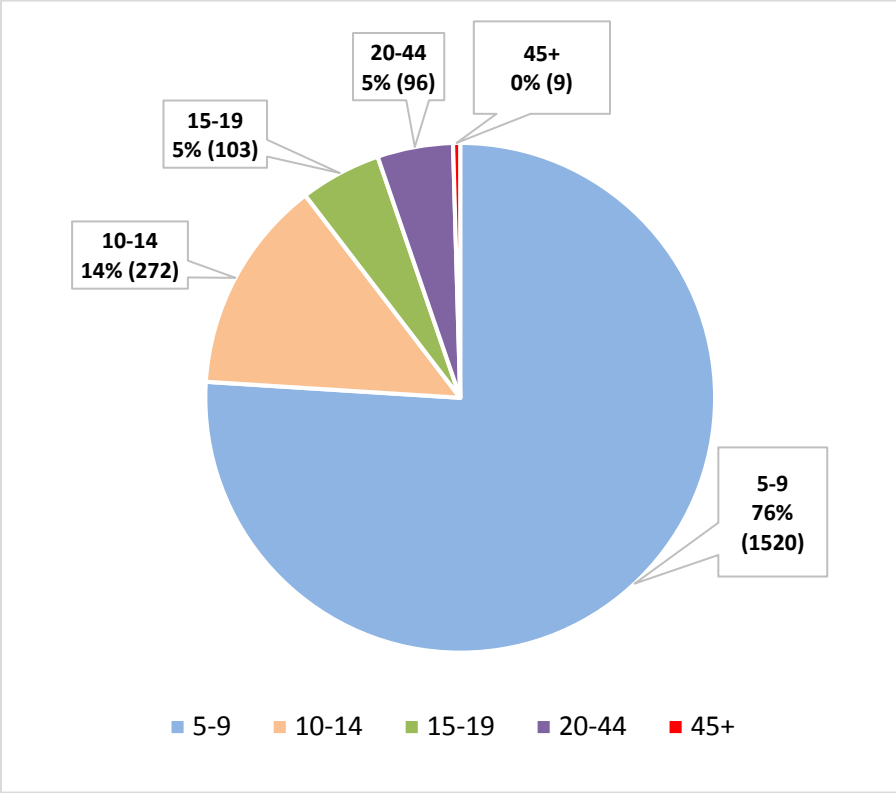
The prevalences for children under 6 years of age with confirmed blood lead tests ≥5 μg/dL, ≥10 μg/dL, ≥15 μg/dL, and ≥20 μg/dL are 2.7%, 0.7%, 0.3%, and 0.1% respectively. The prevalence of blood lead tests ≥5 μg/dL decreased from 2.9% to 2.7%, and this is equivalent of a 6.9% decrease. The prevalence of blood lead tests ≥10 μg/dL and ≥15 μg/dL did not change from 2015 to 2016. The prevalence of blood lead tests ≥20 μg/dL reverted to the previous rate as 0.1/% in 2016 after a slight increase in 2015.

Figure 4.3. Number of children under 6 years of age with lead poisoning, by calendar year and by blood lead levels – Connecticut 2002-2016



Starting in 2012, blood lead levels ≥5 µg/dL were added to this graph, because of the adoption of the CDC reference value by the CT Department of Public Health. In CY 2016, 2,000 children under 6 years of age were identified with a blood lead level ≥5 µg/dL. This is a decrease of 156 children from 2015 to 2016 and a decrease of 6.9% in the prevalence rate from 2015 (2.9%) to 2016 (2.7%) as shown in Figure 4.3.
The increase in numbers of children with lead levels of ≥10 µg/dL, ≥15 µg/dL, and ≥20 µg/dL that were observed in 2015 was reverted in 2016. We observed a lowest number of children (480) with lead levels of ≥10 µg/dL in 2016. We also observed a decrease in number of children with blood lead levels of ≥15 µg/dL (25 children) and ≥20 µg/dL (21 children) from 2015 to 2016.

Figure 4.4. Percentage and number of children under 6 years of age with blood lead levels ≥5 μg/dL– Connecticut 2016

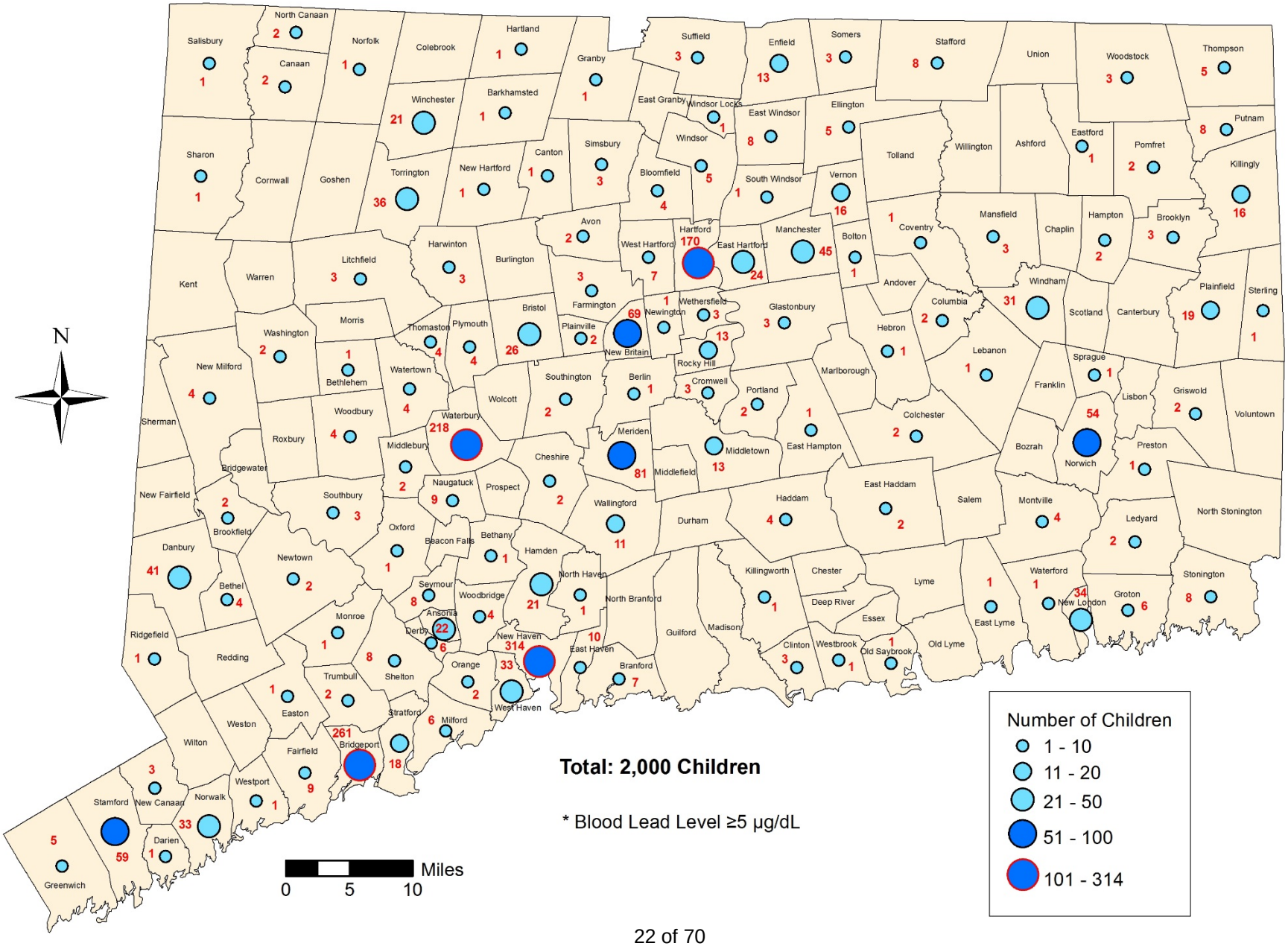


In CY 2016, a total of 2,000 children under 6 years of age were identified with blood lead levels ≥5 μg/dL, indicating exposure to lead hazards. Among these children, the majority (1520 children, 76% of total poisoned) had a level between 5-9 μg/dL, while 103 (5%) children had a level between 15-19 μg/dL, 96 (5%) children had a level between 20-44 μg/dL, and 9 (<1%) children had a chelation level ≥45 μg/dL (Figure 4.4). Detailed tables of this data are presented in Table 8.2 in the appendices.

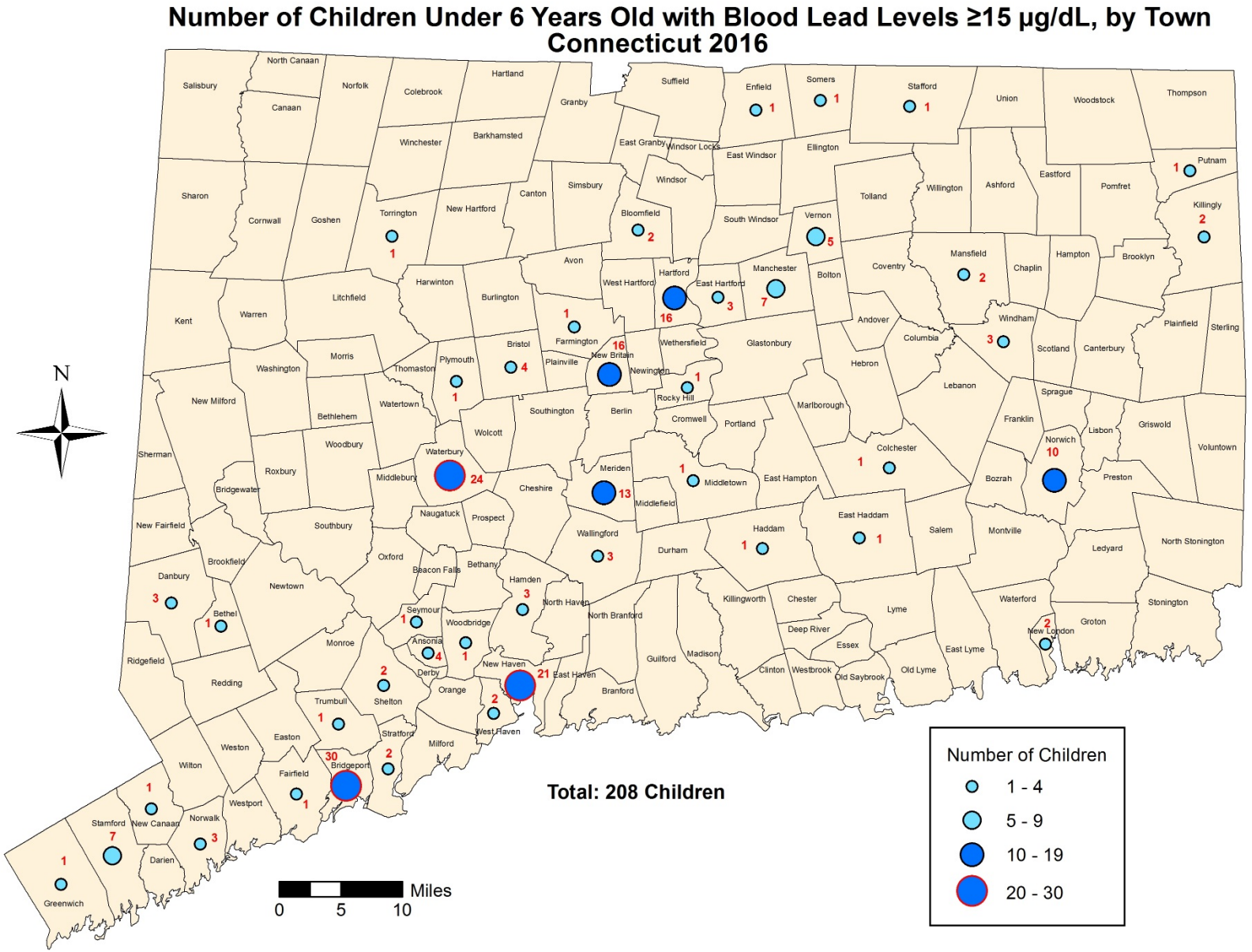
Map 4.1 (page 22) and map 4.2 (page 23) depict the distribution of lead poisoned children with blood lead levels ≥ 5 μg/dL and ≥ 15 μg/dL among Connecticut towns/cities. New Haven (314 cases), Bridgeport (261 cases), Waterbury (218 cases), Hartford (170 cases), and Meriden (81 cases) are the geographic areas with highest number of lead poisoned children. These top 5 cities account for 52.2% of total lead poisoned children in 2016.

Map 4.1.

Number of Lead Poisoned Children* Under 6 Years Old by Town, Connecticut 2016



Map 4.2.


Number of Children Under 6 Years Old with Blood Lead Levels ≥15 µg/dL, by Town
Connecticut 2016
N
Total: 208 Children
Number of Children
1 - 4
5 - 9
10 - 19
20 - 30
Miles
0
5
10
Salisbury
North Canaan
Canaan
Norfolk
Colebrook
Hartland
Granby
Suffield
Enfield
Somers
Stafford
Union
Woodstock
Thompson
Putnam
Killingly
Pomfret
Eastford
Ashford
Willington
Tolland
Ellington
East Windsor
Windsor Locks
East Granby
Windsor
Bloomfield
South Windsor
Vernon
Manchester
Bolton
Coverntry
Mansfield
Chaplin
Hampton
Brooklyn
Sharon
Cornwall
Goshen
Torrington
New Hartford
Canton
Simsbury
Avon
Harwinton
Burlington
Litchfield
Kent
Warren
West Hartford
Hartford
East Hartford
Andover
Columbia
Windham
Scotland
Canterbury
Plainfield
Sterling
Lebanon
Hebron
Marlborough
Glastonbury
Wethersfield
Rocky Hill
Newington
New Britain
Plainville
Farmington
Bristol
Plymouth
Thomaston
Morris
Washington
Watertown
Bethlehem
New Milford
Sherman
Roxbury
Bridgewater
Woodbury
Southbury
New Fairfield
Brookfield
Danbury
Newtown
Bethel
Ridgefield
Redding
Wolcott
Waterbury
Middlebury
Naugatuck
Prospect
Oxford
Beacon Falls
Bethany
Southington
Berlin
Cromwell
Portland
Middletown
East Hampton
Meriden
Cheshire
Middlefield
Wallingford
Durham
Haddam
East Haddam
Colchester
Salem
Montville
Bozrah
Norwich
Franklin
Sprague
Lisbon
Griswold
Voluntown
Preston
Ledyard
North Stonington
Groton
New London
Waterford
Stonington
Lyme
Old Lyme
East Lyme
Old Saybrook
Westbrook
Clinton
Essex
Deep River
Killingworth
Chester
Madison
Guilford
Branford
East Haven
New Haven
North Haven
North Branford
Hamden
Woodbridge
Seymour
Ansonia
Derby
Orange
Shelton
Trumbull
Monroe
Stratford
Milford
West Haven
Easton
Weston
Wilton
Fairfield
Bridgeport
Westport
Norwalk
New Canaan
Darien
Stamford
Greenwich

Chapter 5. INCIDENCE OF CHILDHOOD LEAD POISONING

Incidence of Lead Poisoning among Children Under Six Years of Age

The incidence of lead poisoning cases (i.e., new cases of lead poisoning ≥5 μg/dL) is defined as the proportion of children under 6 years of age who had a confirmed lead test of ≥5 μg/dL for the first time in 2016 compared to all children under 6 years of age who were tested for lead in 2016 *AND* did not have a result of ≥5 μg/dL prior to 2016.

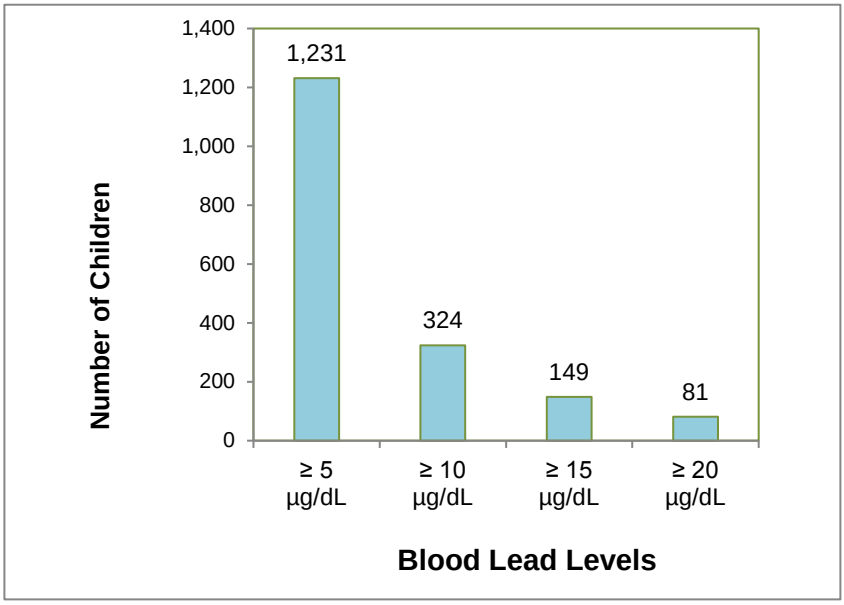
The incidence of lead poisoning cases (i.e., new cases of lead poisoning ≥10 μg/dL) is defined as the proportion of children under 6 years of age who had a confirmed lead test of ≥10 μg/dL for the first time in 2016 compared to all children under 6 years of age who were tested for lead in 2016 *AND* did not have a result of ≥10 μg/dL prior to 2016.

Incidence of Environmental Intervention Blood Lead Levels –

The incidence of lead poisoning cases of ≥15 μg/dL (i.e., new cases of blood lead ≥15 μg/dL) is defined as the proportion of children under 6 years of age who had a confirmed lead test of ≥15 μg/dL for the first time in 2016 compared to all children under 6 years of age who were tested for lead in 2016 *AND* who had not had a result of ≥15 μg/dL prior to 2015.

The incidence of lead poisoning cases of ≥20 μg/dL (i.e., new cases of blood lead ≥20 μg/dL) is defined as the proportion of children under 6 years of age who had a confirmed lead test of ≥20 μg/dL for the first time in 2016 compared to all children under 6 years of age who were tested for lead in 2016 *AND* who did not have a result of ≥20 μg/dL prior to 2016.

