

2023 Annual Childhood Lead Poisoning Surveillance Report

PROGRAM HIGHLIGHTS

- Effective January 1, 2023, the Lead Hazard Reduction and Control (LHRC) Section lowered the blood lead reference value for children from 5 µg/dL to 3.5 µg/dL, per Public Act 22-49.
- Statistics regarding children under the age of 6 in 2023:
 - 66,682 children were tested for lead.
 - The prevalence of children with lead levels greater than ≥ 5 µg/dL has steadily decreased since 2017 until 2023.
 - Incidence has decreased in 2023 with a total of 336 new cases of children younger than 6 years old lead poisoned (≥ 5 µg/dL).
- Both Non-Hispanic Black children and Hispanic children have a higher risk of lead poisoning compared to their Non-Hispanic counterparts, with rates of 6.3%, 3.8%, and 2.3% respectively.
- Deteriorated paint at dwelling units continues to be the most common source of lead exposure among young children; 84% of units inspected were identified with lead-based paint.
- Birth cohort analyses of children in 2023 showed that 100% were tested at least once by the age of 3. Seventy-eight percent of children were tested twice before turning age 3, which was a 5% increase compared to 2022.

Connecticut Department of Public Health
Lead Poisoning Prevention Program
Lead Hazard Reduction and Control Section

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www.ct.gov/dph/preventlead

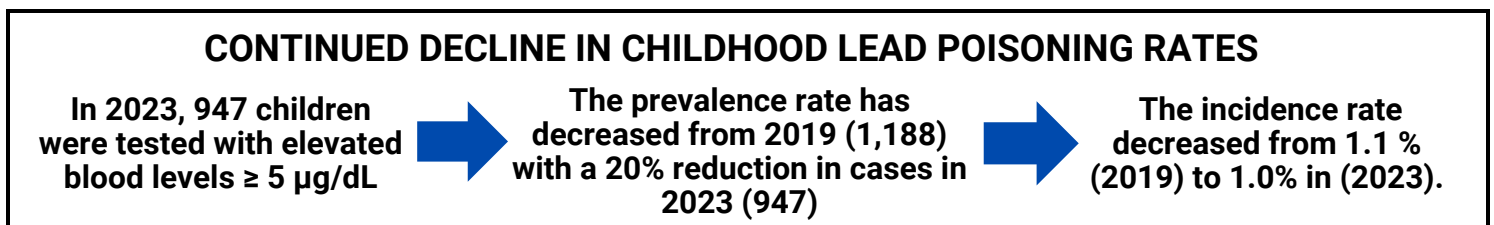


1. BACKGROUND

Childhood lead poisoning is a common pediatric public health problem, yet it is entirely preventable. Lead paint in homes built before 1978 continues to be the most common source of lead exposure. Lead harms children's nervous systems and is associated with reduced IQ, behavioral problems, and learning disabilities, among other health outcomes. Once a child has been poisoned, the impairment it may cause is irreversible. The LHRC Section is dedicated to reducing childhood lead poisoning by promoting mandatory blood lead testing, reporting, surveillance, and linking families to services and targeted interventions.

This executive report summarizes the annual findings from blood lead surveillance for Connecticut children under the age of 6 years in 2023 and reviews the program's accomplishments in addressing this public health issue.

Under Connecticut Public Act 22-49, the Lead Hazard Reduction and Control (LHRC) Section lowered the blood lead reference value from 5 µg/dL to 3.5 µg/dL on January 1, 2023. Connecticut local health departments are required to initiate case management actions for children with a blood level of ≥ 3.5 µg/dL. This report defines a venous level of 3.5 µg/dL and greater as an elevated blood lead level.



Confirmatory Screening of Elevated Blood Lead Levels

The DPH LHRC Section requires venous confirmation of capillary blood lead levels ≥ 3.5 µg/dL. Children with venous levels at or above 3.5 µg/dL receive education on lead exposure, proper nutrition, and medical monitoring from their local health department.

Capillary blood lead testing is a useful tool for preliminary lead screening. For capillary test results ≥ 3.5 µg/dL, local health department staff contact parents to ensure the child receives a confirmation venous test within the appropriate follow-up window.

