

2021 Annual Childhood Lead Poisoning Surveillance Report

PROGRAM HIGHLIGHTS

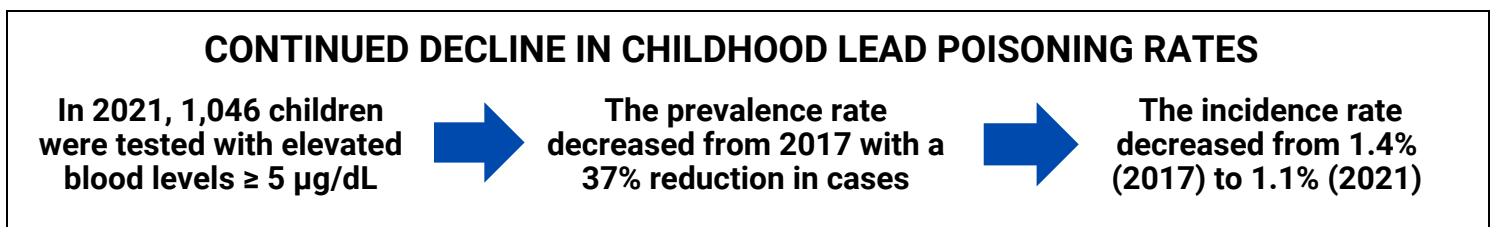
- Statistics regarding children under the age of 6 in 2021.
 - 61,574 children were tested for lead.
 - The prevalence of children with lead levels greater than $\geq 5 \mu\text{g/dL}$ has steadily decreased over the last four years from 1.4% to 1.1% (2017 to 2021).
 - The Lead Hazard Reduction and Control (LHRC) Section identified a total of 691 new cases of childhood lead poisoning ($\geq 5 \mu\text{g/dL}$).
- Both Non-Hispanic Blacks and Hispanics have a higher risk of lead poisoning compared to their non-Hispanic counterparts, with rates of 1.6%, 1.5%, and 0.6% respectively.
- Deteriorated paint at dwelling units continues to be the most common source of lead exposure among young children; 76% of units inspected were identified with lead-based paint.
- Birth cohort analyses of children who turned 3 years old in 2021 showed that 100% of children were tested at least once by the age of 3 years old. However, only 58.1% were tested twice before turning 3 years old as state law required.

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, and surveillance, as well as 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 2021 and reviews the program's accomplishments in addressing this public health issue.

In May 2012, the CDC recommended a new blood lead reference value of 5 µg/dL, for lead poisoning among young children. The State of Connecticut adopted the new blood lead reference value in May 2013. As such, Connecticut Local Health Departments (LHDs) are required to initiate case management actions for children with a blood level of ≥ 5 µg/dL. This report defines a venous level of 5 µg/dL and greater as an elevated blood lead level.



Confirmatory Screening of Elevated Blood Lead Levels

The LHRC Section requires venous confirmation of capillary blood lead levels ≥ 5 µg/dL. Children with venous levels at or above 5 µg/dL receive education on lead exposure, proper nutrition, and medical monitoring from their local health department.

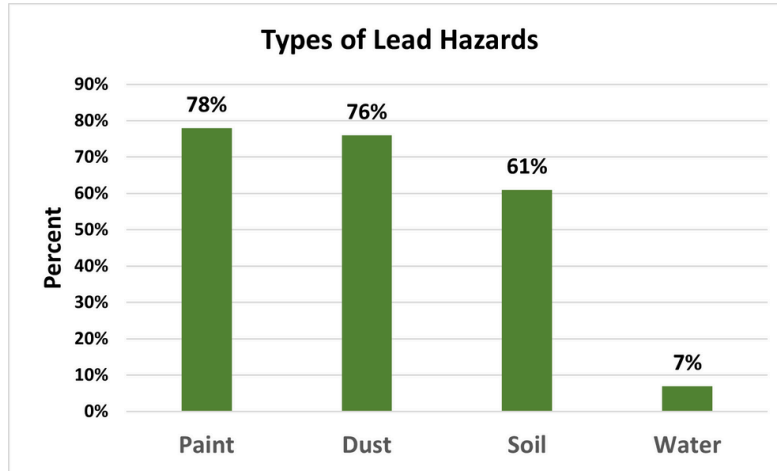
Capillary blood lead testing is a useful tool for preliminary lead screening. For capillary test results ≥ 5 µg/dL, local health department staff contact parents to ensure the child receives a confirmation venous test within the appropriate follow-up window.