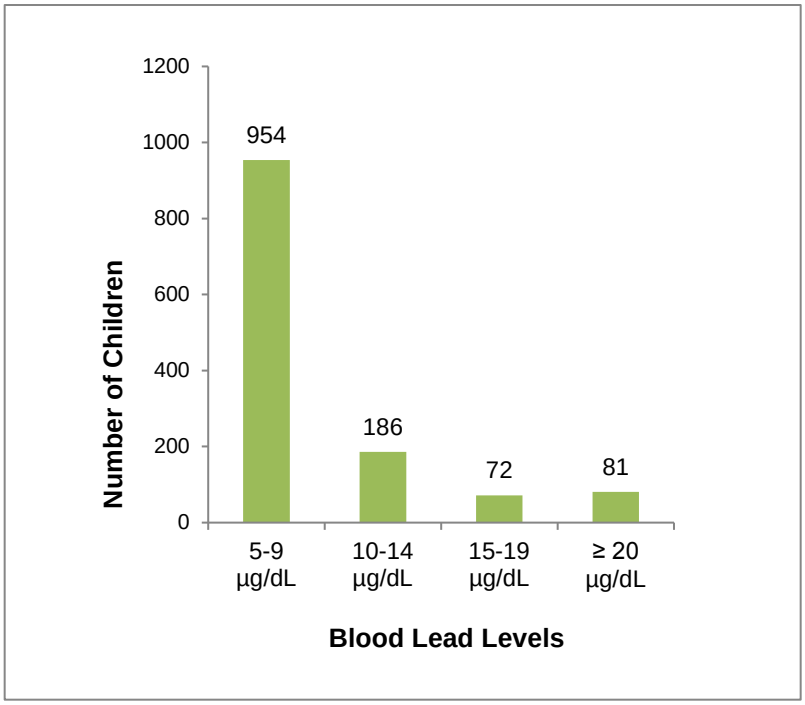
Figure 5.1. Cumulative incidence of lead poisoning among children under 6 years of age, by blood lead levels – Connecticut CY 2016



Number of new cases identified and incidence of lead poisoning in 2016:

- ≥5 µg/dL: 1,231 (17 per 1,000, i.e. 1.7%) (95% CI: 16 -18 pre1,000)
- ≥10 µg/dL: 324 (4 per 1,000, i.e. 0.4%)
- ≥15 µg/dL: 149 (2 per 1,000, i.e. 0.2%)
- ≥20 µg/dL: 81 (1 per 1,000, i.e. 0.1%)

Figure 5.2. Incidence of lead poisoning by blood lead categories among children under 6 years of age, by blood lead levels – Connecticut CY 2016

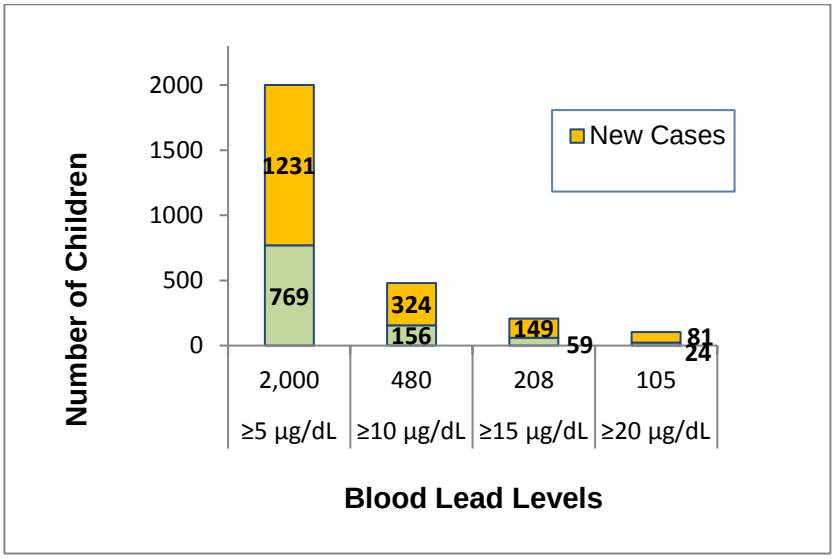


Number of new cases identified by blood lead categories

- 5-9 µg/dL: 954
- 10-14 µg/dL: 186
- 15-19 µg/dL: 72
- 20 µg/dL: 81

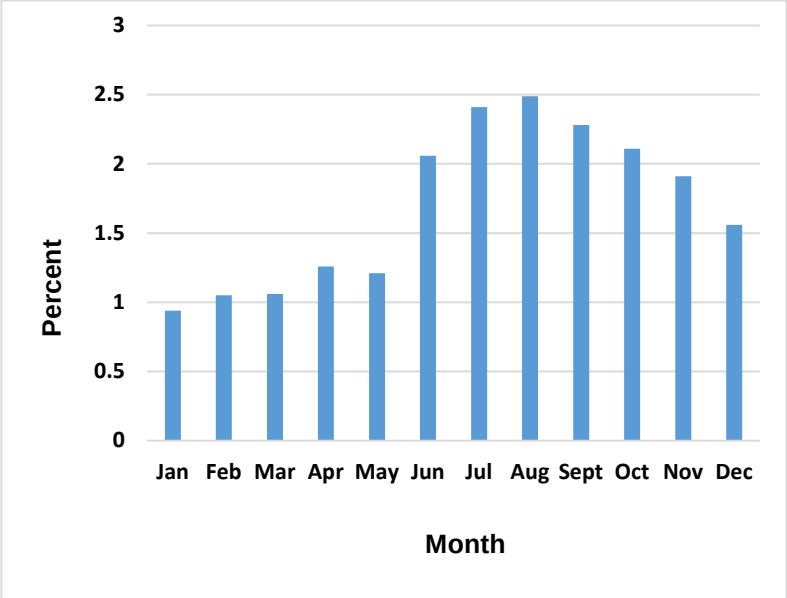
Figure 5.2 depicts a child's first analysis result in the corresponding range for 2016. The child may have had previous analysis results in different ranges in previous years.

Figure 5.3. Number of existing and new cases of lead poisoning among children under 6 years of age, by blood lead levels – Connecticut CY 2016



- Of the 2,000 children who were found to have blood lead levels ≥5 µg/dL in 2016, 1,231 (61.6%) were new cases.
- Of the 480 children who were found to have blood lead levels ≥10 µg/dL in 2016, 324 (67.5%) were new cases.
- Of the 233 children who were found to have blood lead levels ≥15 µg/dL in 2016, 149 (71.6%) were new cases.
- Of the 126 children who were found to have blood lead levels ≥20 µg/dL in 2016, 81 (77.1) were new cases.

Figure 5.4. Incidence of lead poisoning among children under 6 years of age, by month– Connecticut CY 2016



A seasonal trend of higher lead poisoning incidence rate (>2.0%) was observed during the warmer months (June to October). Children are more likely to have increased exposure due to lead dust generated by friction of opening and closing windows with lead based paint, children playing around/with lead contaminated soil, and home repainting and renovation activities during the warmer months.

Based on this seasonal trend, lead poisoning prevention and education outreach campaigns should be conducted before the peak season.

Figure 5.5. Age of children when first identified as lead poisoned - Number of new cases of lead poisoning among children under 6 years of age, by age at test – Connecticut CY 2016

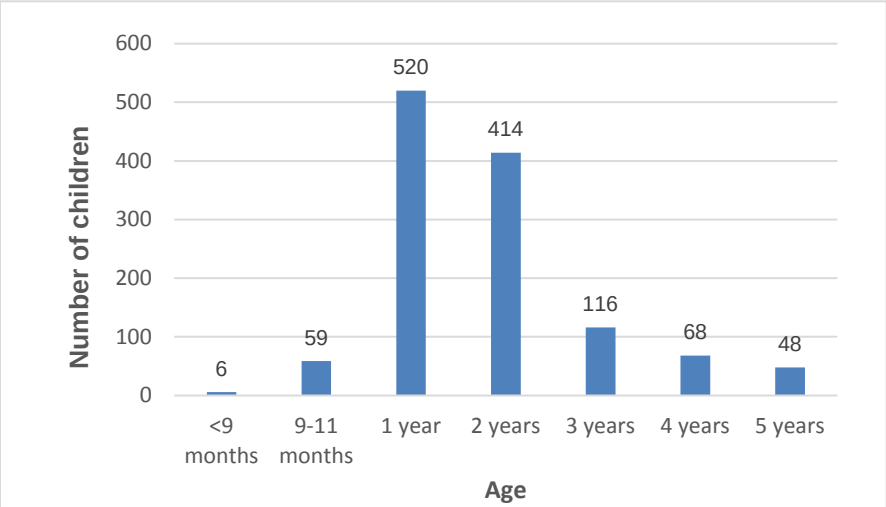
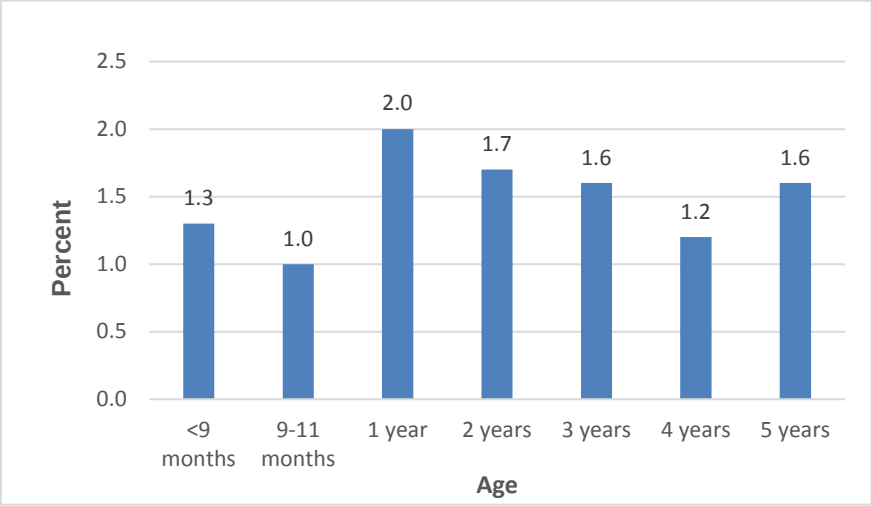
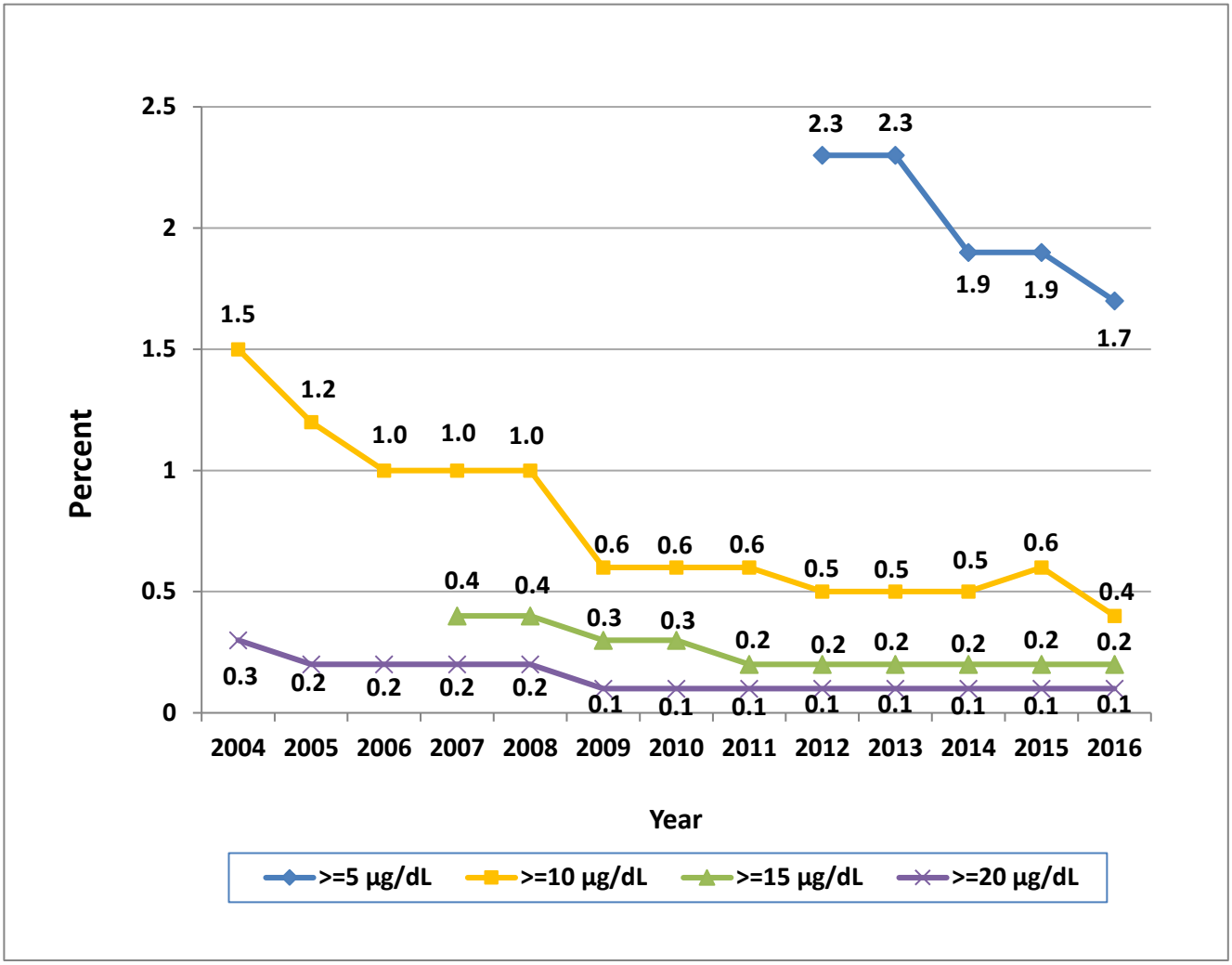


Figure 5.6. Incidence rate of lead poisoning among children under 6 years of age, by age at first identification – Connecticut CY 2016



Research found that children between 18 and 36 months of age are at the highest risk of lead poisoning because of hand to mouth behavior, the increased mobility, and the bodies absorb lead at a higher rate. Figure 5.4 depicts the number of children by age when first tested with a blood lead level ≥5 μg/dL among children tested in 2016. Figure 5.5 depicts the incidence rate by age. The number and incidence rate of lead poisoned children was highest among the 1 year old followed by the 2 years old cohorts, 520 children (2.0%) and 414 (1.7%) respectively.

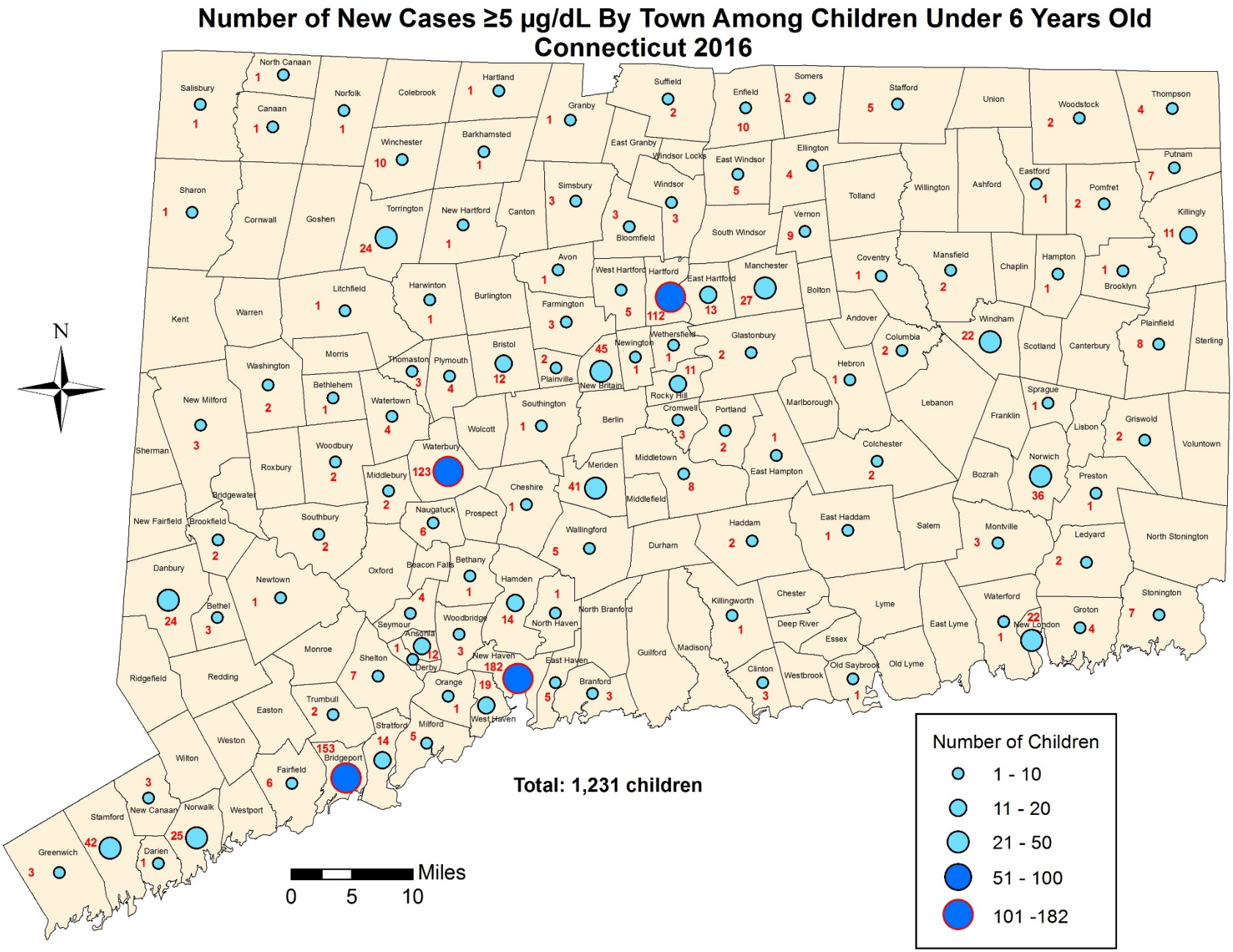
Figure 5.7. Incidence Rate of lead poisoning among children under 6 years of age, by blood lead levels – Connecticut CY 2004-2016