Blood Lead Screening

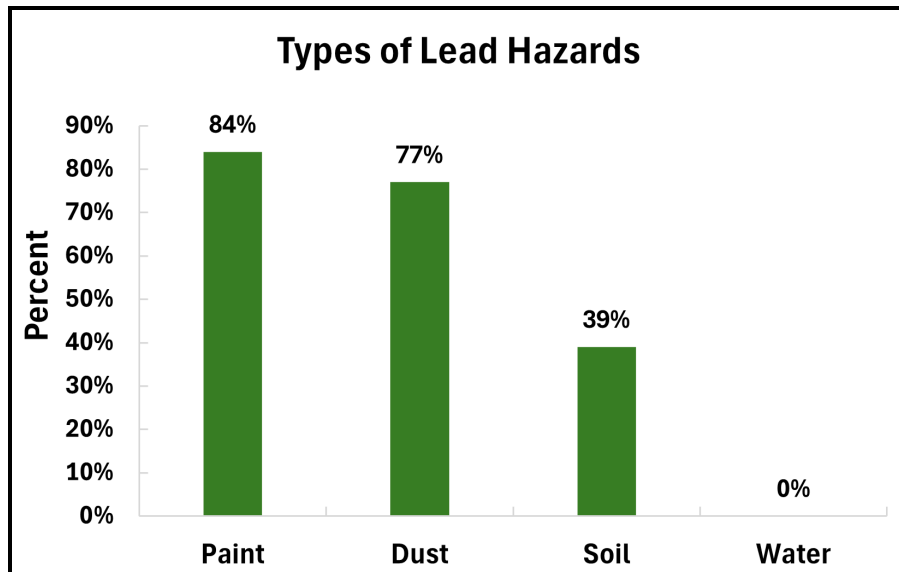
In 2023, 66,682 children under the age of 6 were tested. There was a decrease of 58 children with elevated blood lead levels at ≥ 5 µg/dL and greater identified from 2022 (1,005 children) to 2023 (947 children), reflecting a 6% decrease in the number of children who are considered lead poisoned.

With the adoption of the new blood lead reference value of 3.5 µg/dL, the number of children lead poisoned increased to 1,669.

Lead Hazards By Type

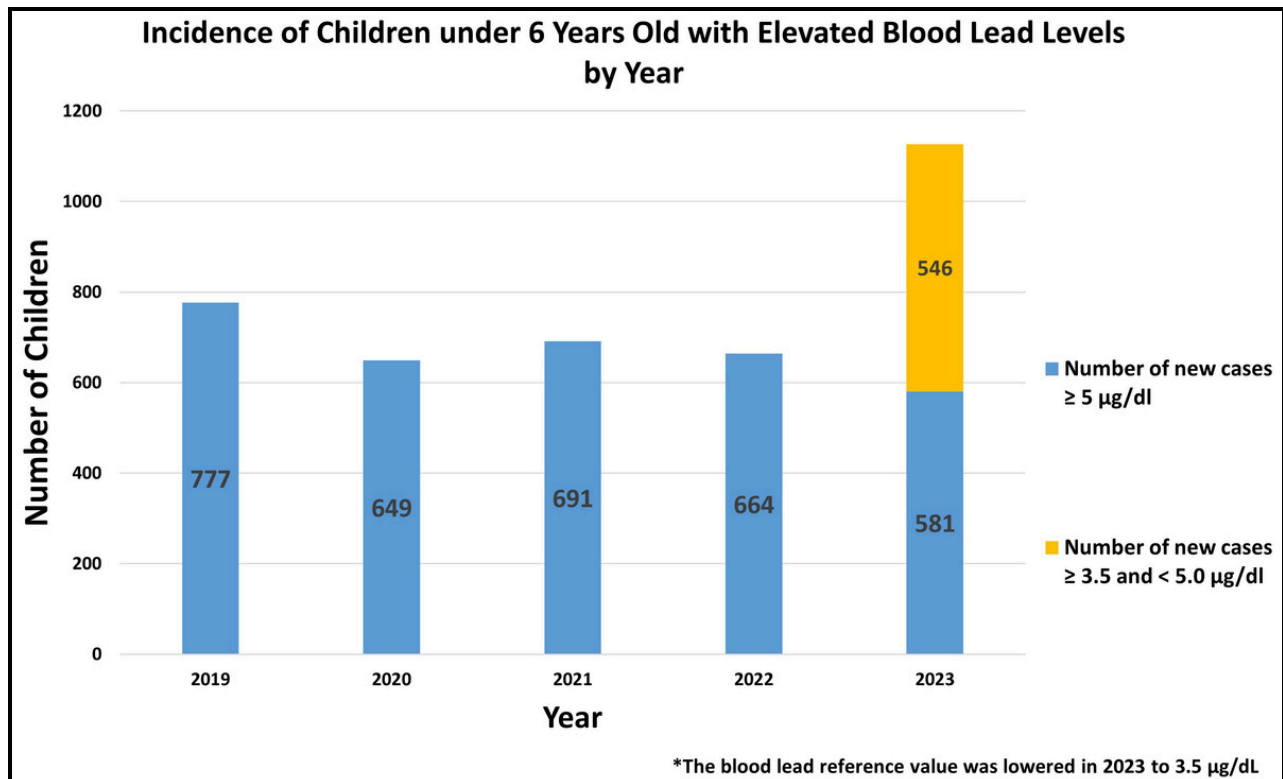
In 2023, deteriorated paint in dwelling units continued to be the most common source of lead exposure among young children. Of the 96 residences investigated, a total of 81 (84%) were identified with a lead-

based paint hazard, 74 (77%) were identified with a lead dust hazard, 37 (39%) were identified with a lead soil hazard, and 0 (0%) were identified with a lead in drinking water hazard.