Blood Lead Screening

In 2021, 61,574 children under the age of 6 were tested. Compared to the previous year, there was an increase of 22 children with elevated blood lead levels at 5 µg/dL and greater (1,046 children in 2021 compared with 1,024 children in 2020). This reflects a 2% increase in the number of children who are considered lead poisoned.

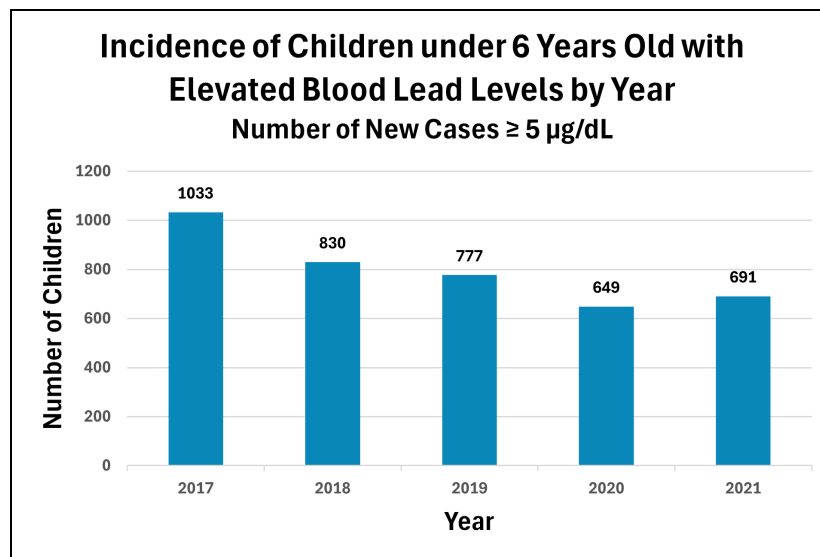
Lead Hazards By Type

In Connecticut, 71% of the housing stock was built before 1980 and 44% before 1960. In 2021, deteriorated paint in dwelling units continued to be the most common source of lead exposure among young children. Of the 41 residences investigated, a total of 32 (78%) were identified with a lead-based paint hazard, 31 (76%) were identified with a lead dust hazard, 25 (61%) were identified with a lead soil hazard, and 3 (7%) were identified with a lead in drinking water hazard.