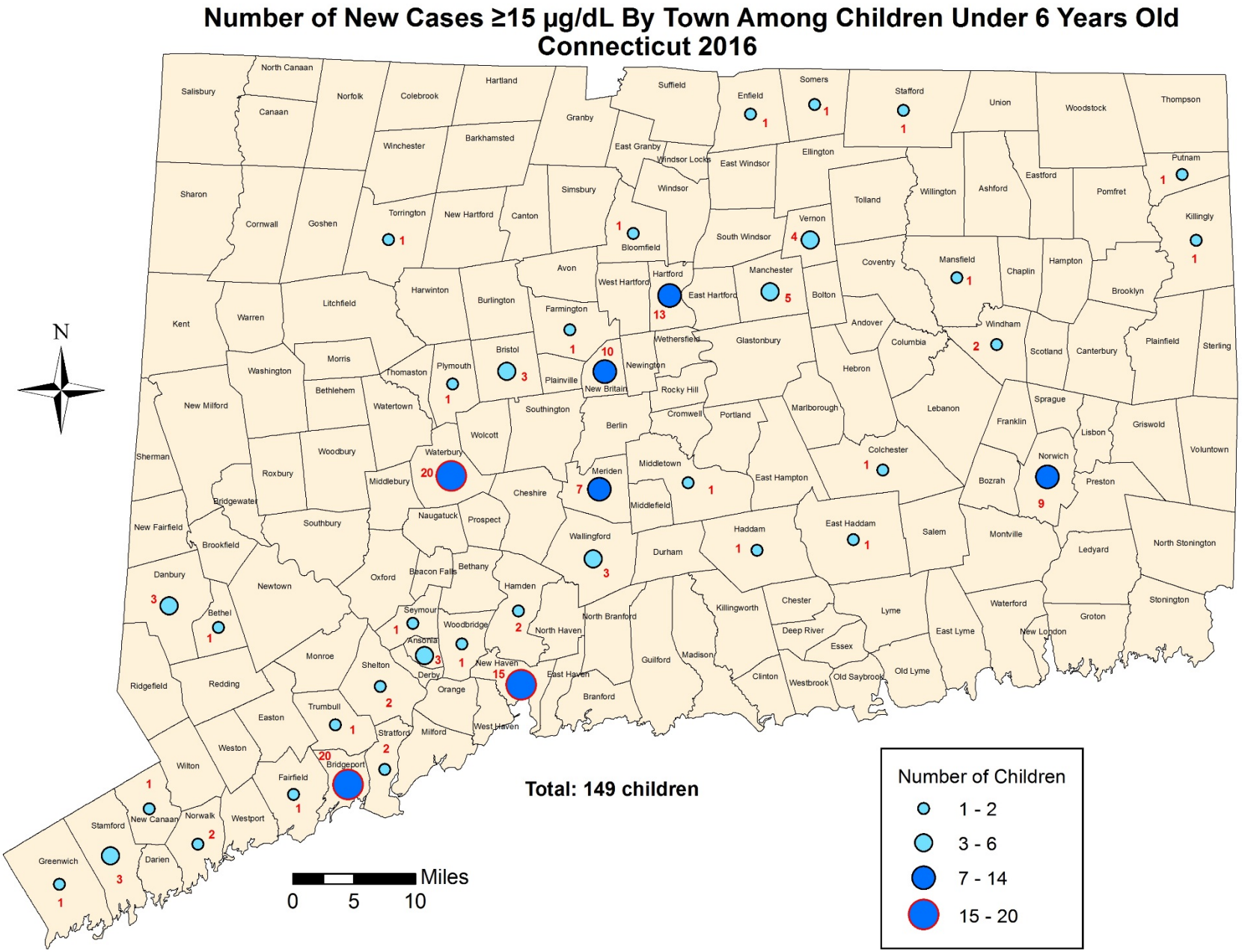
Among children under 6 years of age who had a confirmed blood lead test in 2016, 1.7%, 0.4%, 0.2%, and 0.1% of children were identified as first time with a level of ≥5 µg/dL, ≥10 µg/dL, ≥15 µg/dL, and ≥20 µg/dL respectively. A decreased incidence rate was observed for blood lead levels ≥10 µg/dL from 2015 to 2016, the first year this rate has dropped below 0.5%. The rate for ≥15 µg/dL remains unchanged for the last 6 years. The incidence rate for ≥20 µg/dL remains unchanged since 2009. **The decrease in the ≥5 µg/dL incidence rate is in concert with the new action level that was implemented mid-year in 2013 and reflects the effectiveness of the expanded prevention efforts as new cases were reduced overall.**

Map 5.1 and Map 5.2 depict the distribution of new cases of blood lead levels ≥ 5 µg/dL and ≥ 15 µg/dL among Connecticut towns/cities. New Haven (182 cases), Bridgeport (153 cases), Waterbury (123 cases), Hartford (112 cases), and New Britain (45 cases) are the geographic areas with highest number of new lead poisoned cases. These communities account for 53.3% of the new cases. In 2016, 112 (66.3%) Connecticut towns/cites were identified with new lead poisoned children.

Map 5.1.


Number of New Cases ≥5 µg/dL By Town Among Children Under 6 Years Old
Connecticut 2016
N
Total: 1,231 children
Miles
0 5 10
Number of Children
1 - 10
11 - 20
21 - 50
51 - 100
101 -182

Map 5.2.


Number of New Cases ≥15 µg/dL By Town Among Children Under 6 Years Old
Connecticut 2016
N
Total: 149 children
Miles
0 5 10
Number of Children
1 - 2
3 - 6
7 - 14
15 - 20
North Canaan
Salisbury
Canaan
Norfolk
Colebrook
Hartland
Granby
Suffield
Enfield 1
Somers 1
Stafford 1
Union
Woodstock
Thompson
Winchester
Barkhamsted
East Granby
Windsor Locks
East Windsor
Ellington
Putnam 1
Sharon
Cornwall
Goshen
Torrington 1
New Hartford
Canton
Simsbury
Windsor
Tolland
Willington
Ashford
Eastford
Pomfret
Killingly 1
Bloomfield 1
South Windsor
Vernon 4
Coventry
Mansfield 1
Chaplin
Hampton
Brooklyn
Litchfield
Harwinton
Burlington
Avon
West Hartford
Hartford 13
East Hartford
Manchester 5
Bolton
Kent
Warren
Farmington 1
Andover
Windham 2
Columbia
Scotland
Canterbury
Plainfield
Sterling
Morris
Bristol 3
Plymouth 1
Thomaston
Plainville
New Britain 10
Newington
Wethersfield
Glastonbury
Hebron
Washington
Bethlehem
Watertown
Rocky Hill
Marlborough
Lebanon
Sprague
Franklin
Lisbon
Griswold
Voluntown
New Milford
Southington
Cromwell
Portland
Berlin
Wolcott
Sherman
Roxbury
Woodbury
Waterbury 20
Middlebury
Meriden 7
Middletown 1
East Hampton
Colchester 1
Bozrah
Norwich 9
Preston
Bridgewater
Cheshire
Middlefield
New Fairfield
Brookfield
Southbury
Naugatuck
Prospect
Wallingford 3
Durham
Haddam 1
East Haddam 1
Salem
Montville
Ledyard
North Stonington
Danbury 3
Bethel 1
Newtown
Oxford
Beacon Falls
Bethany
Hamden 2
Seymour 1
Woodbridge
North Haven
North Branford
Killingworth
Chester
Deep River
Essex
Lyme
Old Lyme
Old Saybrook
Westbrook
Clinton
Guilford
Madison
East Lyme
Waterford
New London
Groton
Stonington
Ansonia 3
New Haven 15
East Haven
Derby
Orange
Shelton 2
Monroe
Ridgefield
Redding
Trumbull 1
Easton
Stratford 2
Milford
West Haven
Branford
Weston
Wilton 1
Bridgeport 20
Fairfield 1
New Canaan 1
Norwalk 2
Westport
Stamford 3
Darien
Greenwich 1

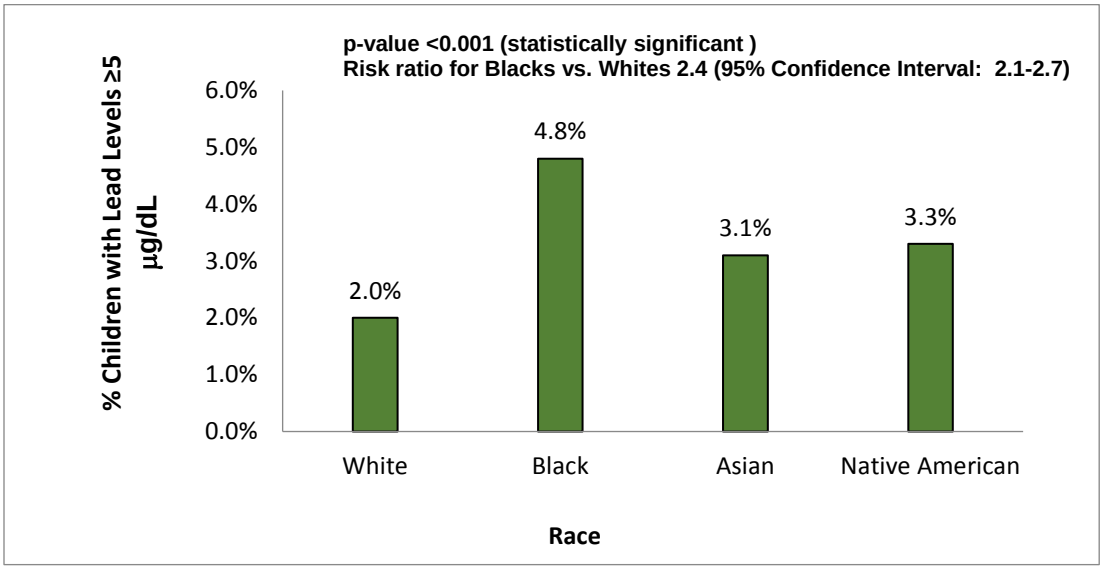
CHAPTER 6. DEMOGRAPHIC CHARACTERISTICS ASSOCIATED WITH CHILDHOOD LEAD POISONING

Race and Ethnicity

For the purposes of this report, children who were diagnosed with a blood lead level of ≥5 μg/dL are considered to be lead poisoned. The health disparities for lead poisoning among races and between Hispanic and non-Hispanic ethnicities remain in 2016. These health disparities were noticed in the first comprehensive annual lead surveillance report in 2004. The following figures portray the association between lead poisoning and race and ethnicity. They also indicate health disparities.

Race

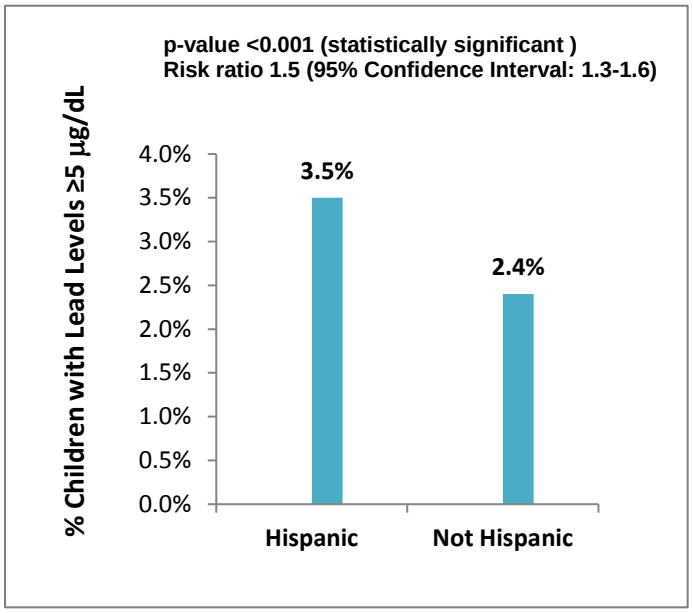
Figure 6.1. Percentage of children under 6 years of age with a blood lead level ≥5 μg/dL, by race – Connecticut CY 2016



Among children under 6 years of age who had a confirmed blood lead test in 2016, Blacks (4.8%) were 2.4 times as likely to be lead poisoned at levels of ≥5 μg/dL when compared to Whites (2.0%) or Asians (3.1%). The health disparity for lead poisoning prevalence among Black and White children is slightly increased compared to previous two years, 2014 and 2015 (both 2.2 times more likely to be poisoned among Black children). Map 6.1 (page 34) depicts the number and percentage of lead poisoned Black children in Connecticut towns.

Ethnicity

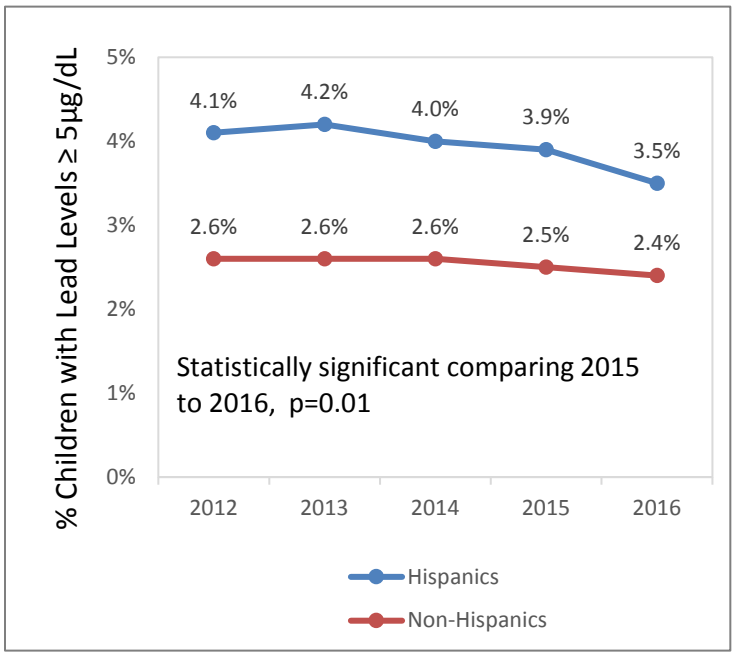
Figure 6.2. Percentage of children under 6 years of age with a blood lead level ≥5 µg/dL, by ethnicity – Connecticut CY 2016



Among children under 6 years of age who had a confirmed blood lead test in 2016, Hispanics (3.5%, 656 children) were 1.5 times as likely to be lead poisoned at levels of ≥5 µg/dL than non-Hispanics (2.4%, 1072 children). The risk ratio between Hispanic children and non-Hispanic children decreased from 2015 to 2016 (1.6 vs. 1.5).

Map 6.2 (page 35) depicts the number and percentage of lead poisoned Hispanic children in Connecticut towns.

Figure 6.3. Trend of lead poisoning among children under 6 years of age, by ethnicity, Connecticut 2012-2016



The Lead and Healthy Homes program partnered with the Latino and Puerto Rican Affairs Commission to conduct a media campaign targeting the Hispanic population in mid-year 2016. Figure 6.3 depicts the prevalence of lead poisoning by ethnicity in the past 5 years. Although there was an existing downward trend from 2013 to 2015, the decline in 2016 exceeded the previous years and comparing 2015 to 2016 the decline was statistically significant (3.5% vs. 3.9%, p=0.01). The decline in 2016 highly likely correlates with effectiveness of the media campaign.

Household Income below Poverty Level (Map 6.3)

A correlation between household incomes below poverty level and childhood lead poisoning is observed using geospatial illustration. Map 6.3 (page 36) depicts the overlay of lead poisoning cases ≥5 μg/dL and household incomes below poverty level. Bridgeport, Hartford, New Haven, and Waterbury are the locations that have the highest number of households with incomes below poverty level, as well as the highest rates of childhood lead poisoning.

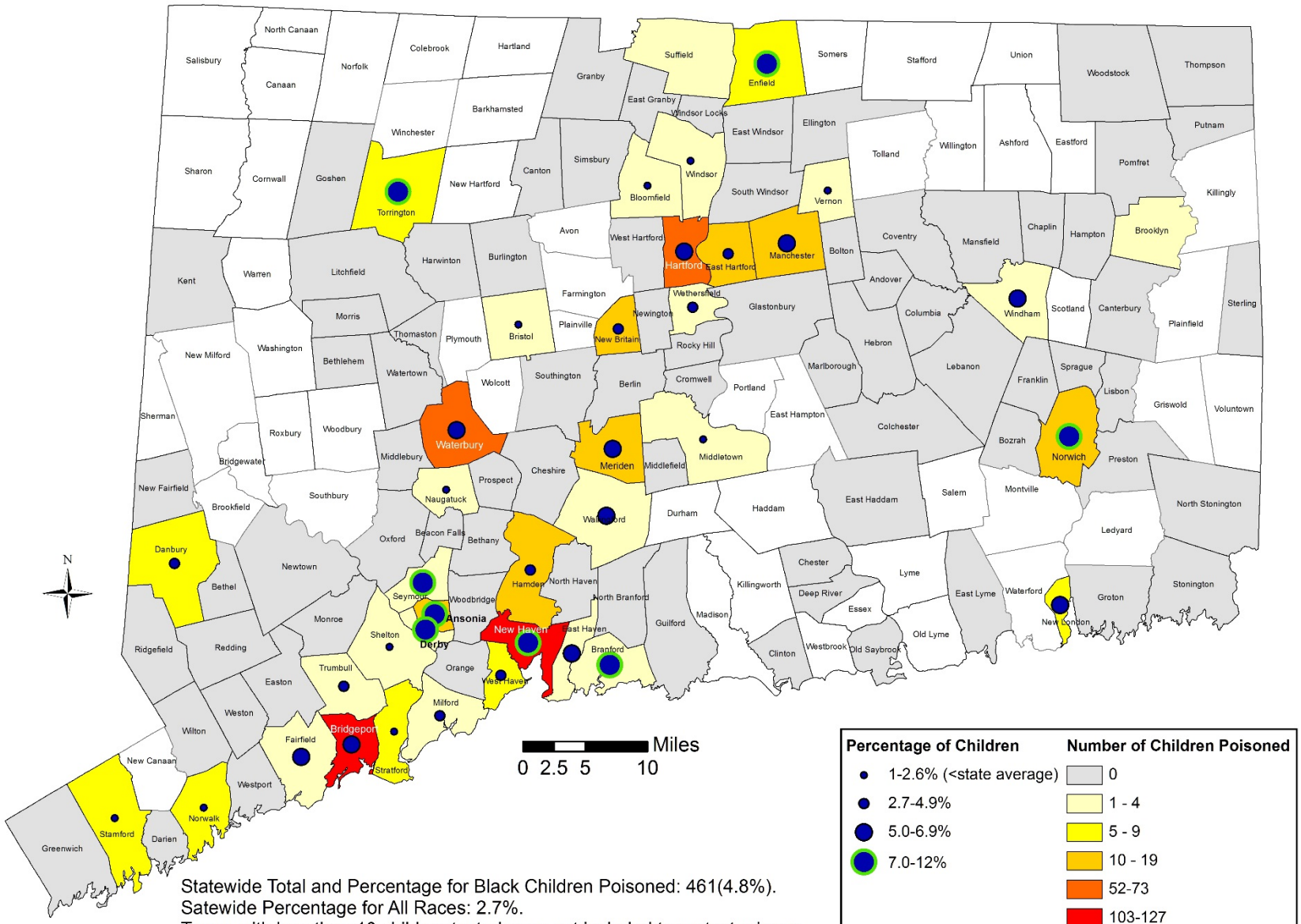
Pre-1978 housing (Map 6.4)

Lead-based paints were banned for residential use in 1978. The U.S. Environmental Protection Agency (EPA) reports that 83% of homes built prior to 1980 contain some lead-based paint (*Report on the National Survey of Lead-Based Paint in Housing, Base Report*, EPA, 1995. EPA 747-R-95-003.). Older houses have an even higher probability of containing lead-based paint. In Connecticut, 71% of the housing stock was built before 1980 and 45% was built before 1960 (2012-2016 American Community Survey 5-Year Estimates, US Census, 2017). Map 6.4 and map 6.5 (page 37 and page 38) depict number and percentage of childhood lead poisoning cases and pre-1960 housing by town respectively.