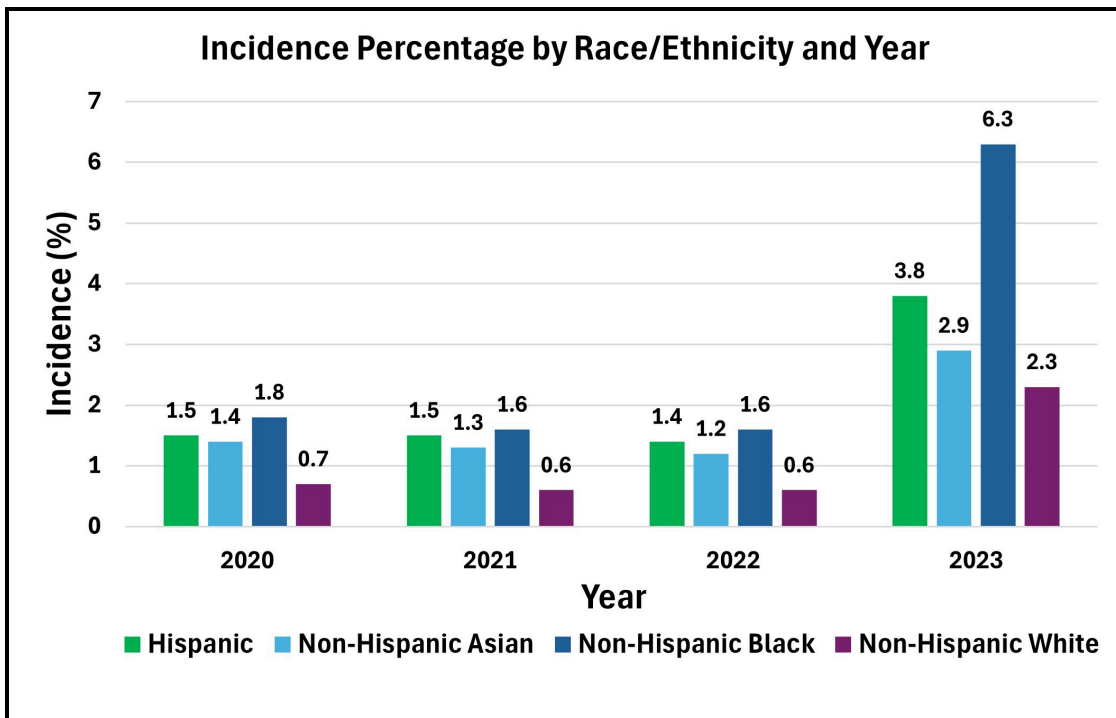
2. INCIDENCE AND RISK

Effective January 1, 2023, per Public Act 22-49, the LHRC Section lowered the blood lead reference value for children from 5 µg/dL to 3.5 µg/dL. In 2023, the blood lead reference value was lowered to 3.5 µg/dL resulting in 1,127 new cases of children under the age of 6 with elevated blood lead levels. There was a 12.5% decrease in incidence from 2022 to 2023 for results ≥ 5 µg/dL, with 664 new cases in 2022 and 581 new cases in 2023 at the previous reference level of ≥ 5 µg/dL.