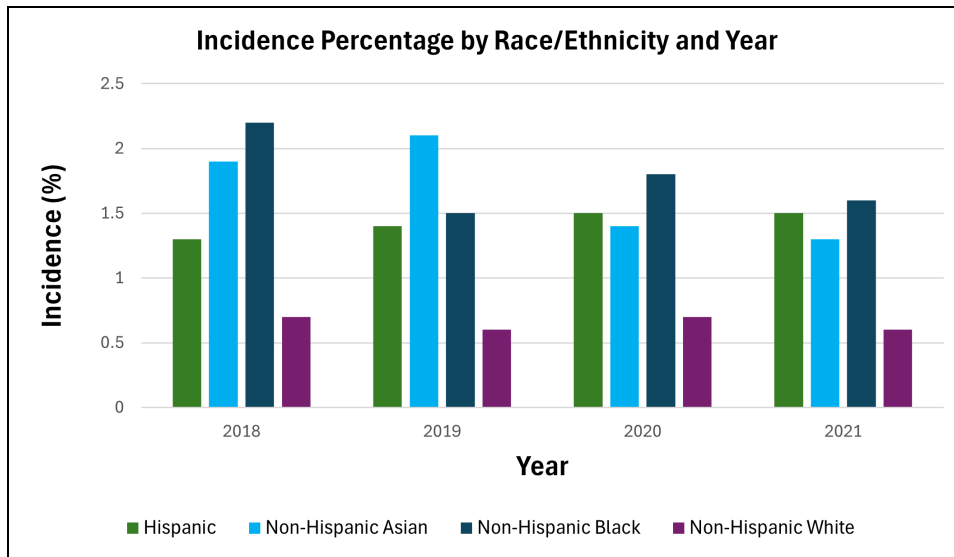


2. INCIDENCE AND RISK

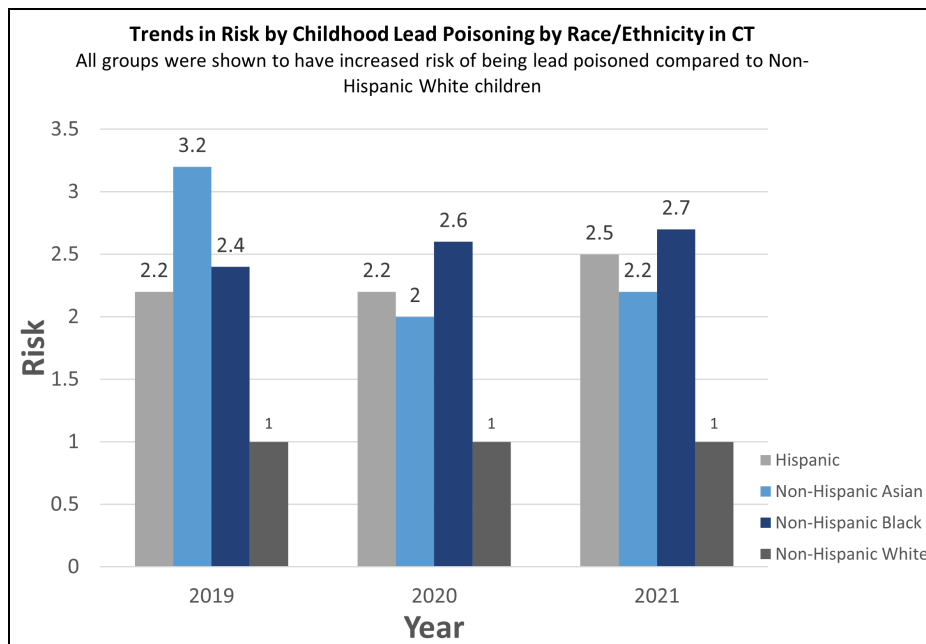
In 2021, there were 700 new cases of children under the age of 6 with elevated blood lead levels. There were minimal changes in incidence from 2020 to 2021. These rates are a stark contrast to the rates from 2017, with 1,000 new cases and 800 new cases in 2018.



The incidence rate of Non-Hispanic Blacks (1.6%), Non-Hispanic Asians (1.3%), and Hispanics (1.5%) showed a disparity compared to Non-Hispanic Whites (0.6%), demonstrating an elevated risk by at least two-fold for all groups as compared to Non-Hispanic Whites.



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 2.5 times as likely to be lead poisoned than Non-Hispanic White children.



While 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. Outdated housing policies have influenced segregation and limited opportunities for home ownership, leading to increased risk factors in many communities. Risk factors include older housing stock, housing that is not well maintained, and fewer owner-occupied housing units throughout the state.

3. HEALTH EQUITY

Figure 1: Number of Cases $\geq 5 \mu\text{g/dL}$ By Town Among Children Under 6 Years Old