.

Map.6.1

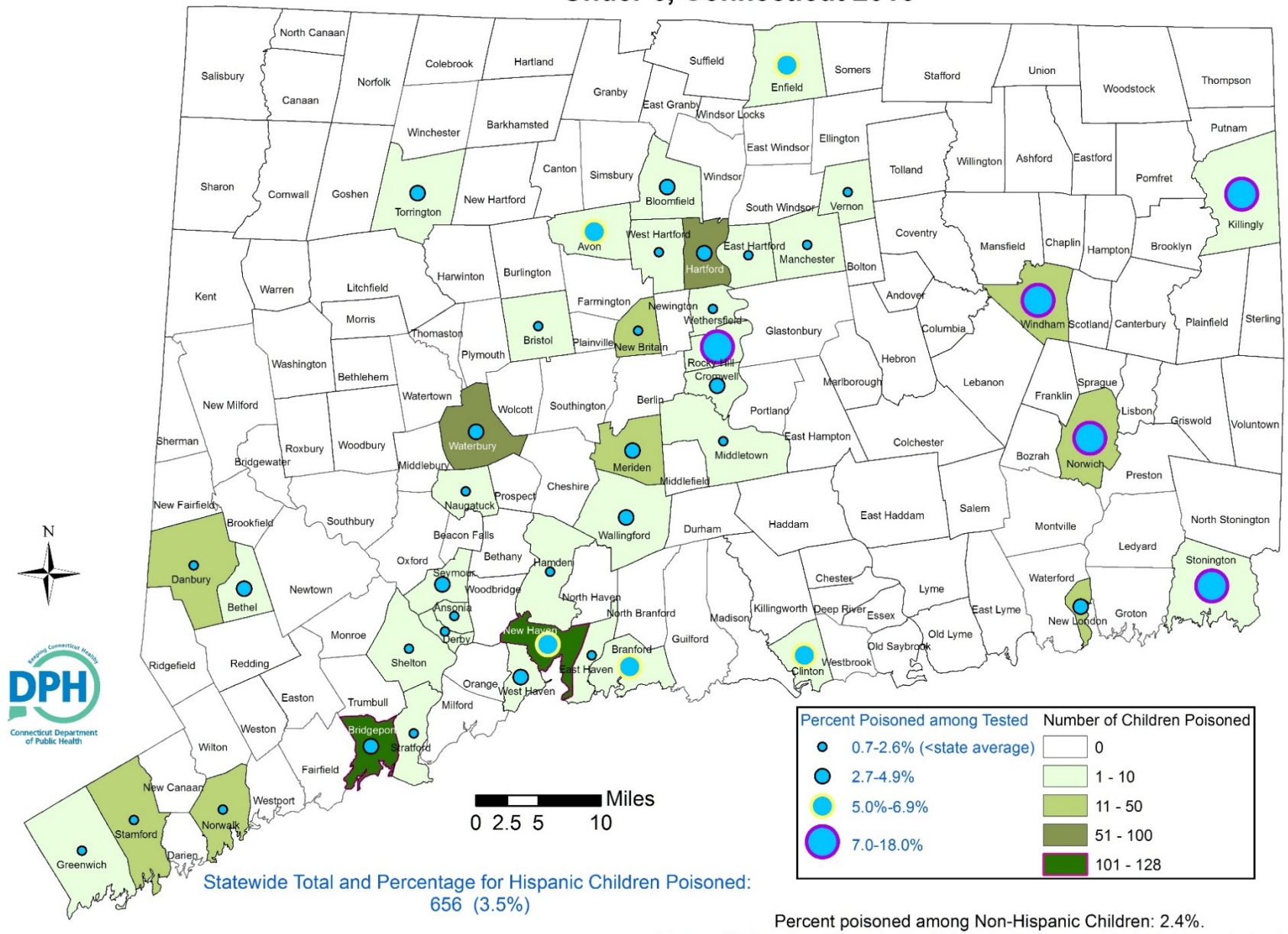
Number and Percentage of Black Children Lead Poisoned Under Age 6, Connecticut 2016



Statewide Total and Percentage for Black Children Poisoned: 461(4.8%).
Satewide Percentage for All Races: 2.7%.
Towns with less than 10 children tested were not included to protect privacy.

Map 6.2

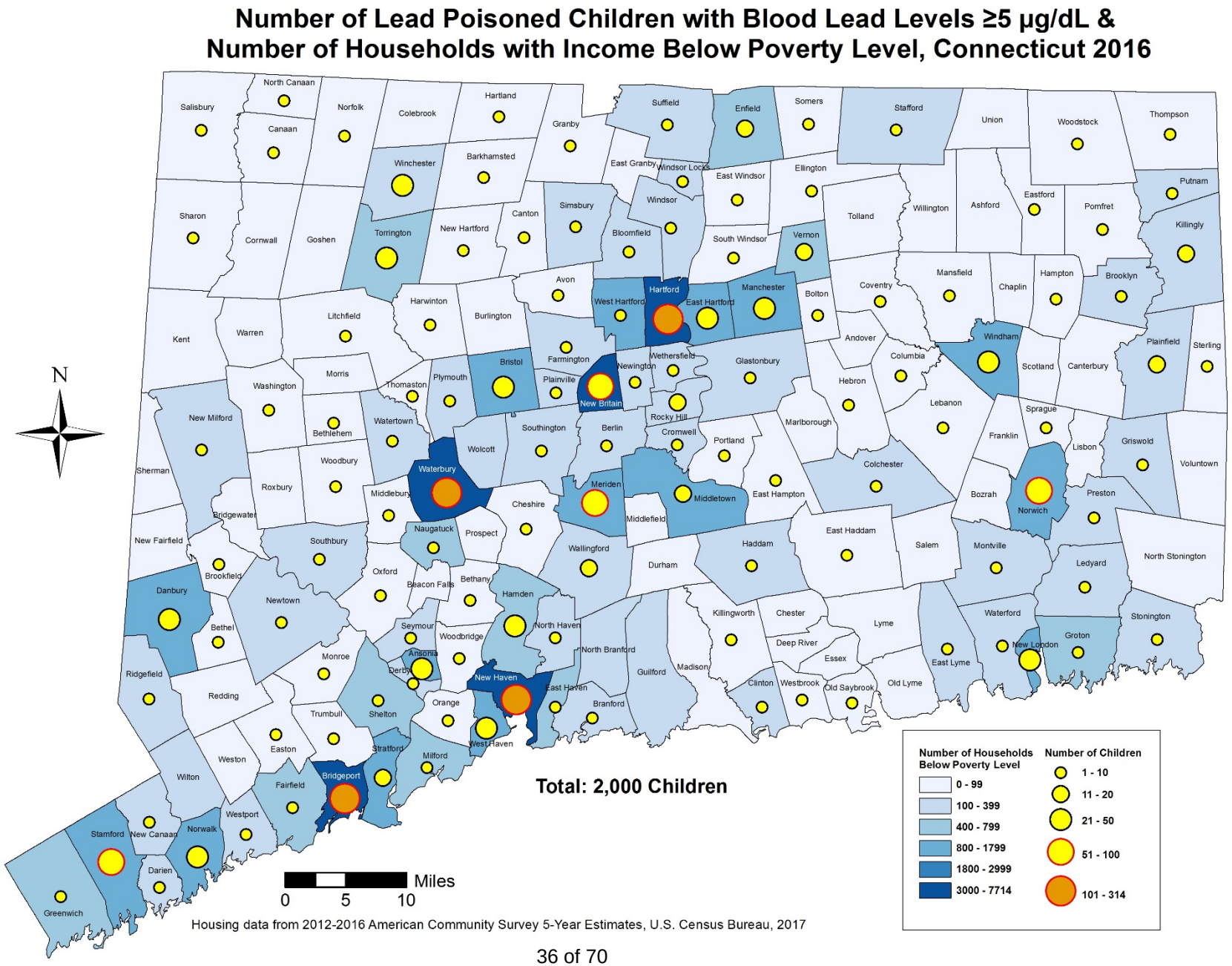
Number and Percentage of Hispanic Children Lead Poisoned Under 6, Connecticut 2016



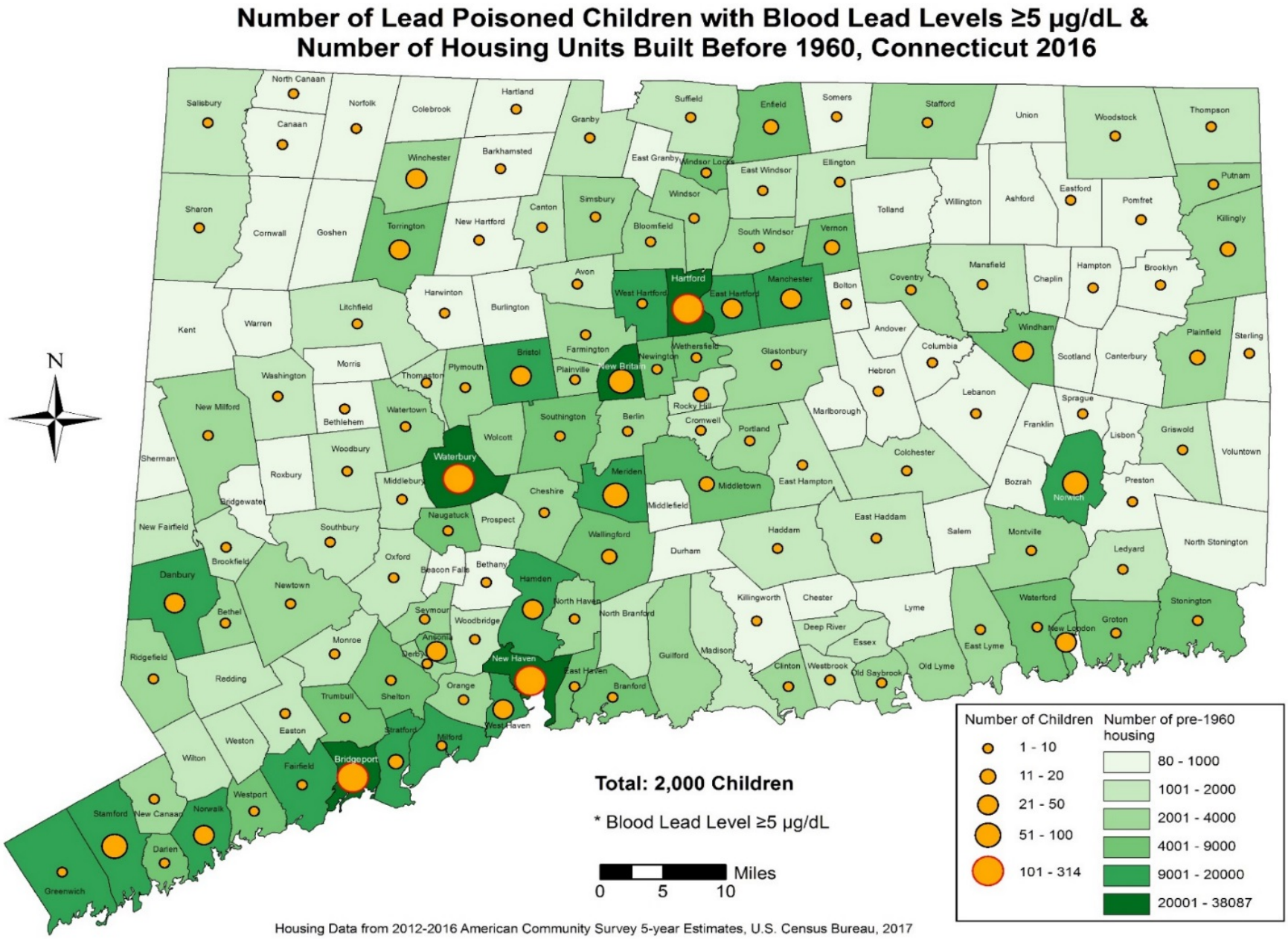
Statewide Total and Percentage for Hispanic Children Poisoned:
656 (3.5%)

Percent poisoned among Non-Hispanic Children: 2.4%.
Towns with less than Hispanic 10 children tested were not included to protect privacy.

Map 6.3

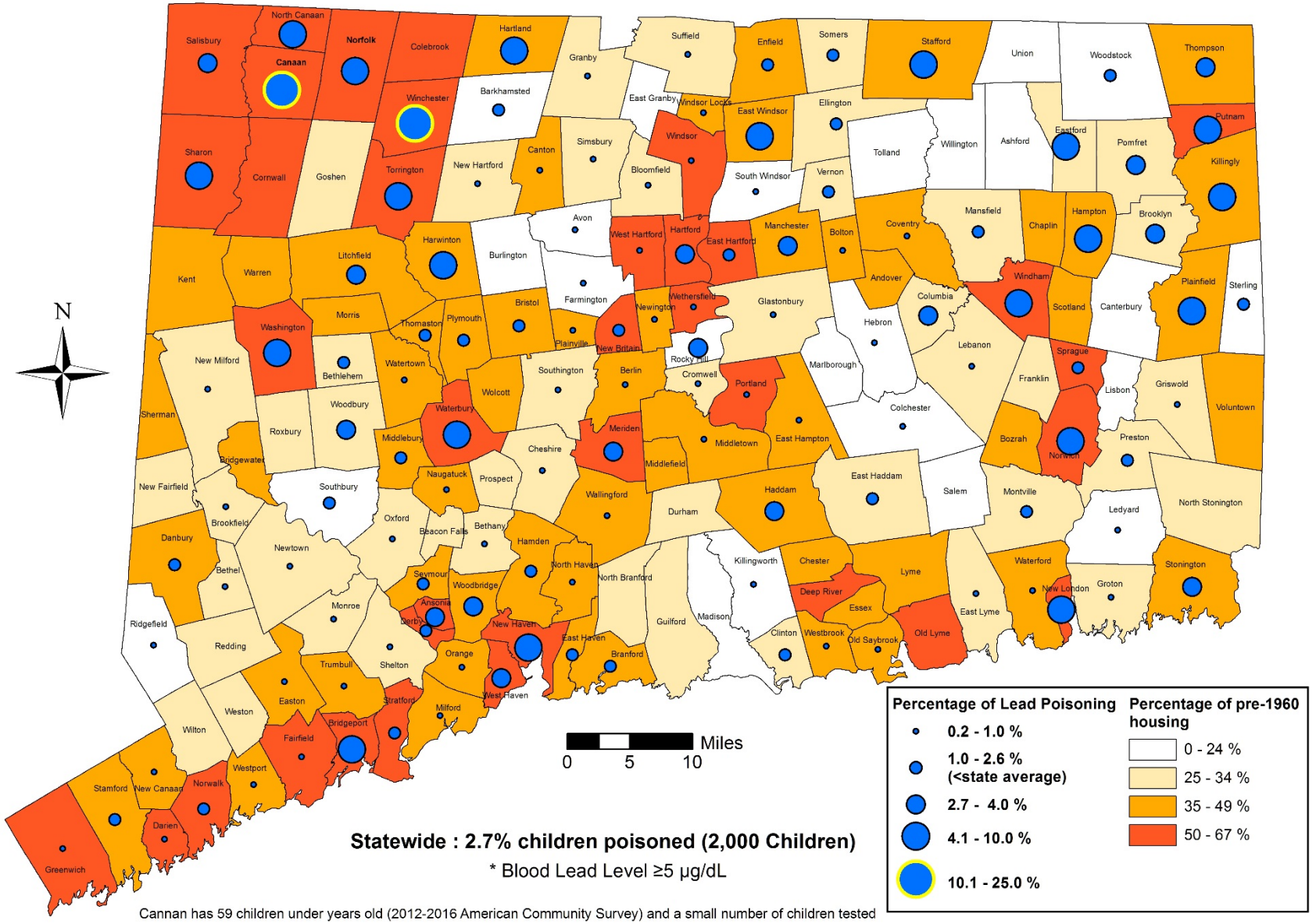

Number of Lead Poisoned Children with Blood Lead Levels ≥5 µg/dL &
Number of Households with Income Below Poverty Level, Connecticut 2016
N
Total: 2,000 Children
Miles
0 5 10
Housing data from 2012-2016 American Community Survey 5-Year Estimates, U.S. Census Bureau, 2017
Number of Households Below Poverty Level
0 - 99
100 - 399
400 - 799
800 - 1799
1800 - 2999
3000 - 7714
Number of Children
1 - 10
11 - 20
21 - 50
51 - 100
101 - 314

Map 6.4


Number of Lead Poisoned Children with Blood Lead Levels ≥5 µg/dL &
Number of Housing Units Built Before 1960, Connecticut 2016
N
Total: 2,000 Children
* Blood Lead Level ≥5 µg/dL
Miles
0 5 10
Number of Children
1 - 10
11 - 20
21 - 50
51 - 100
101 - 314
Number of pre-1960 housing
80 - 1000
1001 - 2000
2001 - 4000
4001 - 9000
9001 - 20000
20001 - 38087
Housing Data from 2012-2016 American Community Survey 5-year Estimates, U.S. Census Bureau, 2017

Map 6.5

Percentages of pre-1960 housing and Lead Poisoned Children* Under 6 Years Old by Town, Connecticut 2016



CHAPTER 7. ENVIRONMENTAL INVESTIGATIONS FOR CHILDREN WITH ENVIRONMENTAL INTERVENTION BLOOD LEAD LEVELS

Per CGS sections 19a-110(d), and 19a-111, and the Lead Poisoning Prevention and Control Regulations (19a-111 et. seq.), local health departments/districts are required to carry out comprehensive lead inspections at the residences of lead poisoned children with environmental intervention blood lead levels (EIBLL) (defined in the next paragraph). A comprehensive lead inspection includes the sampling of representative painted (or coated) surfaces of a dwelling unit, as well as the collection and analysis of dust, water, and exposed soil at the property.

When a child's venous blood lead level is reported as ≥ 20 μg/dL (EIBLL), a local health department/district must conduct an epidemiological investigation and order the elimination (abatement) of the sources of lead exposure for that child. In addition, when a child's venous blood lead levels are reported as two 15-19 μg/dL tests taken at least three months apart (EIBLL), a local health department/district must conduct an on-site inspection to identify the source of lead exposure and order lead abatement if hazards are identified. The investigation to determine the sources of lead exposure may result in the health department/district conducting a lead inspection at more than one property, if that child is routinely cared for at alternate locations. Additionally, if a lead poisoned child moves to a new dwelling unit and subsequent venous blood test results are ≥20 μg/dL, the new dwelling unit must also be inspected for lead hazards and lead abatement ordered when hazards are identified. If a child resides in more than one dwelling unit, investigations are conducted for each of the dwelling units where the lead poisoned child resides.

Some local health departments/districts opt to conduct investigations and order lead abatement at lower levels of diagnosed lead poisoning. Those environmental data elements are not included in this report. The analyses in this report contain dwelling units associated with at least one EIBLL children.

In 2016, 131 environmental cases were opened for children who had blood lead levels that triggered environmental intervention.