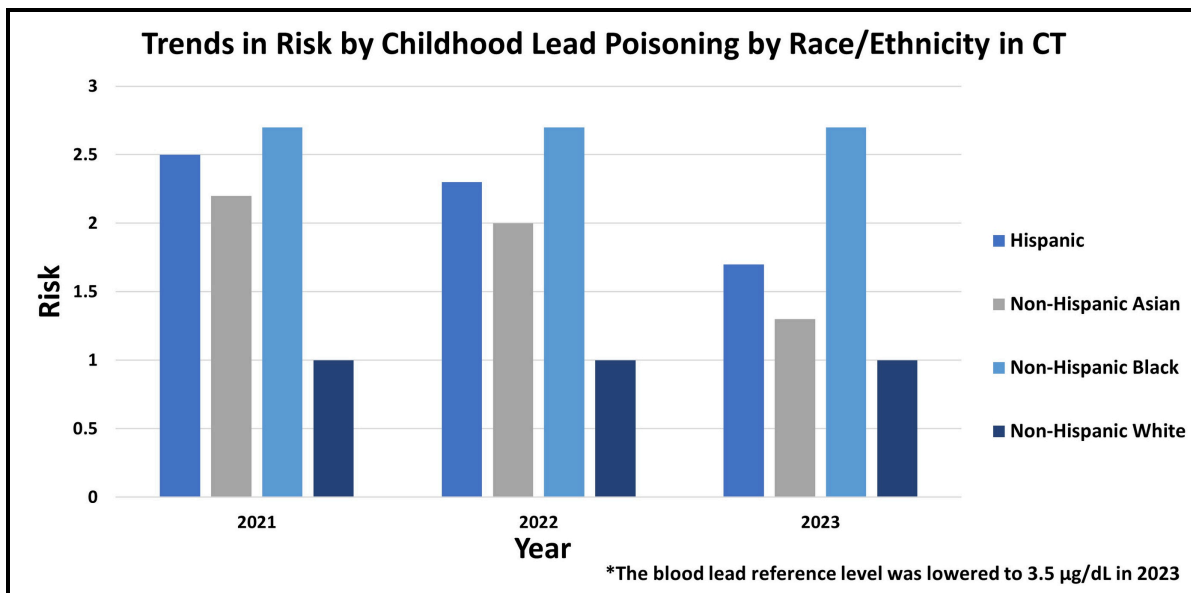


The incidence rate of Non-Hispanic Black children (6.3%), Non-Hispanic Asian children (2.9%), and Hispanic children (3.8%) showed a disparity compared to Non-Hispanic White children (2.3%). These percentages

demonstrate an elevated risk for all groups, with Non-Hispanic Black children at the highest risk as compared to Non-Hispanic White children. The increased incidence percentages seen in the below graph are in-part due to the lowering of the blood lead risk threshold, from 5 µg/dL to 3.5 µg/dL.



While all race and ethnicity groups in Connecticut were shown to have an increased risk of lead poisoning, Non-Hispanic Black children were 2.7 times as likely to be lead poisoned than Non-Hispanic White children. Hispanic children were 1.7 times as likely to be lead poisoned than Non-Hispanic White children.



Although lead continues to affect children in all communities across Connecticut, data collected by the LHRC Section shows that lead exposure disproportionately impacts lower-income communities and communities of color, making lead exposure a critical health equity issue.

3. HEALTH EQUITY

Figure 1: Number of Cases $\geq 3.5 \mu\text{g/dL}$ by Town Among Children Under 6 Years Old

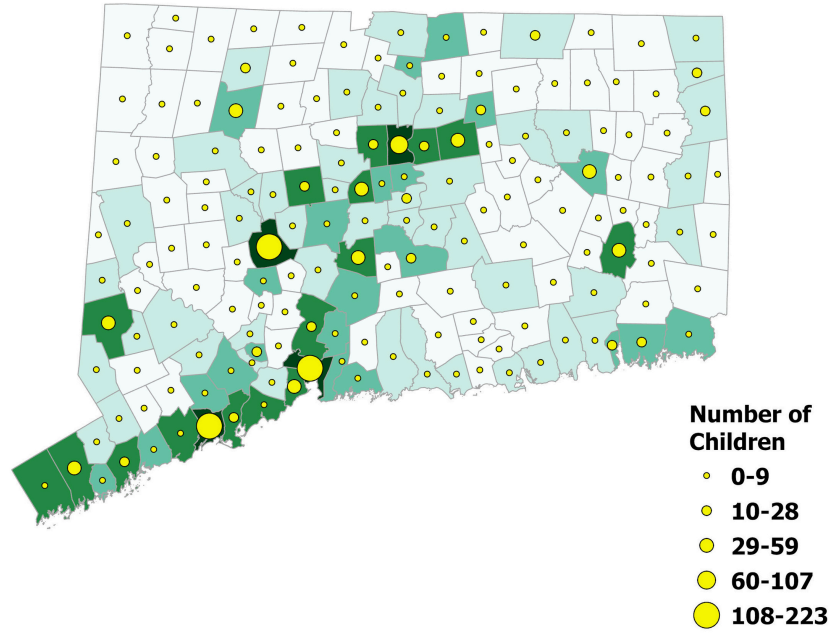


Figure 2: Number of Cases $\geq 3.5 \mu\text{g/dL}$ by Town Among Children Under 6 Years Old