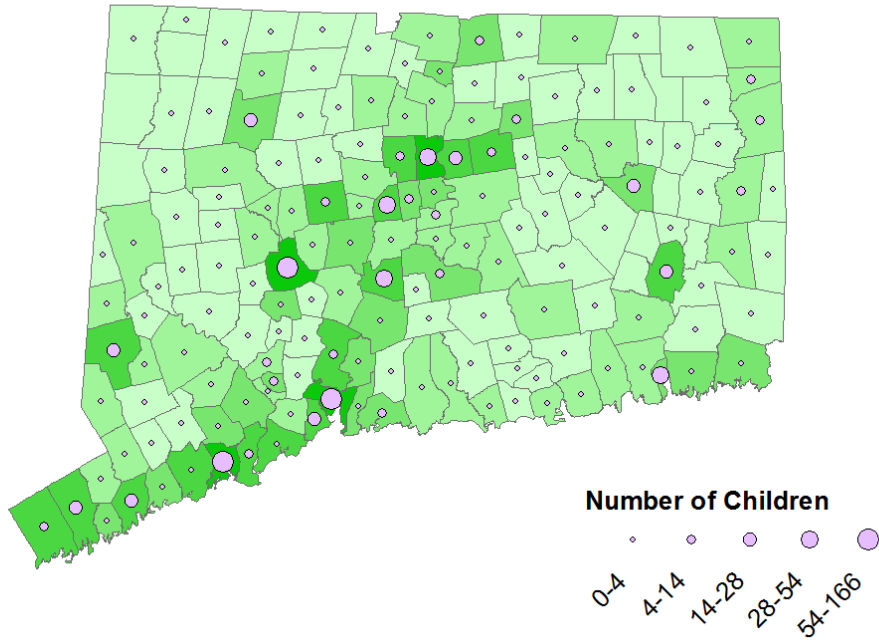


Figure 2: Number of Children $\geq 5 \mu\text{g/dL}$ Under 6 Years Old

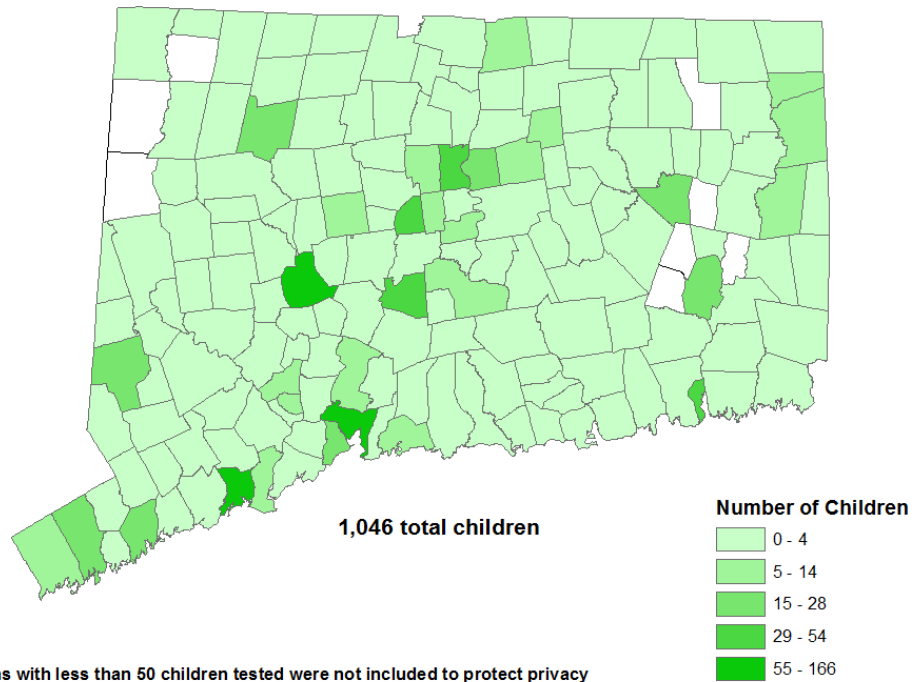
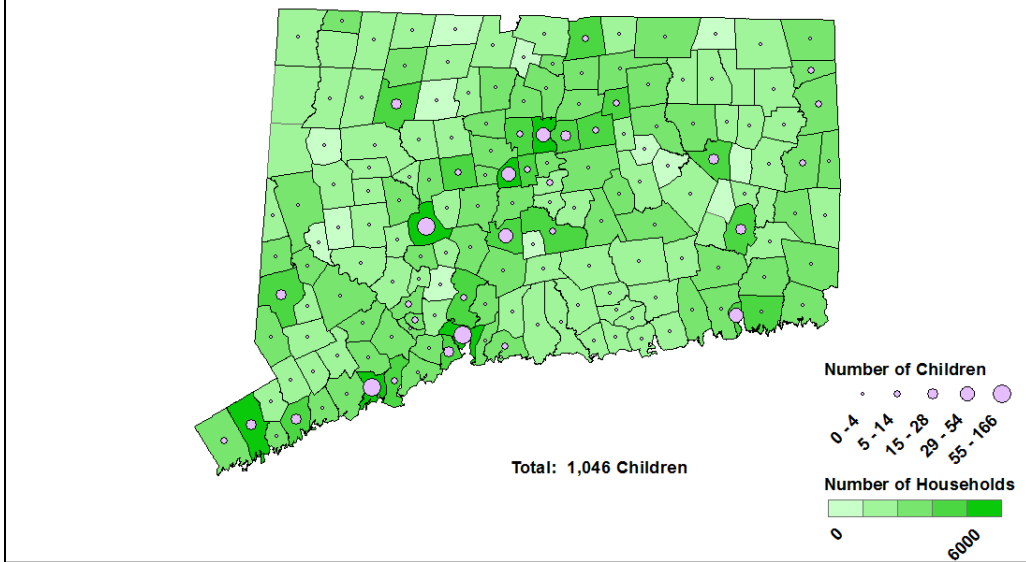
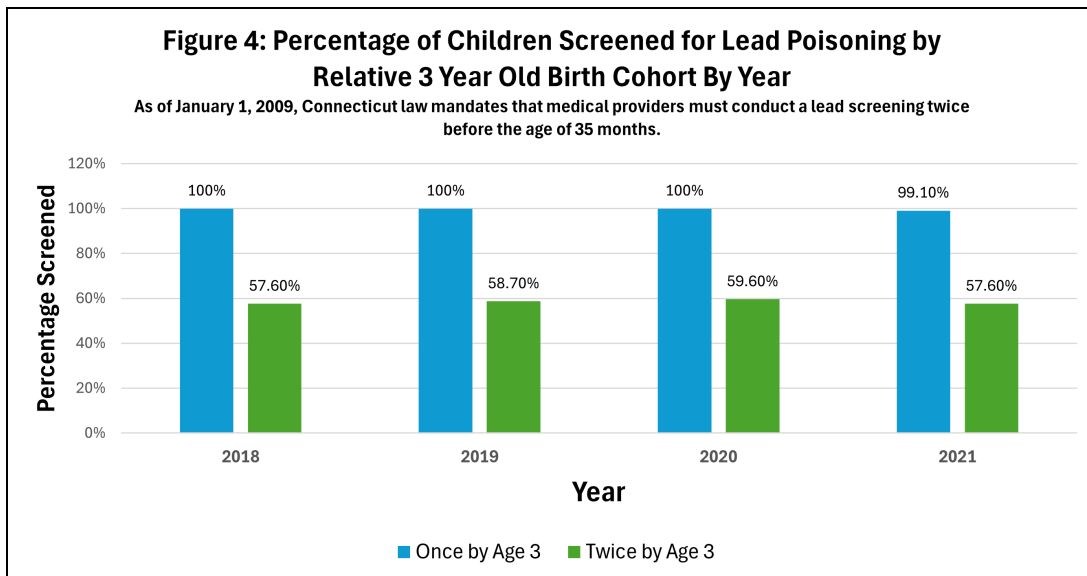


Figure 3: Number of Cases $\geq 5 \mu\text{g/dL}$ and Number of Households with Income Below Poverty Level



4. COMPLIANCE WITH MANDATORY UNIVERSAL SCREENING

In 2021, 61,322 children under age 6 were tested for lead in Connecticut. In 2021, birth cohort analyses of children showed that 100% of children were tested at least once by the age of 3. However, only 58.1% 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 2021 birth cohort (children turning three years old in 2021). 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 2018 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. The LHRC Section determines risk by examining rates of newly poisoned children, the age of housing, and income levels for each of Connecticut's 169 towns. In 2021, 659 of the 1046 (63%) elevated blood lead levels cases occurred in the following 10 towns: New Haven, Bridgeport, Waterbury, Hartford, Meriden, New Britain, Norwich, New London, Stamford, and West Haven.