Among the 131 environmental cases opened, 126 properties required a comprehensive or limited lead inspection; four of the homes were built after 1978; one didn't get inspected due to child moved away before the DPH received the elevated blood lead level from the laboratory. Of the 126 properties, 113 units received a comprehensive lead inspection and 13 properties received a limited inspection. In order for a comprehensive lead inspection to be considered complete, the report must minimally include paint, dust, water, and soil analysis results (where applicable). For limited testing, the report must include dust, water, and soil analysis results (where applicable).

The analyses of the environmental findings below are based on the environmental investigation reports for the 126 dwelling units for which environmental investigations were conducted for lead poisoned children and where lead inspection reports were provided to the CT DPH.

Housing style

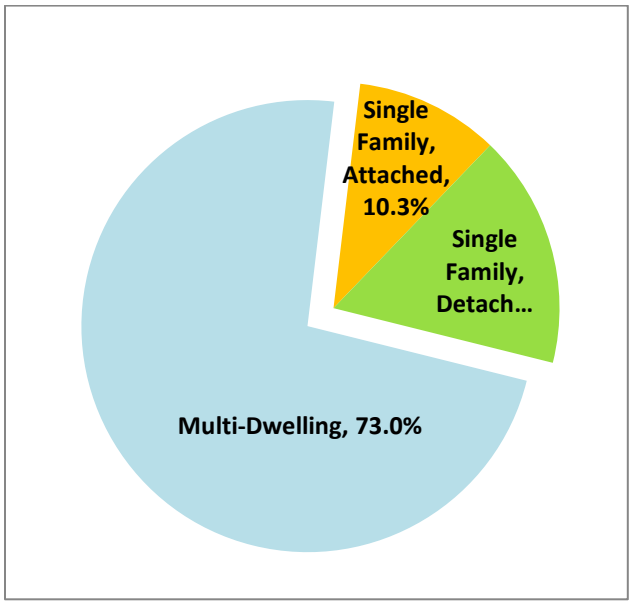


Figure 7.1. Percentage of housing style among inspected housing units

Of the 126 dwelling units inspected, 93 (73.0%) were multiple-unit dwellings, 13 (10.3%) were single family attached dwellings, and 21 (16.7%) were single family detached dwellings.

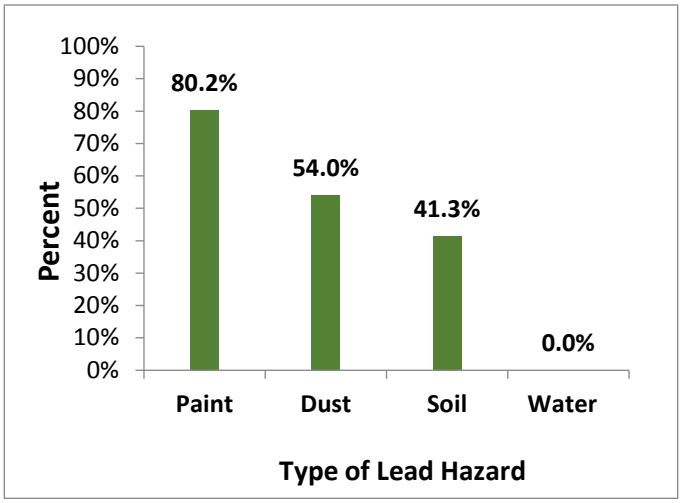
Environmental lead hazards

Children are most commonly exposed to lead from lead-based paint hazards. Lead-based paint hazards include defective painted surfaces, friction and chewable surfaces, lead-contaminated dust on interior floors and surfaces, and lead contaminated soil. Children are less frequently poisoned from water, herbal or ethnic remedies, imported cosmetics, toys, and other miscellaneous lead-contaminated products and foods. A comprehensive lead inspection minimally consists of a comprehensive lead paint inspection, as well as dust, soil, and water sampling and analyses. If other less common sources of lead exposure are identified during a comprehensive lead inspection or through conversations with a caregiver, those media are also sampled and analyzed. The Lead and Healthy Homes Program collects, analyzes, and reports on data for the most common sources of lead exposure.

Of the 126 dwelling units for which lead inspection results were received, 107 (84.9%) were identified with at least one environmental lead hazard, and 19 (15.1%) had no identified environmental lead hazards.

Environmental lead hazards identified by source

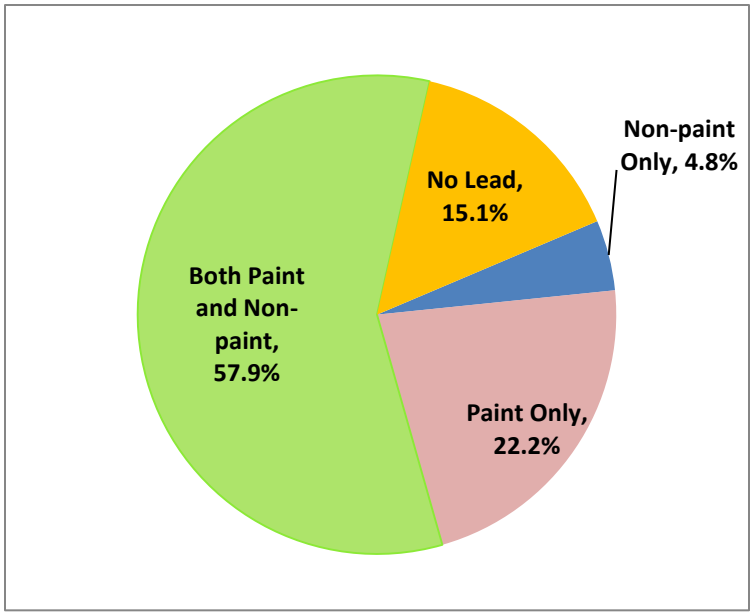
Figure 7.2. Percentage of environmental lead hazards identified by source



Of the 126 dwelling units investigated and reported, a total of 101 (80.2%) were identified with a lead-based paint hazard, 68 (54.0%) were identified with a lead dust hazard, 52 (41.3%) were identified with a lead soil hazard, and none (0.0%) was identified with a lead in drinking water hazard.

Environmental lead hazards identified by existence of lead paint hazard

Figure 7.3. Percentage of environmental lead hazards related to paint or non-paint hazards



Of the 126 dwelling units for which investigations were completed, 28 (22.2%) dwelling units were identified with lead-based paint hazards only, 73 (57.9%) dwelling units were identified with both lead-based paint and non-paint hazards[****], 6 (4.8%) were identified with non-paint hazards only, and 19 (15.1%) had no environmental lead hazards.

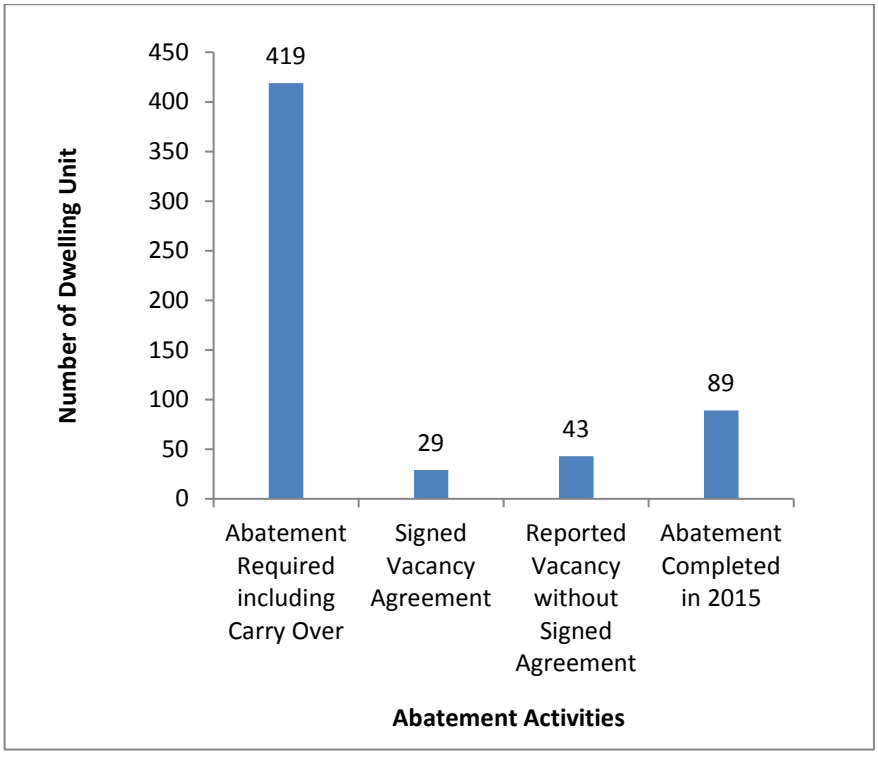
[****] Non-paint hazards consist of lead dust, lead in soil, or lead in water.

Reported lead abatement and management activities

A health department/district is required to issue a lead abatement order to the property owner to eliminate the lead-based paint hazards identified during the comprehensive lead inspection. The dwelling unit, common areas, ancillary structures (garages/sheds), exterior, and exposed soil areas may undergo lead abatement if a lead hazard was identified on the property during the comprehensive lead inspection. Intact lead-based paint surfaces that remain in the home must be placed on a management plan to ensure that they remain intact, and do not become a lead hazard and a future source of exposure for occupants.

Through the lead inspection report information provided to the CT DPH, the Lead and Healthy Homes Program identified 419 dwelling units (including cases carried forward from previous years) that remained open environmental cases in 2016.

Figure 7.4. Abatement and management activities among dwelling units requiring abatement of lead hazards



As of 2016, 419 dwelling units were required to perform abatement of lead hazards. In 2016, lead abatement was completed in 89 units; leaving 330 required abatement projects to carry over into 2017. A vacancy agreement was signed for 29 dwelling units while 43 were reported vacant but without a signed agreement.

Figure 7.5. Number of months or years to complete abatement among dwelling units where abatement of lead hazards was completed in 2016 (N=89)

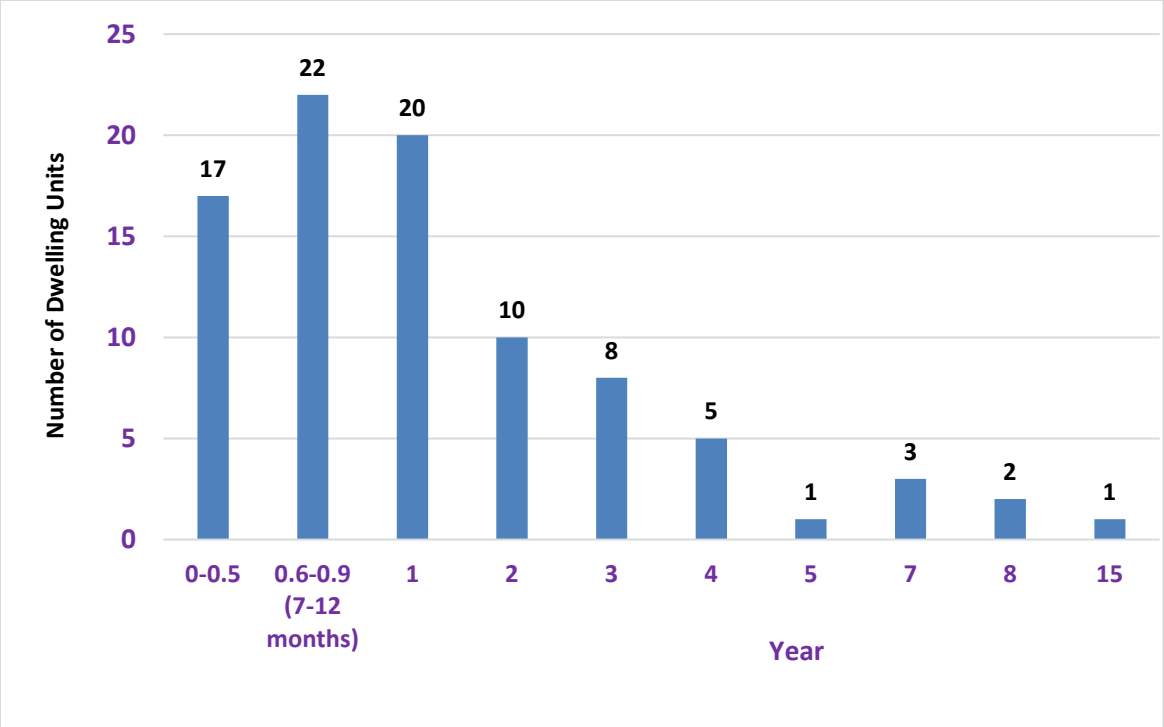
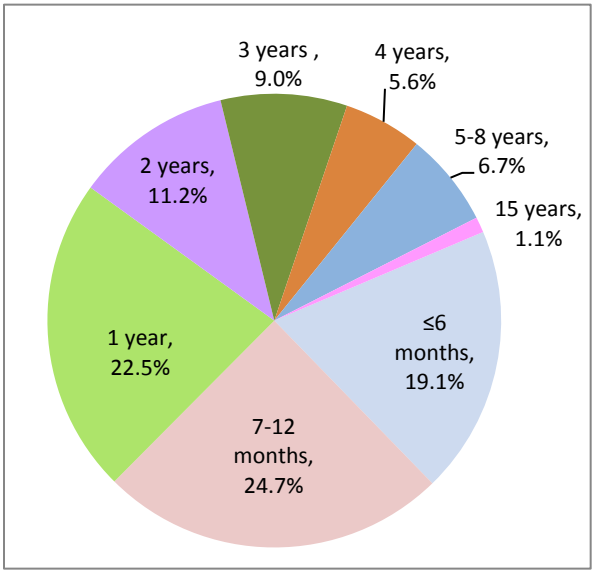


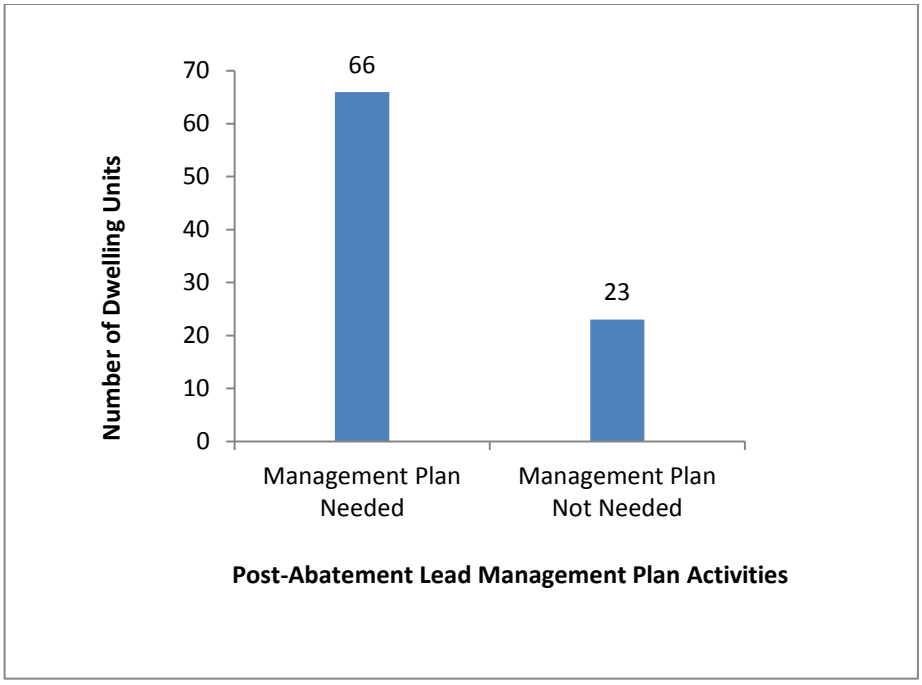
Figure 7.6. Distribution of time required to complete abatement among dwelling units where abatement of lead hazards was completed in 2016



Among the 89 dwelling units where lead abatement was completed in 2016, it took property owners between 2 months to 15 years to complete the work. The broad range of time it takes to complete abatement is dependent on factors such as the level of lead abatement needed at a property, the willingness of a property owner to comply with health orders and the enforcement of orders issued by a Director of Health.

Thirty-nine of the 89 (43.8%) property owners completed lead abatement within one year. The average time to complete lead abatement for these properties was 1 year and 10 months.

Figure 7.7. Lead management plans among dwelling units where lead abatement was completed in 2016



Intact lead-based paint and encapsulated surfaces must be placed on a lead management plan. Of the 89 dwelling units for which lead abatement was completed in 2016, 66 (74.2%) of the dwelling units required lead management plans while 23 (25.8%) did not require lead management plans.