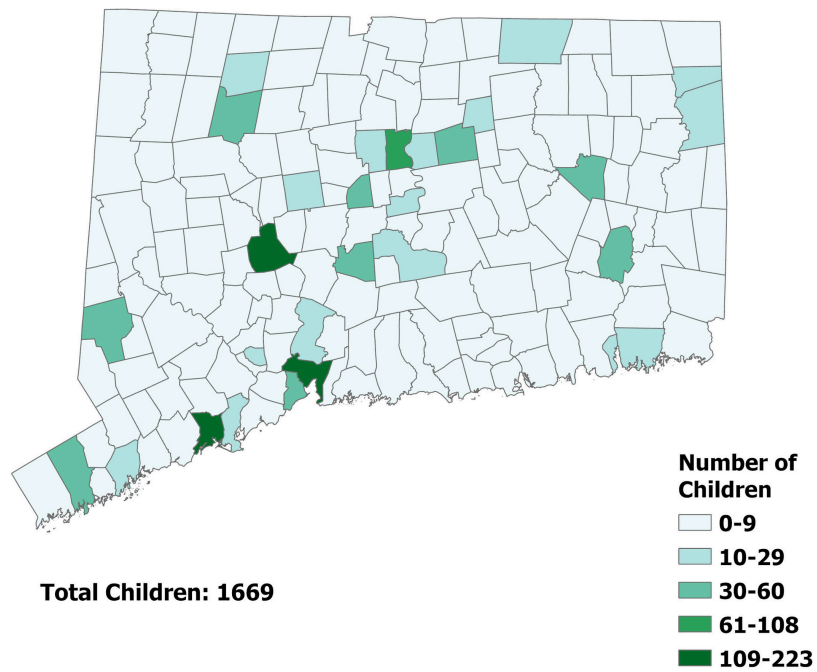
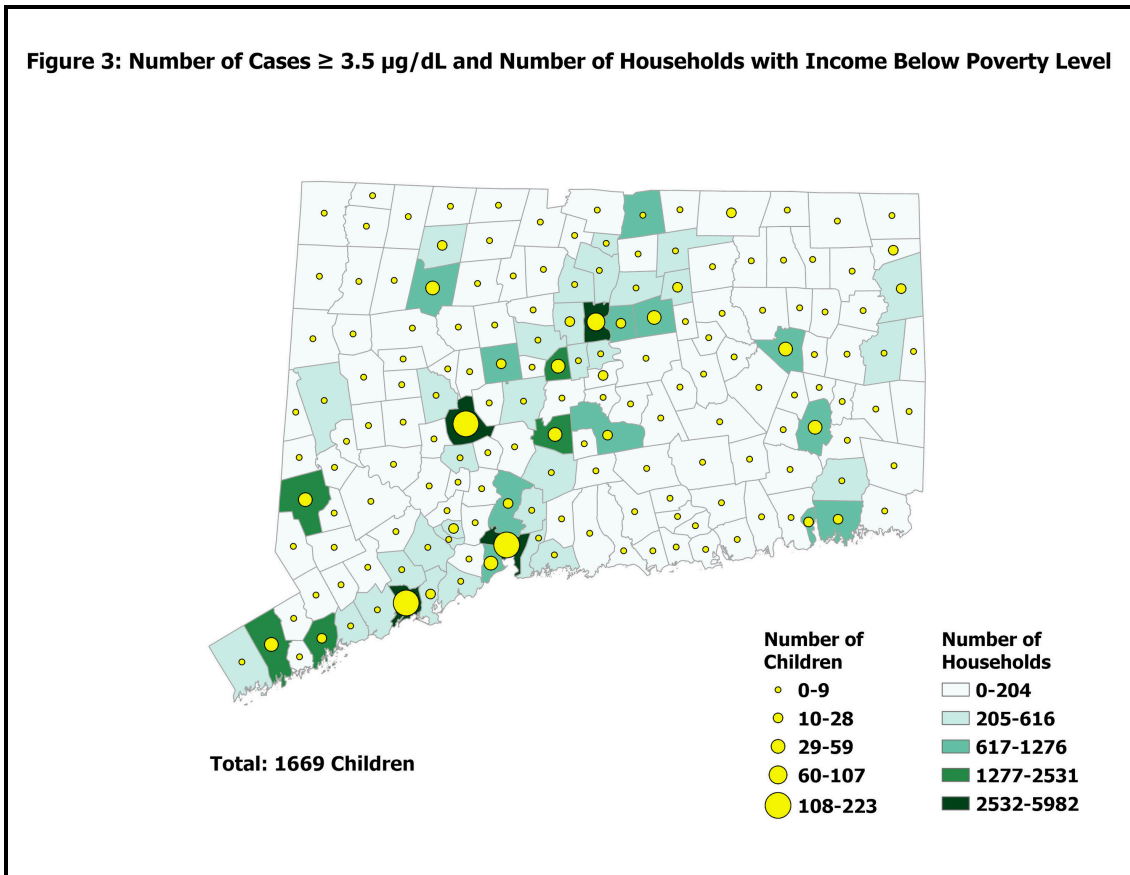
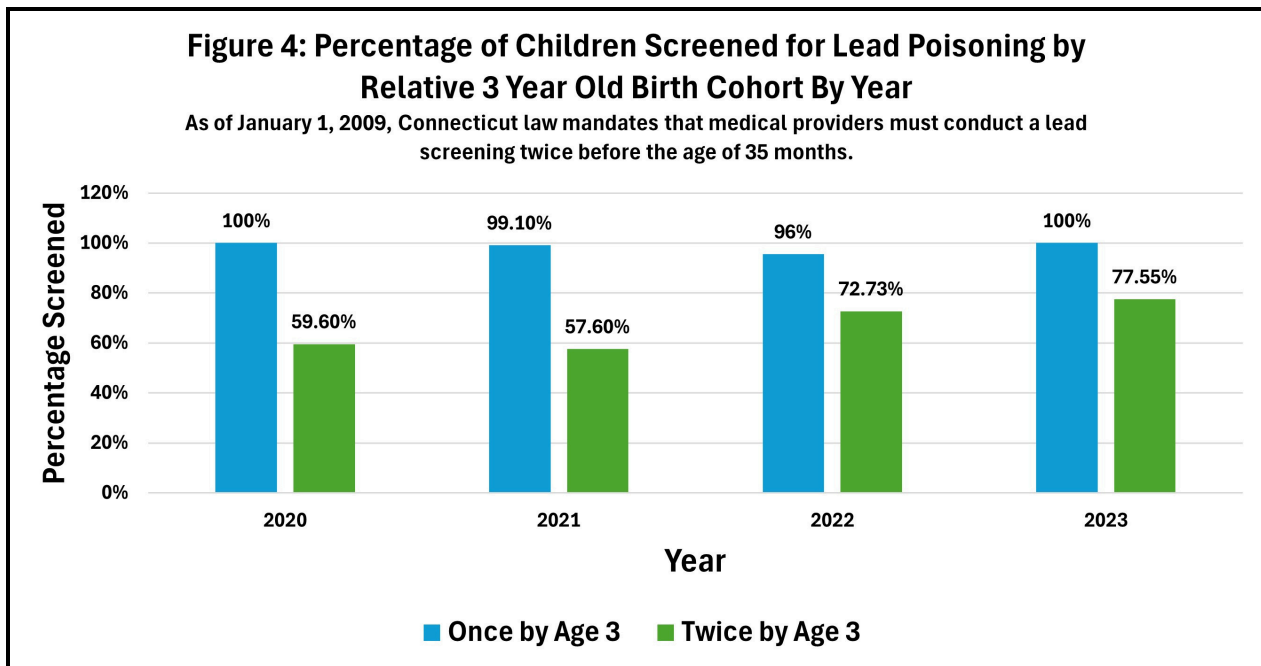