Chapter 8. APPENDICES

Table 8.1. By town screening for children under age 6 and 9 months to 2 years old – Connecticut CY 2016

		Housing stock built before 1960[β]		Number of Children Under Age 6 Screened	Population* Age 9 months-2 yrs.	*Number and Percent of Children Age 9 ms-2 yrs Screened*	
		Number	Percent			Number	Percent
Connecticut							
CY 2002*				69,857	88,094	40,452	45.9
CY 2003*				67,592	88,094	38,742	44.0
CY 2004*				68,606	88,094	39,894	45.3
CY 2005*				69,263	88,094	42,954	48.8
CY 2006*				69,315	88,094	43,193	49.0
CY 2007*				72,088	88,094	45,037	51.1
CY 2008*				76,722	88,094	48,594	55.2
CY 2009*				85,354	88,094	54,106	61.4
CY 2010*				82,194	79,676	52,744	66.2
CY 2011				77,423	82,765	55,960	67.6
CY 2012				75,569	80,411	54,524	67.8
CY 2013				75,749	78,288	55,862	71.4
CY 2014				75,956	77,163	56,344	73.0
CY 2015				75,423	76,357	56,598	74.1
CY 2016		**665,592**	**44.6**	**74,055**	**76,081**	**56,079**	**73.7**
By-Town, CY 2016							
1	ANDOVER	492	38.5	34	34	32	94.1
2	ANSONIA	4,846	64.7	499	487	344	70.6
3	ASHFORD	405	21.8	58	94	53	56.4
4	AVON	1,418	19.1	272	284	238	83.8
5	BARKHAMSTED	327	21.7	42	43	40	93.0
6	BEACON FALLS	899	33.6	74	88	61	69.3

		Housing stock built before 1960[β]		Number of Children Under Age 6 Screened	Population* Age 9 months-2 yrs.	*Number and Percent of Children Age 9 ms-2 yrs Screened*	
		Number	Percent			Number	Percent
7	BERLIN	3,246	38.5	245	317	199	62.8
8	BETHANY	568	28.2	75	82	68	82.9
9	BETHEL	2,554	33.8	329	320	282	88.1
10	BETHLEHEM	428	27.7	51	56	45	80.4
11	BLOOMFIELD	2,986	33.9	340	371	286	77.1
12	BOLTON	764	36.1	72	81	59	72.8
13	BOZRAH	395	36.3	22	42	21	50.0
14	BRANFORD	5,195	37.9	362	431	331	76.8
15	BRIDGEPORT	38,087	66.1	5545	4260	3292	77.3
16	BRIDGEWATER	404	45.3	13	13	8	61.5
17	BRISTOL	12,288	45.7	1168	1334	968	72.6
18	BROOKFIELD	1,626	24.7	243	229	206	90.0
19	BROOKLYN	956	30.4	112	129	93	72.1
20	BURLINGTON	703	19.9	110	137	101	73.7
21	CANAAN &NORTH CANAAN [π]	415	53.1	44	49	39	80.0
22	CANTERBURY	416	21.2	62	94	53	56.4
23	CANTON	1,586	36.5	98	149	85	57.0
24	CHAPLIN	416	43.3	23	30	22	73.3
25	CHESHIRE	3,412	32.1	374	394	321	81.5
26	CHESTER	937	43.6	52	46	49	100.0
27	CLINTON	2,031	33.3	163	182	154	84.6
28	COLCHESTER	1,139	17.9	198	283	170	60.1
29	COLEBROOK	411	49.6	5	14	4	28.6
30	COLUMBIA	600	27.3	62	88	59	67.0

		Housing stock built before 1960[β]		Number of Children Under Age 6 Screened	Population* Age 9 months-2 yrs.	*Number and Percent of Children Age 9 ms-2 yrs Screened*	
		Number	Percent			Number	Percent
31	CORNWALL	576	55.2	13	10	12	100.0
32	COVENTRY	2,011	39.6	194	238	171	71.8
33	CROMWELL	1,861	30.8	278	315	253	80.3
34	DANBURY	12,574	38.9	2083	2074	1634	78.8
35	DARIEN	4,145	59.6	476	502	422	84.1
36	DEEP RIVER	1,091	52.1	60	52	55	100.0
37	DERBY	3,005	54.8	243	298	188	63.1
38	DURHAM	820	28.9	96	121	87	71.9
39	EAST GRANBY	497	23.2	83	99	64	64.6
40	EAST HADDAM	1,561	34.4	109	161	103	64.0
41	EAST HAMPTON	1,938	35.4	191	270	170	63.0
42	EAST HARTFORD	11,308	52.5	1126	1396	887	63.5
43	EAST HAVEN	5,357	43.2	515	535	452	84.5
44	EAST LYME	2,912	34.2	240	270	219	81.1
45	EAST WINDSOR	1,893	37.9	179	247	130	52.6
46	EASTFORD	246	31.2	17	22	13	59.1
47	EASTON	1,199	43.1	88	90	77	85.6
48	ELLINGTON	1,937	28.3	270	320	200	62.5
49	ENFIELD	8,245	47.4	738	695	545	78.4
50	ESSEX	1,454	44.3	55	56	51	91.1
51	FAIRFIELD	12,225	57.5	1121	1083	1026	94.7
52	FARMINGTON	2,580	23.9	387	395	333	84.3
53	FRANKLIN	252	32.3	21	30	15	50.0
54	GLASTONBURY	3,846	27.9	441	509	395	77.6

		Housing stock built before 1960[β]		Number of Children Under Age 6 Screened	Population* Age 9 months-2 yrs.	*Number and Percent of Children Age 9 ms-2 yrs Screened*	
		Number	Percent			Number	Percent
55	GOSHEN	412	24.6	29	29	27	93.1
56	GRANBY	1,151	25.3	109	134	89	66.4
57	GREENWICH	12,871	52.8	1121	1149	993	86.4
58	GRISWOLD	1,482	30.5	195	224	139	62.1
59	GROTON	5,930	32.7	1029	1140	793	69.6
60	GUILFORD	2,555	27.5	218	250	199	79.6
61	HADDAM	1,250	35.1	126	143	116	81.1
62	HAMDEN	12,177	47.7	963	1159	829	71.5
63	HAMPTON	299	39.1	30	34	29	85.3
64	HARTFORD	34,156	64.1	4357	4009	2861	71.4
65	HARTLAND	373	43.8	14	27	13	48.1
66	HARWINTON	814	36.5	65	67	54	80.6
67	HEBRON	545	15.2	89	147	78	53.1
68	KENT	658	42.2	28	33	24	72.7
69	KILLINGLY	3,060	39.1	343	335	275	82.1
70	KILLINGWORTH	554	20.9	75	66	71	100.0
71	LEBANON	897	28.9	76	114	65	57.0
72	LEDYARD	1,093	17.4	330	328	269	82.0
73	LISBON	356	21.8	39	46	30	65.2
74	LITCHFIELD	1,937	46.8	109	107	96	89.7
75	LYME & OLD LYME [β]	539	45.1	95	83	88	100.0
76	MADISON	1,838	23.1	189	187	171	91.4
77	MANCHESTER	12,055	48.1	1534	1744	1238	71.0
78	MANSFIELD	1,839	30.3	133	169	113	66.9

		Housing stock built before 1960[β]		Number of Children Under Age 6 Screened	Population* Age 9 months-2 yrs.	*Number and Percent of Children Age 9 ms-2 yrs Screened*	
		Number	Percent			Number	Percent
79	MARLBOROUGH	250	10.9	87	112	74	66.1
80	MERIDEN	16,432	55.6	1952	1584	1227	77.5
81	MIDDLEBURY	1,227	42.3	106	125	77	61.6
82	MIDDLEFIELD	854	46.2	61	69	52	75.4
83	MIDDLETOWN	7,707	36.5	918	1181	816	69.1
84	MILFORD	10,895	46.8	757	947	620	65.5
85	MONROE	1,929	26.7	291	325	264	81.2
86	MONTVILLE	2,044	27.3	262	310	217	70.0
87	MORRIS	630	48.8	23	28	21	75.0
88	NAUGATUCK	5,460	42.6	692	774	513	66.3
89	NEW BRITAIN	20,963	66.3	2695	2251	1689	75.0
90	NEW CANAAN	2,787	37.4	339	372	313	84.1
91	NEW FAIRFIELD	1,892	33.2	188	151	171	100.0
92	NEW HARTFORD	793	28.8	82	95	72	75.8
93	NEW HAVEN	37,491	66.5	4172	3739	2727	72.9
94	NEW LONDON	7,820	64.9	698	716	484	67.6
95	NEW MILFORD	3,361	29.1	429	502	382	76.1
96	NEWINGTON	4,730	36.8	390	568	326	57.4
97	NEWTOWN	2,843	27.7	265	348	243	69.8
98	NORFOLK	577	62.5	15	18	15	83.3
99	NORTH BRANFORD	1,682	28.9	199	200	187	93.5
100	NORTH CANAAN & CANAAN [π]	972	66.5	44	49	39	80.0
101	NORTH HAVEN	3,784	42.4	323	398	283	71.1
102	NORTH STONINGTON	699	31.4	81	82	61	74.4

		Housing stock built before 1960[β]		Number of Children Under Age 6 Screened	Population* Age 9 months-2 yrs.	*Number and Percent of Children Age 9 ms-2 yrs Screened*	
		Number	Percent			Number	Percent
103	NORWALK	17,399	49.5	2058	2463	1638	66.5
104	NORWICH	10,304	55.1	842	1040	565	54.3
105	OLD LYME & LYME [β]	2,471	50.0	95	83	88	100.0
106	OLD SAYBROOK	2,496	44.2	91	110	88	80.0
107	ORANGE	2,287	45.4	205	226	181	80.1
108	OXFORD	1,186	25.7	178	191	160	83.8
109	PLAINFIELD	2,726	43.2	285	300	235	78.3
110	PLAINVILLE	3,401	42.2	264	331	202	61.0
111	PLYMOUTH	2,298	44.2	178	180	153	85.0
112	POMFRET	436	25.2	69	66	58	87.9
113	PORTLAND	2,158	51.0	153	193	144	74.6
114	PRESTON	565	29.6	52	76	41	53.9
115	PROSPECT	1,032	30.3	124	152	100	65.8
116	PUTNAM	2,381	55.5	169	192	133	69.3
117	REDDING	1,299	33.2	116	122	96	78.7
118	RIDGEFIELD	2,133	22.6	384	410	307	74.9
119	ROCKY HILL	1,657	18.9	432	454	383	84.4
120	ROXBURY	387	32.0	18	20	17	85.0
121	SALEM	291	17.2	65	78	61	78.2
122	SALISBURY	1,387	50.9	31	35	28	80.0
123	SCOTLAND	231	34.8	8	17	7	41.2
124	SEYMOUR	2,913	44.0	338	388	273	70.4
125	SHARON	1,252	63.4	22	24	18	75.0
126	SHELTON	4,555	26.7	685	757	599	79.1

		Housing stock built before 1960[β]		Number of Children Under Age 6 Screened	Population* Age 9 months-2 yrs.	*Number and Percent of Children Age 9 ms-2 yrs Screened*	
		Number	Percent			Number	Percent
127	SHERMAN	612	35.8	32	30	26	86.7
128	SIMSBURY	2,753	29.2	279	370	258	69.7
129	SOMERS	991	27.3	127	110	84	76.4
130	SOUTH WINDSOR	2,337	22.5	359	453	322	71.1
131	SOUTHBURY	1,198	14.0	187	204	170	83.3
132	SOUTHINGTON	5,249	29.6	617	754	502	66.6
133	SPRAGUE	697	57.5	59	71	44	62.0
134	STAFFORD	2,563	49.3	164	196	130	66.3
135	STAMFORD	19,045	36.8	3775	4335	3152	72.7
136	STERLING	241	18.6	45	47	34	72.3
137	STONINGTON	4,442	47.1	256	200	175	87.5
138	STRATFORD	12,426	56.2	1033	1094	819	74.9
139	SUFFIELD	1,796	34.0	226	189	169	89.4
140	THOMASTON	1,420	44.7	156	133	118	88.7
141	THOMPSON	1,896	45.5	174	114	117	100.0
142	TOLLAND	859	15.7	224	224	172	76.8
143	TORRINGTON	8,650	51.2	742	729	614	84.2
144	TRUMBULL	5,098	40.7	641	679	585	86.2
145	UNION	80	21.9	2	6	1	16.7
146	VERNON	4,602	32.5	675	794	531	66.9
147	VOLUNTOWN	372	34.8	39	31	33	100.0
148	WALLINGFORD	8,344	42.7	776	805	633	78.6
149	WARREN	351	41.5	4	12	3	25.0
150	WASHINGTON	1,192	52.6	36	37	29	78.4

		Housing stock built before 1960[β]		Number of Children Under Age 6 Screened	Population* Age 9 months-2 yrs.	*Number and Percent of Children Age 9 ms-2 yrs Screened*	
		Number	Percent			Number	Percent
151	WATERBURY	25,346	54.5	4518	3253	2248	69.1
152	WATERFORD	4,244	48.6	229	256	200	78.1
153	WATERTOWN	3,813	43.1	402	368	304	82.6
154	WEST HARTFORD	17,319	66.6	1091	1279	906	70.8
155	WEST HAVEN	12,512	56.4	1155	1267	885	69.9
156	WESTBROOK	1,521	40.7	70	76	61	80.3
157	WESTON	1,277	33.1	114	141	106	75.2
158	WESTPORT	4,813	45.1	339	357	310	86.8
159	WETHERSFIELD	5,836	51.3	448	514	370	72.0
160	WILLINGTON	473	18.5	68	91	56	61.5
161	WILTON	1,706	27.0	265	323	244	75.5
162	WINCHESTER	3,171	56.7	197	193	155	80.3
163	WINDHAM	5,236	54.6	487	549	429	78.1
164	WINDSOR	2,768	51.0	417	571	327	57.3
165	WINDSOR LOCKS	4,776	41.3	176	267	134	50.2
166	WOLCOTT	2,399	39.5	241	216	167	77.3
167	WOODBRIDGE	1,193	38.2	113	124	101	81.5
168	WOODBURY	1,537	34.0	121	110	101	91.8
169	WOODSTOCK	1,047	27.4	117	116	88	75.9

NOTE: Children are counted only once, regardless of the number of times they are tested.

- Population estimate is based on vital registry for birth cohorts 2010 and 2011. Children 9 months to 11 months old who were tested in 2013 were added to the population denominator.
- * Screening rates for CY 2002 to CY 2010 are based on number of children who were 1 or 2 years old at time of screening. These statistics were reported in previous annual reports
- ‡ Screening rate rounded down to 100%.

- α Data obtained from 2012-2016 American Community Survey 5-Year Estimates, Table B25034, https://factfinder.census.gov
- π Canaan and North Canaan are combined for number and percentage of children tested because Canaan could be a community within North Canaan or the town of Canaan.
- β Lyme and Old Lyme are combined for number and percentage of children tested because residents of Lyme are often reported as residing in Old Lyme.

Table 8.2. Prevalence - Percent of Children with a Blood Lead Level 0-4 *µg/dL and* Cumulative Percent of Children with a Blood lead Level *of ≥5 µg/dL* among Children under 6 Years of Age, *by Blood Lead Categories*

CY 2016 Data (<6 years old)		Numbers and Percents of Confirmed Blood Lead Levels among Children Aged Less Than Six Years with a Confirmed Lead Test											
		Number of Children with Confirmed Test	0–4 µg/dL		Cumulative Statistics							
					≥ 5 µg/dL		≥ 10 µg/dL		≥ 15 µg/dL		≥ 20 µg/dL	
			Number	%	Number	%	Number	%	Number	%	Number	%
	Connecticut											
	CY 2002	69,062					1,733	2.5			353	0.5
	CY 2003	66,847					1,445	2.2			272	0.4
	CY 2004	67,688					1,472	2.2			288	0.4
	CY 2005	68,757					1,263	1.8			212	0.3
	CY 2006	68,828					1,082	1.6	415	0.6	215	0.3
	CY 2007	71,627					1,020	1.4	445	0.6	208	0.3
	CY 2008	76,367					1,054	1.4	448	0.6	221	0.3
	CY 2009	85,138					737	0.9	308	0.4	153	0.2
	CY 2010	81,999	76.598	93.4	5,401*	6.6*	743	0.9	315	0.4	156	0.2
	CY 2011	77,306	72,322	93.6	4,984*	6.4*	619	0.8	264	0.3	111	0.1
	CY2012	73,785	71,524	96.9	2,261	3.1	522	0.7	196	0.3	107	0.1
	CY2013	74,636	72,361	97.0	2,275	3.0	525	0.7	214	0.3	111	0.1
	CY2014	75,368	73,084	97.0	2,284	3.0	510	0.7	213	0.3	99	0.1
	CY2015	74,881	72,725	97.1	2,156	2.9	547	0.7	233	0.3	126	0.2
	CY2016	**73,512**	**71,512**	**97.3**	**2,000**	**2.7**	**480**	**0.7**	**208**	**0.3**	**105**	**0.1**
	By-Town											
1	Andover	34	34	100.0	0	0.0	0	0.0	0	0.0	0	0.0
2	Ansonia	496	474	95.6	22	4.4	8	1.6	4	0.8	1	0.2

* Capillary tests ³ 5 mg/dL were treated as confirmatory tests based on previous confirmatory definition

CY 2016 Data (<6 years old)		Numbers and Percents of Confirmed Blood Lead Levels among Children Aged Less Than Six Years with a Confirmed Lead Test											
		Number of Children with Confirmed Test	0–4 µg/dL		Cumulative Statistics							
					≥ 5 µg/dL		≥ 10 µg/dL		≥ 15 µg/dL		≥ 20 µg/dL	
			Number	%	Number	%	Number	%	Number	%	Number	%
3	Ashford	58	58	100.0	0	0.0	0	0.0	0	0.0	0	0.0
4	Avon	272	270	99.3	2	0.7	1	0.4	0	0.0	0	0.0
5	Barkhamsted	42	41	97.6	1	2.4	0	0.0	0	0.0	0	0.0
6	Beacon Falls	74	74	100.0	0	0.0	0	0.0	0	0.0	0	0.0
7	Berlin	242	241	99.6	1	0.4	0	0.0	0	0.0	0	0.0
8	Bethany	75	74	98.7	1	1.3	0	0.0	0	0.0	0	0.0
9	Bethel	329	325	98.8	4	1.2	2	0.6	1	0.3	0	0.0
10	Bethlehem	51	50	98.0	1	2.0	0	0.0	0	0.0	0	0.0
11	Bloomfield	336	332	98.8	4	1.2	2	0.6	2	0.6	1	0.3
12	Bolton	72	71	98.6	1	1.4	0	0.0	0	0.0	0	0.0
13	Bozrah	22	22	100.0	0	0.0	0	0.0	0	0.0	0	0.0
14	Branford	358	351	98.0	7	2.0	0	0.0	0	0.0	0	0.0
15	Bridgeport	5509	5248	95.3	261	4.7	61	1.1	30	0.5	14	0.3
16	Bridgewater	13	13	100.0	0	0.0	0	0.0	0	0.0	0	0.0
17	Bristol	1163	1137	97.8	26	2.2	5	0.4	4	0.3	3	0.3
18	Brookfield	243	241	99.2	2	0.8	0	0.0	0	0.0	0	0.0
19	Brooklyn	112	109	97.3	3	2.7	1	0.9	0	0.0	0	0.0
20	Burlington	110	110	100.0	0	0.0	0	0.0	0	0.0	0	0.0
21	Canaan	8	6	75.0	2	25.0	0	0.0	0	0.0	0	0.0
22	Canterbury	62	62	100.0	0	0.0	0	0.0	0	0.0	0	0.0
23	Canton	98	97	99.0	1	1.0	0	0.0	0	0.0	0	0.0
24	Chaplin	23	23	100.0	0	0.0	0	0.0	0	0.0	0	0.0
25	Cheshire	373	371	99.5	2	0.5	0	0.0	0	0.0	0	0.0
26	Chester	52	52	100.0	0	0.0	0	0.0	0	0.0	0	0.0
27	Clinton	163	160	98.2	3	1.8	2	1.2	0	0.0	0	0.0
28	Colchester	196	194	99.0	2	1.0	1	0.5	1	0.5	0	0.0

CY 2016 Data (<6 years old)		Numbers and Percents of Confirmed Blood Lead Levels among Children Aged Less Than Six Years with a Confirmed Lead Test											
		Number of Children with Confirmed Test	0–4 µg/dL		Cumulative Statistics							
					≥ 5 µg/dL		≥ 10 µg/dL		≥ 15 µg/dL		≥ 20 µg/dL	
			Number	%	Number	%	Number	%	Number	%	Number	%
29	Colebrook	5	5	100.0	0	0.0	0	0.0	0	0.0	0	0.0
30	Columbia	62	60	96.8	2	3.2	0	0.0	0	0.0	0	0.0
31	Cornwall	13	13	100.0	0	0.0	0	0.0	0	0.0	0	0.0
32	Coventry	194	193	99.5	1	0.5	0	0.0	0	0.0	0	0.0
33	Cromwell	278	275	98.9	3	1.1	1	0.4	0	0.0	0	0.0
34	Danbury	2068	2027	98.0	41	2.0	9	0.4	3	0.1	0	0.0
35	Darien	476	475	99.8	1	0.2	0	0.0	0	0.0	0	0.0
36	Deep River	60	60	100.0	0	0.0	0	0.0	0	0.0	0	0.0
37	Derby	243	237	97.5	6	2.5	3	1.2	0	0.0	0	0.0
38	Durham	96	96	100.0	0	0.0	0	0.0	0	0.0	0	0.0
39	East Granby	82	82	100.0	0	0.0	0	0.0	0	0.0	0	0.0
40	East Haddam	107	105	98.1	2	1.9	1	0.9	1	0.9	0	0.0
41	East Hampton	189	188	99.5	1	0.5	0	0.0	0	0.0	0	0.0
42	East Hartford	1120	1096	97.9	24	2.1	10	0.9	3	0.3	1	0.1
43	East Haven	512	502	98.0	10	2.0	0	0.0	0	0.0	0	0.0
44	East Lyme	237	236	99.6	1	0.4	0	0.0	0	0.0	0	0.0
45	East Windsor	176	168	95.5	8	4.5	3	1.7	0	0.0	0	0.0
46	Eastford	16	15	93.8	1	6.3	0	0.0	0	0.0	0	0.0
47	Easton	87	86	98.9	1	1.1	0	0.0	0	0.0	0	0.0
48	Ellington	268	263	98.1	5	1.9	1	0.4	0	0.0	0	0.0
49	Enfield	731	718	98.2	13	1.8	3	0.4	1	0.1	0	0.0
50	Essex	55	55	100.0	0	0.0	0	0.0	0	0.0	0	0.0
51	Fairfield	1117	1108	99.2	9	0.8	2	0.2	1	0.1	1	0.1
52	Farmington	382	379	99.2	3	0.8	2	0.5	1	0.3	0	0.0
53	Franklin	21	21	100.0	0	0.0	0	0.0	0	0.0	0	0.0
54	Glastonbury	440	437	99.3	3	0.7	1	0.2	0	0.0	0	0.0

CY 2016 Data (<6 years old)		Numbers and Percents of Confirmed Blood Lead Levels among Children Aged Less Than Six Years with a Confirmed Lead Test											
		Number of Children with Confirmed Test	0–4 µg/dL		Cumulative Statistics							
					≥ 5 µg/dL		≥ 10 µg/dL		≥ 15 µg/dL		≥ 20 µg/dL	
			Number	%	Number	%	Number	%	Number	%	Number	%
55	Goshen	29	29	100.0	0	0.0	0	0.0	0	0.0	0	0.0
56	Granby	109	108	99.1	1	0.9	0	0.0	0	0.0	0	0.0
57	Greenwich	1112	1107	99.6	5	0.4	1	0.1	1	0.1	1	0.1
58	Griswold	195	193	99.0	2	1.0	0	0.0	0	0.0	0	0.0
59	Groton	1026	1020	99.4	6	0.6	0	0.0	0	0.0	0	0.0
60	Guilford	218	218	100.0	0	0.0	0	0.0	0	0.0	0	0.0
61	Haddam	124	120	96.8	4	3.2	2	1.6	1	0.8	1	0.8
62	Hamden	954	933	97.8	21	2.2	8	0.8	3	0.3	2	0.2
63	Hampton	29	27	93.1	2	6.9	0	0.0	0	0.0	0	0.0
64	Hartford	4307	4137	96.1	170	3.9	41	1.0	16	0.4	9	0.2
65	Hartland	14	13	92.9	1	7.1	0	0.0	0	0.0	0	0.0
66	Harwinton	64	61	95.3	3	4.7	0	0.0	0	0.0	0	0.0
67	Hebron	89	88	98.9	1	1.1	0	0.0	0	0.0	0	0.0
68	Kent	28	28	100.0	0	0.0	0	0.0	0	0.0	0	0.0
69	Killingly	342	326	95.3	16	4.7	3	0.9	2	0.6	1	0.3
70	Killingworth	75	74	98.7	1	1.3	0	0.0	0	0.0	0	0.0
71	Lebanon	76	75	98.7	1	1.3	0	0.0	0	0.0	0	0.0
72	Ledyard	326	324	99.4	2	0.6	0	0.0	0	0.0	0	0.0
73	Lisbon	39	39	100.0	0	0.0	0	0.0	0	0.0	0	0.0
74	Litchfield	107	104	97.2	3	2.8	0	0.0	0	0.0	0	0.0
75	Lyme	11	11	100.0	0	0.0	0	0.0	0	0.0	0	0.0
76	Madison	189	189	100.0	0	0.0	0	0.0	0	0.0	0	0.0
77	Manchester	1517	1472	97.0	45	3.0	12	0.8	7	0.5	3	0.2
78	Mansfield	132	129	97.7	3	2.3	2	1.5	2	1.5	1	0.8
79	Marlborough	87	87	100.0	0	0.0	0	0.0	0	0.0	0	0.0
80	Meriden	1941	1860	95.8	81	4.2	31	1.6	13	0.7	10	0.5

CY 2016 Data (<6 years old)		Numbers and Percents of Confirmed Blood Lead Levels among Children Aged Less Than Six Years with a Confirmed Lead Test											
		Number of Children with Confirmed Test	0–4 µg/dL		Cumulative Statistics							
					≥ 5 µg/dL		≥ 10 µg/dL		≥ 15 µg/dL		≥ 20 µg/dL	
			Number	%	Number	%	Number	%	Number	%	Number	%
81	Middlebury	105	103	98.1	2	1.9	1	1.0	0	0.0	0	0.0
82	Middlefield	61	61	100.0	0	0.0	0	0.0	0	0.0	0	0.0
83	Middletown	912	899	98.6	13	1.4	2	0.2	1	0.1	1	0.1
84	Milford	749	743	99.2	6	0.8	0	0.0	0	0.0	0	0.0
85	Monroe	290	289	99.7	1	0.3	0	0.0	0	0.0	0	0.0
86	Montville	262	258	98.5	4	1.5	1	0.4	0	0.0	0	0.0
87	Morris	23	23	100.0	0	0.0	0	0.0	0	0.0	0	0.0
88	Naugatuck	689	680	98.7	9	1.3	1	0.1	0	0.0	0	0.0
89	New Britain	2675	2606	97.4	69	2.6	22	0.8	16	0.6	6	0.2
90	New Canaan	336	333	99.1	3	0.9	1	0.3	1	0.3	0	0.0
91	New Fairfield	188	188	100.0	0	0.0	0	0.0	0	0.0	0	0.0
92	New Hartford	81	80	98.8	1	1.2	1	1.2	0	0.0	0	0.0
93	New Haven	4108	3794	92.4	314	7.6	67	1.6	21	0.5	12	0.3
94	New London	688	654	95.1	34	4.9	9	1.3	2	0.3	1	0.1
95	New Milford	426	422	99.1	4	0.9	0	0.0	0	0.0	0	0.0
96	Newington	386	385	99.7	1	0.3	0	0.0	0	0.0	0	0.0
97	Newtown	264	262	99.2	2	0.8	1	0.4	0	0.0	0	0.0
98	Norfolk	15	14	93.3	1	6.7	0	0.0	0	0.0	0	0.0
99	North Branford	199	199	100.0	0	0.0	0	0.0	0	0.0	0	0.0
100	North Canaan	36	34	94.4	2	5.6	0	0.0	0	0.0	0	0.0
101	North Haven	320	319	99.7	1	0.3	1	0.3	0	0.0	0	0.0
102	North Stonington	80	80	100.0	0	0.0	0	0.0	0	0.0	0	0.0
103	Norwalk	2046	2013	98.4	33	1.6	7	0.3	3	0.1	1	0.0
104	Norwich	841	787	93.6	54	6.4	15	1.8	10	1.2	8	1.0
105	Old Lyme	84	84	100.0	0	0.0	0	0.0	0	0.0	0	0.0

CY 2016 Data (<6 years old)		Numbers and Percents of Confirmed Blood Lead Levels among Children Aged Less Than Six Years with a Confirmed Lead Test											
		Number of Children with Confirmed Test	0–4 µg/dL		Cumulative Statistics							
					≥ 5 µg/dL		≥ 10 µg/dL		≥ 15 µg/dL		≥ 20 µg/dL	
			Number	%	Number	%	Number	%	Number	%	Number	%
106	Old Saybrook	91	90	98.9	1	1.1	0	0.0	0	0.0	0	0.0
107	Orange	204	202	99.0	2	1.0	0	0.0	0	0.0	0	0.0
108	Oxford	176	175	99.4	1	0.6	0	0.0	0	0.0	0	0.0
109	Plainfield	283	264	93.3	19	6.7	2	0.7	0	0.0	0	0.0
110	Plainville	264	262	99.2	2	0.8	0	0.0	0	0.0	0	0.0
111	Plymouth	178	174	97.8	4	2.2	1	0.6	1	0.6	0	0.0
112	Pomfret	69	67	97.1	2	2.9	0	0.0	0	0.0	0	0.0
113	Portland	149	147	98.7	2	1.3	0	0.0	0	0.0	0	0.0
114	Preston	51	50	98.0	1	2.0	0	0.0	0	0.0	0	0.0
115	Prospect	124	124	100.0	0	0.0	0	0.0	0	0.0	0	0.0
116	Putnam	168	160	95.2	8	4.8	2	1.2	1	0.6	0	0.0
117	Redding	116	116	100.0	0	0.0	0	0.0	0	0.0	0	0.0
118	Ridgefield	383	382	99.7	1	0.3	0	0.0	0	0.0	0	0.0
119	Rocky Hill	429	416	97.0	13	3.0	4	0.9	1	0.2	0	0.0
120	Roxbury	18	18	100.0	0	0.0	0	0.0	0	0.0	0	0.0
121	Salem	63	63	100.0	0	0.0	0	0.0	0	0.0	0	0.0
122	Salisbury	31	30	96.8	1	3.2	0	0.0	0	0.0	0	0.0
123	Scotland	8	8	100.0	0	0.0	0	0.0	0	0.0	0	0.0
124	Seymour	336	328	97.6	8	2.4	2	0.6	1	0.3	1	0.3
125	Sharon	22	21	95.5	1	4.5	0	0.0	0	0.0	0	0.0
126	Shelton	682	674	98.8	8	1.2	4	0.6	2	0.3	0	0.0
127	Sherman	32	32	100.0	0	0.0	0	0.0	0	0.0	0	0.0
128	Simsbury	278	275	98.9	3	1.1	0	0.0	0	0.0	0	0.0
129	Somers	126	123	97.6	3	2.4	1	0.8	1	0.8	0	0.0
130	South Windsor	358	357	99.7	1	0.3	0	0.0	0	0.0	0	0.0
131	Southbury	186	183	98.4	3	1.6	0	0.0	0	0.0	0	0.0

CY 2016 Data (<6 years old)		Numbers and Percents of Confirmed Blood Lead Levels among Children Aged Less Than Six Years with a Confirmed Lead Test											
		Number of Children with Confirmed Test	0–4 µg/dL		Cumulative Statistics							
					≥ 5 µg/dL		≥ 10 µg/dL		≥ 15 µg/dL		≥ 20 µg/dL	
			Number	%	Number	%	Number	%	Number	%	Number	%
132	Southington	611	609	99.7	2	0.3	0	0.0	0	0.0	0	0.0
133	Sprague	59	58	98.3	1	1.7	1	1.7	0	0.0	0	0.0
134	Stafford	163	155	95.1	8	4.9	2	1.2	1	0.6	1	0.6
135	Stamford	3755	3696	98.4	59	1.6	11	0.3	7	0.2	3	0.1
136	Sterling	45	44	97.8	1	2.2	0	0.0	0	0.0	0	0.0
137	Stonington	252	244	96.8	8	3.2	1	0.4	0	0.0	0	0.0
138	Stratford	1030	1012	98.3	18	1.7	7	0.7	2	0.2	1	0.1
139	Suffield	226	223	98.7	3	1.3	0	0.0	0	0.0	0	0.0
140	Thomaston	156	152	97.4	4	2.6	0	0.0	0	0.0	0	0.0
141	Thompson	174	169	97.1	5	2.9	1	0.6	0	0.0	0	0.0
142	Tolland	223	223	100.0	0	0.0	0	0.0	0	0.0	0	0.0
143	Torrington	725	689	95.0	36	5.0	2	0.3	1	0.1	1	0.1
144	Trumbull	641	639	99.7	2	0.3	1	0.2	1	0.2	0	0.0
145	Union	2	2	100.0	0	0.0	0	0.0	0	0.0	0	0.0
146	Vernon	671	655	97.6	16	2.4	5	0.7	5	0.7	3	0.4
147	Voluntown	39	39	100.0	0	0.0	0	0.0	0	0.0	0	0.0
148	Wallingford	773	762	98.6	11	1.4	4	0.5	3	0.4	1	0.1
149	Warren	4	4	100.0	0	0.0	0	0.0	0	0.0	0	0.0
150	Washington	36	34	94.4	2	5.6	1	2.8	0	0.0	0	0.0
151	Waterbury	4472	4254	95.1	218	4.9	59	1.3	24	0.5	14	0.3
152	Waterford	226	225	99.6	1	0.4	0	0.0	0	0.0	0	0.0
153	Watertown	396	392	99.0	4	1.0	0	0.0	0	0.0	0	0.0
154	West Hartford	1083	1076	99.4	7	0.6	1	0.1	0	0.0	0	0.0
155	West Haven	1146	1113	97.1	33	2.9	7	0.6	2	0.2	0	0.0
156	Westbrook	69	68	98.6	1	1.4	0	0.0	0	0.0	0	0.0
157	Weston	113	113	100.0	0	0.0	0	0.0	0	0.0	0	0.0

CY 2016 Data (<6 years old)		Numbers and Percents of Confirmed Blood Lead Levels among Children Aged Less Than Six Years with a Confirmed Lead Test											
		Number of Children with Confirmed Test	0–4 µg/dL		Cumulative Statistics							
					≥ 5 µg/dL		≥ 10 µg/dL		≥ 15 µg/dL		≥ 20 µg/dL	
			Number	%	Number	%	Number	%	Number	%	Number	%
158	Westport	339	338	99.7	1	0.3	0	0.0	0	0.0	0	0.0
159	Wethersfield	447	444	99.3	3	0.7	0	0.0	0	0.0	0	0.0
160	Willington	68	68	100.0	0	0.0	0	0.0	0	0.0	0	0.0
161	Wilton	265	265	100.0	0	0.0	0	0.0	0	0.0	0	0.0
162	Winchester	195	174	89.2	21	10.8	3	1.5	0	0.0	0	0.0
163	Windham	483	452	93.6	31	6.4	6	1.2	3	0.6	2	0.4
164	Windsor	414	409	98.8	5	1.2	2	0.5	0	0.0	0	0.0
165	Windsor Locks	171	170	99.4	1	0.6	1	0.6	0	0.0	0	0.0
166	Wolcott	240	240	100.0	0	0.0	0	0.0	0	0.0	0	0.0
167	Woodbridge	113	109	96.5	4	3.5	1	0.9	1	0.9	0	0.0
168	Woodbury	120	116	96.7	4	3.3	0	0.0	0	0.0	0	0.0
169	Woodstock	117	114	97.4	3	2.6	0	0.0	0	0.0	0	0.0

Table 8.3. Incidence of lead poisoning among children under six years of age, by town and by blood lead levels – Connecticut CY 2016

Numbers and Percents of New Confirmed Blood Lead Levels													
CY 2016 Data		Number of Children with BLL ≥ 5 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥ 5 µg/dL	≥ 5 µg/dL Incidence (%)	Number of Children with BLL ≥ 10 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥10 µg/dL	≥ 10 µg/dL Incidence (%)	Number of Children with BLL ≥ 15 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥ 15 µg/dL	≥ 15 µg/dL Incidence (%)	Number of Children with BLL ≥ 20 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥ 20 µg/dL	≥ 20 µg/dL Incidence (%)
	Connecticut												
		1,231	**71,737**	**1.7 (95% CI*: 1.6-1.8)**	**324**	**72,955**	**0.4 (95% CI: 0.4-0.5)**	**149**	**73,247**	**0.2 (95% CI: 0.2-0.2)**	**81**	**73,374**	**0.1 (95% CI: 0.1-0.1)**
	By-Town												
1	**ANDOVER**	0	34	0.0	0	34	0.0	0	34	0.0	0	34	0.0
2	**ANSONIA**	12	468	2.6	7	487	1.4	3	491	0.6	0	493	0.0
3	**ASHFORD**	0	58	0.0	0	58	0.0	0	58	0.0	0	58	0.0
4	**AVON**	1	270	0.4	0	271	0.0	0	271	0.0	0	272	0.0
5	**BARKHAMSTED**	1	42	2.4	0	42	0.0	0	42	0.0	0	42	0.0
6	**BEACON FALLS**	0	73	0.0	0	74	0.0	0	74	0.0	0	74	0.0
7	**BERLIN**	0	240	0.0	0	241	0.0	0	242	0.0	0	242	0.0
8	**BETHANY**	1	73	1.4	0	74	0.0	0	75	0.0	0	75	0.0
9	**BETHEL**	3	328	0.9	1	329	0.3	1	329	0.3	0	329	0.0
10	**BETHLEHEM**	1	51	2.0	0	51	0.0	0	51	0.0	0	51	0.0
11	**BLOOMFIELD**	3	333	0.9	1	335	0.3	1	335	0.3	1	335	0.3
12	**BOLTON**	0	71	0.0	0		0.0	0	71	0.0	0	72	0.0
13	**BOZRAH**	0	21	0.0	0	22	0.0	0	22	0.0	0	22	0.0
14	**BRANFORD**	3	350	0.9	0	355	0.0	0	355	0.0	0	355	0.0
15	**BRIDGEPORT**	153	5,242	2.9	39	5,437	0.7	20	5,480	0.4	11	5,490	0.2
16	**BRIDGEWATER**	0	11	0.0	0	12	0.0	0	13	0.0	0	13	0.0
17	**BRISTOL**	12	1,140	1.1	3	1,157	0.3	3	1,159	0.3	2	1,161	0.2