Figure 3: Number of Cases $\geq 3.5 \mu\text{g}/\text{dL}$ and Number of Households with Income Below Poverty Level



4. COMPLIANCE WITH MANDATORY UNIVERSAL SCREENING

In 2023, 66,682 children under the age of 6 were tested for lead in Connecticut. Birth cohort analyses of children who turned 3 years old in 2023 showed that 100% of children were tested at least once by the age of 3 years old. However, only 77.6% were tested twice before turning 3 years old as [state law requires](#).



The effectiveness of the universal screening law for children under the age of three was evaluated by assessing the screening rate among the 2023 birth cohort (children turning three years old in 2023). The analysis used the

total number of children who received a lead test while residing in Connecticut as the numerator, regardless of where the child was born, divided by the total number of births in 2020 from the Connecticut Vital Registry. 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. This approach may lead to screening rates above 100%.

5. HIGH-RISK COMMUNITIES

Each year, the LHRC Section identifies communities with a higher risk of childhood lead poisoning to better target resources and reduce health inequities associated with lead exposure in those communities. DPH determines risk by examining rates of newly poisoned children, the age of housing, and income levels for each of Connecticut's 169 towns.

In 2023, 995 of the 1,669 (60%) elevated blood lead levels occurred in the following 10 towns: New Haven, Bridgeport, Waterbury, Hartford, Meriden, New Britain, Norwich, Danbury, Stamford, and West Haven.

2023 High-Risk Communities in Connecticut

- | | |
|---------------|----------------|
| 1. New Haven | 6. New Britain |
| 2. Bridgeport | 7. Norwich |
| 3. Waterbury | 8. Danbury |
| 4. Hartford | 9. Stamford |
| 5. Meriden | 10. West Haven |

TOWN	Total Screened	< 3.5 µg/dL	≥ 3.5 µg/dL	≥ 5 µg/dL	≥ 10 µg/dL	≥ 15 µg/dL	≥ 20 µg/dL
2023 Totals	66682	65013	1669	947	258	115	50
Andover	50	49	1	1	0	0	0
Ansonia	415	403	12	8	0	0	0
Ashford	74	74	0	0	0	0	0
Avon	290	290	0	0	0	0	0
Barkhamsted	40	40	0	0	0	0	0
Beacon Falls	81	79	2	2	0	0	0
Berlin	267	266	1	1	0	0	0
Bethany	71	71	0	0	0	0	0
Bethel	281	277	4	2	0	0	0
Bethlehem	44	44	0	0	0	0	0
Bloomfield	295	293	2	1	1	1	0
Bolton	88	86	2	1	1	1	0
Bozrah	32	0	0	0	0	0	0
Branford	367	359	8	4	2	0	0
Bridgeport	3940	3748	192	103	32	16	5
Bridgewater	15	15	0	0	0	0	0
Bristol	1183	1160	23	11	5	5	2
Brookfield	173	172	1	1	0	0	0
Brooklyn	118	116	2	0	0	0	0
Burlington	159	157	2	2	1	0	0
Canaan	5	5	0	0	0	0	0
Canterbury	79	77	2	1	0	0	0
Canton	149	146	3	1	0	0	1
Chaplin	25	0	0	0	0	0	0
Cheshire	447	446	1	0	0	0	0
Chester	40	40	0	0	0	0	0
Clinton	194	194	0	0	0	0	0
Colchester	267	267	0	0	0	0	0
Colebrook	16	16	0	0	0	0	0
Columbia	74	72	2	1	0	0	0
Cornwall	17	17	0	0	0	0	0

TOWN	Total Screened	< 3.5 µg/dL	≥ 3.5 µg/dL	≥ 5 µg/dL	≥ 10 µg/dL	≥ 15 µg/dL	≥ 20 µg/dL
Coventry	239	238	1	1	0	0	0
Cromwell	192	190	2	1	0	0	0
Danbury	1713	1677	36	17	4	1	0
Darien	537	537	0	0	0	0	0
Deep River	59	57	2	0	0	0	0
Derby	235	228	7	5	2	1	0
Durham	120	119	1	0	0	0	0
East Granby	103	100	3	1	0	0	0
East Haddam	118	115	3	2	1	0	0
East Hampton	196	196	0	0	0	0	0
East Hartford	1026	1006	20	11	0	0	0
East Haven	469	462	7	7	2	1	0
East Lyme	229	228	1	0	0	0	0
East Windsor	215	210	5	1	1	1	0
Eastford	20	0	0	0	0	0	0
Easton	155	154	1	0	0	0	0
Ellington	305	300	5	3	2	1	0
Enfield	737	729	8	6	1	0	0
Essex	69	69	0	0	0	0	0
Fairfield	1162	1155	7	3	0	0	0
Farmington	424	420	4	2	1	0	0
Franklin	19	0	0	0	0	0	0
Glastonbury	552	551	1	0	0	0	0
Goshen	30	30	0	0	0	0	0
Granby	152	152	0	0	0	0	0
Greenwich	884	875	9	4	1	0	0
Griswold	173	169	4	3	1	0	0
Groton	615	602	13	8	2	2	0
Guilford	193	191	2	0	0	0	0
Haddam	112	111	1	1	0	0	0
Hamden	917	888	29	18	7	4	1
Hampton	36	0	0	0	0	0	0

TOWN	Total Screened	< 3.5 µg/dL	≥ 3.5 µg/dL	≥ 5 µg/dL	≥ 10 µg/dL	≥ 15 µg/dL	≥ 20 µg/dL
Hartford	2866	2758	108	54	15	9	6
Hartland	20	20	0	0	0	0	0
Harwinton	101	100	1	1	0	0	0
Hebron	159	158	1	1	0	0	0
Kent	21	21	0	0	0	0	0
Killingly	362	346	16	8	1	0	0
Killingworth	86	86	0	0	0	0	0
Lebanon	118	115	3	1	0	0	0
Ledyard	261	260	1	1	0	0	0
Lisbon	42	0	0	0	0	0	0
Litchfield	113	108	5	1	0	0	0
Lyme	19	17	2	0	0	0	0
Madison	211	210	1	0	0	0	0
Manchester	1259	1224	35	22	5	4	3
Mansfield	139	136	3	2	1	1	0
Marlborough	123	123	0	0	0	0	0
Meriden	1534	1474	60	29	4	2	1
Middlebury	87	84	3	2	1	0	0
Middlefield	54	54	0	0	0	0	0
Middletown	697	682	15	6	1	0	0
Milford	963	955	8	3	1	0	0
Monroe	304	302	2	2	0	0	0
Montville	259	255	4	3	2	1	0
Morris	33	0	0	0	0	0	0
Naugatuck	501	493	8	6	1	0	0
New Britain	2120	2066	54	30	17	9	4
New Canaan	447	442	5	0	0	0	0
New Fairfield	180	180	0	0	0	0	0
New Hartford	109	108	1	1	0	0	0
New Haven	3443	3220	223	132	28	8	4
New London	476	457	19	11	3	1	0
New Milford	401	397	4	1	0	0	0