Numbers and Percents of New Confirmed Blood Lead Levels													
CY 2016 Data		Number of Children with BLL ≥ 5 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥ 5 µg/dL	≥ 5 µg/dL Incidence (%)	Number of Children with BLL ≥ 10 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥10 µg/dL	≥ 10 µg/dL Incidence (%)	Number of Children with BLL ≥ 15 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥ 15 µg/dL	≥ 15 µg/dL Incidence (%)	Number of Children with BLL ≥ 20 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥ 20 µg/dL	≥ 20 µg/dL Incidence (%)
18	BROOKFIELD	2	242	0.8	0	243	0.0	0	243	0.0	0	243	0.0
19	BROOKLYN	1	111	0.9	0	111	0.0	0	111	0.0	0	112	0.0
20	BURLINGTON	0	108	0.0	0	109	0.0	0	110	0.0	0	110	0.0
21	CANAAN	1	7	14.3	0	8	0.0	0	8	0.0	0	8	0.0
22	CANTERBURY	0	61	0.0	0	62	0.0	0	62	0.0	0	62	0.0
23	CANTON	0	96	0.0	0	97	0.0	0	98	0.0	0	98	0.0
24	CHAPLIN	0	23	0.0	0	23	0.0	0	23	0.0	0	23	0.0
25	CHESHIRE	1	373	0.3	0	373	0.0	0	373	0.0	0	373	0.0
26	CHESTER	0	51	0.0	0	52	0.0	0	52	0.0	0	52	0.0
27	CLINTON	3	163	1.8	2	163	1.2	0	163	0.0	0	163	0.0
28	COLCHESTER	2	195	1.0	1	195	0.5	1	195	0.5	0	196	0.0
29	COLEBROOK	0	5	0.0	0	5	0.0	0	5	0.0	0	5	0.0
30	COLUMBIA	2	62	3.2	0	62	0.0	0	62	0.0	0	62	0.0
31	CORNWALL	0	13	0.0	0	13	0.0	0	13	0.0	0	13	0.0
32	COVENTRY	1	192	0.5	0	193	0.0	0	194	0.0	0	194	0.0
33	CROMWELL	3	277	1.1	1	278	0.4	0	278	0.0	0	278	0.0
34	DANBURY	24	2,026	1.2	5	2,059	0.2	3	2,065	0.1	0	2,067	0.0
35	DARIEN	1	476	0.2	0	476	0.0	0	476	0.0	0	476	0.0
36	DEEP RIVER	0	59	0.0	0	60	0.0	0	60	0.0	0	60	0.0
37	DERBY	1	232	0.4	2	237	0.8	0	241	0.0	0	242	0.0
38	DURHAM	0	96	0.0	0	96	0.0	0	96	0.0	0	96	0.0
39	EAST GRANBY	0	80	0.0	0	80	0.0	0	82	0.0	0	82	0.0
40	EAST HADDAM	1	105	1.0	1	106	0.9	1	106	0.9	0	106	0.0

Numbers and Percents of New Confirmed Blood Lead Levels													
CY 2016 Data		Number of Children with BLL ≥ 5 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥ 5 µg/dL	≥ 5 µg/dL Incidence (%)	Number of Children with BLL ≥ 10 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥10 µg/dL	≥ 10 µg/dL Incidence (%)	Number of Children with BLL ≥ 15 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥ 15 µg/dL	≥ 15 µg/dL Incidence (%)	Number of Children with BLL ≥ 20 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥ 20 µg/dL	≥ 20 µg/dL Incidence (%)
41	EAST HAMPTON	1	187	0.5	0	189	0.0	0	189	0.0	0	189	0.0
42	EAST HARTFORD	13	1,101	1.2	5	1,113	0.4	0	1,117	0.0	0	1,119	0.0
43	EAST HAVEN	5	503	1.0	0	509	0.0	0	511	0.0	0	511	0.0
44	EAST LYME	0	235	0.0	0	237	0.0	0	237	0.0	0	237	0.0
45	EAST WINDSOR	5	169	3.0	2	175	1.1	0	176	0.0	0	176	0.0
46	EASTFORD	1	15	6.7	0	16	0.0	0	16	0.0	0	16	0.0
47	EASTON	0	87	0.0	0	87	0.0	0	87	0.0	0	87	0.0
48	ELLINGTON	4	267	1.5	1	268	0.4	0	268	0.0	0	268	0.0
49	ENFIELD	10	718	1.4	2	728	0.3	1	730	0.1	0	731	0.0
50	ESSEX	0	55	0.0	0	55	0.0	0	55	0.0	0	55	0.0
51	FAIRFIELD	6	1,109	0.5	2	1,113	0.2	1	1,116	0.1	1	1,117	0.1
52	FARMINGTON	3	380	0.8	2	382	0.5	1	382	0.3	0	382	0.0
53	FRANKLIN	0	21	0.0	0	21	0.0	0	21	0.0	0	21	0.0
54	GLASTONBURY	2	437	0.5	0	439	0.0	0	439	0.0	0	439	0.0
55	GOSHEN	0	29	0.0	0	29	0.0	0	29	0.0	0	29	0.0
56	GRANBY	1	108	0.9	0	109	0.0	0	109	0.0	0	109	0.0
57	GREENWICH	3	1,107	0.3	1	1,110	0.1	1	1,112	0.1	1	1,112	0.1
58	GRISWOLD	2	191	1.0	0	195	0.0	0	195	0.0	0	195	0.0
59	GROTON	4	1,017	0.4	0	1,023	0.0	0	1,026	0.0	0	1,026	0.0
60	GUILFORD	0	218	0.0	0	218	0.0	0	218	0.0	0	218	0.0
61	HADDAM	2	120	1.7	2	123	1.6	1	123	0.8	1	123	0.8
62	HAMDEN	14	933	1.5	5	952	0.5	2	952	0.2	1	953	0.1
63	HAMPTON	1	28	3.6	0	28	0.0	0	29	0.0	0	29	0.0

Numbers and Percents of New Confirmed Blood Lead Levels													
CY 2016 Data		Number of Children with BLL ≥ 5 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥ 5 µg/dL	≥ 5 µg/dL Incidence (%)	Number of Children with BLL ≥ 10 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥10 µg/dL	≥ 10 µg/dL Incidence (%)	Number of Children with BLL ≥ 15 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥ 15 µg/dL	≥ 15 µg/dL Incidence (%)	Number of Children with BLL ≥ 20 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥ 20 µg/dL	≥ 20 µg/dL Incidence (%)
64	HARTFORD	112	4,175	2.7	34	4,270	0.8	13	4,281	0.3	8	4,294	0.2
65	HARTLAND	1	14	7.1	0	14	0.0	0	14	0.0	0	14	0.0
66	HARWINTON	1	62	1.6	0	63	0.0	0	64	0.0	0	64	0.0
67	HEBRON	1	88	1.1	0	89	0.0	0	89	0.0	0	89	0.0
68	KENT	0	26	0.0	0	28	0.0	0	28	0.0	0	28	0.0
69	KILLINGLY	11	331	3.3	2	340	0.6	1	341	0.3	1	342	0.3
70	KILLINGWORTH	1	75	1.3	0	75	0.0	0	75	0.0	0	75	0.0
71	LEBANON	0	74	0.0	0	75	0.0	0	76	0.0	0	76	0.0
72	LEDYARD	2	324	0.6	0	326	0.0	0	326	0.0	0	326	0.0
73	LISBON	0	39	0.0	0	39	0.0	0	39	0.0	0	39	0.0
74	LITCHFIELD	1	102	1.0	0	105	0.0	0	107	0.0	0	107	0.0
75	LYME	0	11	0.0	0	11	0.0	0	11	0.0	0	11	0.0
76	MADISON	0	189	0.0	0	189	0.0	0	189	0.0	0	189	0.0
77	MANCHESTER	27	1,484	1.8	7	1,506	0.5	5	1,512	0.3	2	1,514	0.1
78	MANSFIELD	2	130	1.5	1	131	0.8	1	131	0.8	1	131	0.8
79	MARLBOROUGH	0	87	0.0	0	87	0.0	0	87	0.0	0	87	0.0
80	MERIDEN	41	1,865	2.2	17	1,909	0.9	7	1,923	0.4	5	1,928	0.3
81	MIDDLEBURY	2	105	1.9	1	105	1.0	0	105	0.0	0	105	0.0
82	MIDDLEFIELD	0	61	0.0	0	61	0.0	0	61	0.0	0	61	0.0
83	MIDDLETOWN	8	897	0.9	1	907	0.1	1	911	0.1	1	912	0.1
84	MILFORD	5	744	0.7	0	749	0.0	0	749	0.0	0	749	0.0
85	MONROE	0	289	0.0	0	290	0.0	0	290	0.0	0	290	0.0
86	MONTVILLE	3	259	1.2	1	261	0.4	0	261	0.0	0	262	0.0

Numbers and Percents of New Confirmed Blood Lead Levels													
CY 2016 Data		Number of Children with BLL ≥ 5 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥ 5 µg/dL	≥ 5 µg/dL Incidence (%)	Number of Children with BLL ≥ 10 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥10 µg/dL	≥ 10 µg/dL Incidence (%)	Number of Children with BLL ≥ 15 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥ 15 µg/dL	≥ 15 µg/dL Incidence (%)	Number of Children with BLL ≥ 20 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥ 20 µg/dL	≥ 20 µg/dL Incidence (%)
87	MORRIS	0	23	0.0	0	23	0.0	0	23	0.0	0	23	0.0
88	NAUGATUCK	6	677	0.9	0	686	0.0	0	687	0.0	0	688	0.0
89	NEW BRITAIN	45	2,612	1.7	14	2,657	0.5	10	2,666	0.4	2	2,670	0.1
90	NEW CANAAN	3	335	0.9	1	336	0.3	1	336	0.3	0	336	0.0
91	NEW FAIRFIELD	0	187	0.0	0	188	0.0	0	188	0.0	0	188	0.0
92	NEW HARTFORD	1	80	1.3	1	81	1.2	0	81	0.0	0	81	0.0
93	NEW HAVEN	182	3,862	4.7	42	4,015	1.0	15	4,064	0.4	10	4,087	0.2
94	NEW LONDON	22	654	3.4	6	680	0.9	0	685	0.0	0	686	0.0
95	NEW MILFORD	3	418	0.7	0	424	0.0	0	426	0.0	0	426	0.0
96	NEWINGTON	1	384	0.3	0	385	0.0	0	385	0.0	0	385	0.0
97	NEWTOWN	1	262	0.4	1	264	0.4	0	264	0.0	0	264	0.0
98	NORFOLK	1	15	6.7	0	15	0.0	0	15	0.0	0	15	0.0
99	NORTH BRANFORD	0	199	0.0	0	199	0.0	0	199	0.0	0	199	0.0
100	NORTH CANAAN	1	33	3.0	0	36	0.0	0	36	0.0	0	36	0.0
101	NORTH HAVEN	1	318	0.3	1	320	0.3	0	320	0.0	0	320	0.0
102	NORTH STONINGTON	0	79	0.0	0	80	0.0	0	80	0.0	0	80	0.0
103	NORWALK	25	2,021	1.2	4	2,035	0.2	2	2,041	0.1	1	2,042	0.0
104	NORWICH	36	803	4.5	14	826	1.7	9	833	1.1	8	836	1.0
105	OLD LYME	0	83	0.0	0	83	0.0	0	83	0.0	0	84	0.0
106	OLD SAYBROOK	1	91	1.1	0	91	0.0	0	91	0.0	0	91	0.0
107	ORANGE	1	203	0.5	0	204	0.0	0	204	0.0	0	204	0.0
108	OXFORD	0	175	0.0	0	176	0.0	0	176	0.0	0	176	0.0

Numbers and Percents of New Confirmed Blood Lead Levels													
CY 2016 Data		Number of Children with BLL ≥ 5 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥ 5 µg/dL	≥ 5 µg/dL Incidence (%)	Number of Children with BLL ≥ 10 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥10 µg/dL	≥ 10 µg/dL Incidence (%)	Number of Children with BLL ≥ 15 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥ 15 µg/dL	≥ 15 µg/dL Incidence (%)	Number of Children with BLL ≥ 20 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥ 20 µg/dL	≥ 20 µg/dL Incidence (%)
109	PLAINFIELD	8	270	3.0	1	277	0.4	0	279	0.0	0	281	0.0
110	PLAINVILLE	2	263	0.8	0	264	0.0	0	264	0.0	0	264	0.0
111	PLYMOUTH	4	176	2.3	1	176	0.6	1	178	0.6	0	178	0.0
112	POMFRET	2	66	3.0	0	68	0.0	0	69	0.0	0	69	0.0
113	PORTLAND	2	148	1.4	0	149	0.0	0	149	0.0	0	149	0.0
114	PRESTON	1	51	2.0	0	51	0.0	0	51	0.0	0	51	0.0
115	PROSPECT	0	124	0.0	0	124	0.0	0	124	0.0	0	124	0.0
116	PUTNAM	7	161	4.3	2	167	1.2	1	167	0.6	0	168	0.0
117	REDDING	0	116	0.0	0	116	0.0	0	116	0.0	0	116	0.0
118	RIDGEFIELD	0	379	0.0	0	382	0.0	0	383	0.0	0	383	0.0
119	ROCKY HILL	11	425	2.6	3	428	0.7	0	428	0.0	0	428	0.0
120	ROXBURY	0	18	0.0	0	18	0.0	0	18	0.0	0	18	0.0
121	SALEM	0	62	0.0	0	63	0.0	0	63	0.0	0	63	0.0
122	SALISBURY	1	30	3.3	0	30	0.0	0	31	0.0	0	31	0.0
123	SCOTLAND	0	8	0.0	0	8	0.0	0	8	0.0	0	8	0.0
124	SEYMOUR	4	328	1.2	1	332	0.3	1	333	0.3	1	336	0.3
125	SHARON	1	20	5.0	0	22	0.0	0	22	0.0	0	22	0.0
126	SHELTON	7	674	1.0	4	680	0.6	2	682	0.3	0	682	0.0
127	SHERMAN	0	32	0.0	0	32	0.0	0	32	0.0	0	32	0.0
128	SIMSBURY	3	277	1.1	0	278	0.0	0	278	0.0	0	278	0.0
129	SOMERS	2	124	1.6	1	124	0.8	1	124	0.8	0	125	0.0
130	SOUTH WINDSOR	0	355	0.0	0	357	0.0	0	358	0.0	0	358	0.0

Numbers and Percents of New Confirmed Blood Lead Levels													
CY 2016 Data		Number of Children with BLL ≥ 5 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥ 5 µg/dL	≥ 5 µg/dL Incidence (%)	Number of Children with BLL ≥ 10 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥10 µg/dL	≥ 10 µg/dL Incidence (%)	Number of Children with BLL ≥ 15 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥ 15 µg/dL	≥ 15 µg/dL Incidence (%)	Number of Children with BLL ≥ 20 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥ 20 µg/dL	≥ 20 µg/dL Incidence (%)
131	SOUTHBURY	2	185	1.1	0	185	0.0	0	186	0.0	0	186	0.0
132	SOUTHINGTON	1	607	0.2	0	609	0.0	0	609	0.0	0	610	0.0
133	SPRAGUE	1	57	1.8	1	59	1.7	0	59	0.0	0	59	0.0
134	STAFFORD	5	154	3.2	2	160	1.3	1	163	0.6	1	163	0.6
135	STAMFORD	42	3,721	1.1	6	3,743	0.2	3	3,748	0.1	1	3,750	0.0
136	STERLING	0	43	0.0	0	45	0.0	0	45	0.0	0	45	0.0
137	STONINGTON	7	249	2.8	0	250	0.0	0	252	0.0	0	252	0.0
138	STRATFORD	14	1,016	1.4	5	1,026	0.5	2	1,028	0.2	1	1,030	0.1
139	SUFFIELD	2	224	0.9	0	226	0.0	0	226	0.0	0	226	0.0
140	THOMASTON	3	153	2.0	0	155	0.0	0	156	0.0	0	156	0.0
141	THOMPSON	4	171	2.3	1	173	0.6	0	174	0.0	0	174	0.0
142	TOLLAND	0	221	0.0	0	222	0.0	0	222	0.0	0	223	0.0
143	TORRINGTON	24	693	3.5	2	714	0.3	1	719	0.1	1	722	0.1
144	TRUMBULL	2	639	0.3	1	641	0.2	1	641	0.2	0	641	0.0
145	UNION	0	2	0.0	0	2	0.0	0	2	0.0	0	2	0.0
146	VERNON	9	654	1.4	3	667	0.4	4	670	0.6	3	671	0.4
147	VOLUNTOWN	0	39	0.0	0	39	0.0	0	39	0.0	0	39	0.0
148	WALLINGFORD	5	763	0.7	4	769	0.5	3	771	0.4	1	771	0.1
149	WARREN	0	4	0.0	0	4	0.0	0	4	0.0	0	4	0.0
150	WASHINGTON	2	34	5.9	1	36	2.8	0	36	0.0	0	36	0.0
151	WATERBURY	123	4,256	2.9	41	4,413	0.9	20	4,443	0.5	13	4,460	0.3
152	WATERFORD	1	226	0.4	0	226	0.0	0	226	0.0	0	226	0.0
153	WATERTOWN	4	392	1.0	0	395	0.0	0	396	0.0	0	396	0.0

Numbers and Percents of New Confirmed Blood Lead Levels													
CY 2016 Data		Number of Children with BLL ≥ 5 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥ 5 µg/dL	≥ 5 µg/dL Incidence (%)	Number of Children with BLL ≥ 10 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥10 µg/dL	≥ 10 µg/dL Incidence (%)	Number of Children with BLL ≥ 15 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥ 15 µg/dL	≥ 15 µg/dL Incidence (%)	Number of Children with BLL ≥ 20 µg/dL For the First Time	Total # Children Screened with No Previous BLL of ≥ 20 µg/dL	≥ 20 µg/dL Incidence (%)
154	WEST HARTFORD	5	1,073	0.5	1	1,079	0.1	0	1,081	0.0	0	1,081	0.0
155	WEST HAVEN	19	1,114	1.7	4	1,135	0.4	0	1,141	0.0	0	1,143	0.0
156	WESTBROOK	0	67	0.0	0	68	0.0	0	69	0.0	0	69	0.0
157	WESTON	0	113	0.0	0	113	0.0	0	113	0.0	0	113	0.0
158	WESTPORT	0	338	0.0	0	338	0.0	0	338	0.0	0	338	0.0
159	WETHERSFIELD	1	443	0.2	0	445	0.0	0	445	0.0	0	447	0.0
160	WILLINGTON	0	68	0.0	0	68	0.0	0	68	0.0	0	68	0.0
161	WILTON	0	265	0.0	0	265	0.0	0	265	0.0	0	265	0.0
162	WINCHESTER	10	183	5.5	0	190	0.0	0	193	0.0	0	195	0.0
163	WINDHAM	22	465	4.7	3	475	0.6	2	481	0.4	2	483	0.4
164	WINDSOR	3	410	0.7	1	412	0.2	0	413	0.0	0	414	0.0
165	WINDSOR LOCKS	0	169	0.0	1	171	0.6	0	171	0.0	0	171	0.0
166	WOLCOTT	0	239	0.0	0	240	0.0	0	240	0.0	0	240	0.0
167	WOODBRIDGE	3	110	2.7	1	112	0.9	1	113	0.9	0	113	0.0
168	WOODBURY	2	119	1.7	0	120	0.0	0	120	0.0	0	120	0.0
169	WOODSTOCK	2	113	1.8	0	115	0.0	0	116	0.0	0	117	0.0

*Abbreviation: CI = confidence interval. Where CIs are equal to the point estimate, this is because of rounding.

The children in the photos in this report are **not** lead poisoned. The goal of the Department of Public Health is for **all** children to be safe from lead poisoning.

Additional lead poisoning data can be found at http://www.ct.gov/dph/lead