TOWN	Total Screened	< 3.5 µg/dL	≥ 3.5 µg/dL	≥ 5 µg/dL	≥ 10 µg/dL	≥ 15 µg/dL	≥ 20 µg/dL
Newington	464	458	6	2	1	1	1
Newtown	445	442	3	1	0	0	0
Norfolk	7	7	0	0	0	0	0
North Branford	194	192	2	1	0	0	0
North Canaan	29	24	5	4	2	0	0
North Haven	361	359	2	2	0	0	0
North Stonington	69	69	0	0	0	0	0
Norwalk	1694	1673	21	15	4	1	0
Norwich	716	676	40	26	11	4	1
Old Lyme	88	87	1	1	0	0	0
Old Saybrook	95	94	1	0	0	0	0
Orange	247	246	1	1	0	0	0
Oxford	194	192	2	1	0	0	0
Plainfield	221	214	7	5	0	0	0
Plainville	262	260	2	2	0	0	0
Plymouth	213	211	2	0	0	0	0
Pomfret	71	69	2	1	0	0	0
Portland	148	146	2	1	1	1	1
Preston	43	0	0	0	0	0	0
Prospect	124	124	0	0	0	0	0
Putnam	172	157	15	10	4	2	1
Redding	140	139	1	0	0	0	0
Ridgefield	360	359	1	0	0	0	0
Rocky Hill	340	324	16	8	0	0	0
Roxbury	20	20	0	0	0	0	0
Salem	70	69	1	1	0	0	0
Salisbury	15	0	0	0	0	0	0
Scotland	5	5	0	0	0	0	0
Seymour	317	313	4	2	0	0	0
Sharon	14	14	0	0	0	0	0
Shelton	646	641	5	3	0	0	0
Sherman	41	41	0	0	0	0	0

TOWN	Total Screened	< 3.5 µg/dL	≥ 3.5 µg/dL	≥ 5 µg/dL	≥ 10 µg/dL	≥ 15 µg/dL	≥ 20 µg/dL
Simsbury	417	415	2	1	0	0	0
Somers	160	158	2	2	1	1	1
South Windsor	496	488	8	3	1	1	0
Southbury	217	217	0	0	0	0	0
Southington	657	651	6	4	2	2	1
Sprague	37	0	0	0	0	0	0
Stafford	192	182	10	6	2	0	0
Stamford	3297	3245	52	23	5	1	1
Sterling	51	49	2	1	0	0	0
Stonington	213	208	5	4	2	0	0
Stratford	1007	997	10	7	2	2	1
Suffield	191	190	1	1	0	0	0
Thomaston	120	118	2	2	0	0	0
Thompson	167	160	7	7	1	1	0
Tolland	312	311	1	0	0	0	0
Torrington	588	554	34	15	6	4	2
Trumbull	573	570	3	3	0	0	0
Union	9	9	0	0	0	0	0
Vernon	612	597	15	10	2	2	1
Voluntown	31	29	2	1	0	0	0
Wallingford	654	648	6	2	1	0	0
Warren	7	7	0	0	0	0	0
Washington	35	0	0	0	0	0	0
Waterbury	3677	3492	185	118	31	13	7
Waterford	216	211	5	2	0	0	0
Watertown	298	295	3	2	0	0	0
West Hartford	1217	1203	14	7	3	1	1
West Haven	1098	1053	45	30	10	2	1
Westbrook	60	60	0	0	0	0	0
Weston	172	171	1	0	0	0	0
Westport	472	469	3	2	0	0	0
Wethersfield	474	469	5	4	0	0	0

TOWN	Total Screened	< 3.5 µg/dL	≥ 3.5 µg/dL	≥ 5 µg/dL	≥ 10 µg/dL	≥ 15 µg/dL	≥ 20 µg/dL
Wilmington	91	89	2	0	0	0	0
Wilton	332	330	2	2	2	2	1
Winchester	169	154	15	9	2	1	1
Windham	439	406	33	25	8	3	0
Windsor	501	494	7	2	1	0	0
Windsor Locks	204	203	1	1	1	0	0
Wolcott	213	211	2	2	1	0	0
Woodbridge	143	143	0	0	0	0	0
Woodbury	99	98	1	0	0	0	0
Woodstock	129	125	4	2	1	0	0