2021 High-Risk Communities in Connecticut

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

Official Town	Total Confirmed Tests	< 5 µg/dL	> 5 µg/dL	> 10 µg/dL	> 15 µg/dL	> 20 µg/dL
2021 Totals	61322	60276	1046	300	112	70
Andover	38	38	0	0	0	0
Ansonia	397	384	13	4	0	0
Ashford	60	59	1	0	0	0
Avon	219	219	0	0	0	0
Barkhamsted	35	35	0	0	0	0
Beacon Falls	81	80	1	0	0	0
Berlin	247	247	0	0	0	0
Bethany	73	73	0	0	0	0
Bethel	298	295	3	0	0	0
Bethlehem	34	34	0	0	0	0
Bloomfield	261	259	2	0	0	0
Bolton	72	71	1	0	0	0
Bozrah	27	S	S	0	0	0
Branford	339	334	5	1	0	0
Bridgeport	4281	4132	149	38	10	5
Bridgewater	21	21	0	0	0	0
Bristol	898	886	12	3	0	0
Brookfield	204	204	0	0	0	0
Brooklyn	120	120	0	0	0	0
Burlington	119	119	0	0	0	0
Canaan	14	S	S	0	0	0
Canterbury	84	81	3	1	0	0
Canton	136	135	1	0	0	0
Chaplin	22	22	0	0	0	0
Cheshire	307	305	2	1	0	0
Chester	43	43	0	0	0	0
Clinton	172	171	1	1	1	1
Colchester	204	202	2	0	0	0
Colebrook	10	10	0	0	0	0

Official Town	Total Confirmed Tests	< 5 µg/dL	> 5 µg/dL	> 10 µg/dL	> 15 µg/dL	> 20 µg/dL
Columbia	62	62	0	0	0	0
Cornwall	13	13	0	0	0	0
Coventry	180	178	2	0	0	0
Cromwell	169	166	3	1	0	0
Danbury	1803	1779	24	3	2	1
Darien	494	494	0	0	0	0
Deep River	51	51	0	0	0	0
Derby	223	223	0	0	0	0
Durham	96	96	0	0	0	0
East Granby	77	77	0	0	0	0
East Haddam	114	113	1	0	0	0
East Hampton	142	142	0	0	0	0
East Hartford	959	940	19	3	0	0
East Haven	417	415	2	1	0	0
East Lyme	202	201	1	0	0	0
East Windsor	145	143	2	0	0	0
Eastford	28	S	S	S	S	S
Easton	141	141	0	0	0	0
Ellington	279	276	3	1	0	0
Enfield	642	636	6	4	1	1
Essex	86	85	1	0	0	0
Fairfield	1055	1052	3	1	0	0
Farmington	331	330	1	0	0	0
Franklin	20	S	S	0	0	0
Glastonbury	404	403	1	0	0	0
Goshen	35	35	0	0	0	0
Granby	110	109	1	1	0	0
Greenwich	1053	1045	8	4	2	2
Griswold	203	200	3	0	0	0
Groton	660	657	3	0	0	0

Official Town	Total Confirmed Tests	< 5 µg/dL	> 5 µg/dL	> 10 µg/dL	> 15 µg/dL	> 20 µg/dL
Guilford	219	219	0	0	0	0
Haddam	89	89	0	0	0	0
Hamden	852	841	11	3	3	2
Hampton	28	28	0	0	0	0
Hartford	2855	2801	54	18	11	4
Hartland	5	5	0	0	0	0
Harwinton	59	59	0	0	0	0
Hebron	99	99	0	0	0	0
Kent	26	S	S	0	0	0
Killingly	364	355	9	2	1	0
Killingworth	83	83	0	0	0	0
Lebanon	107	105	2	0	0	0
Ledyard	252	249	3	1	0	0
Lisbon	31	S	S	0	0	0
Litchfield	85	84	1	0	0	0
Lyme	11	11	0	0	0	0
Madison	225	225	0	0	0	0
Manchester	1006	994	12	4	2	0
Mansfield	134	133	1	0	0	0
Marlborough	92	92	0	0	0	0
Meriden	1383	1346	37	13	5	3
Middlebury	89	88	1	0	0	0
Middlefield	53	53	0	0	0	0
Middletown	578	570	8	3	1	1
Milford	719	715	4	2	1	1
Monroe	270	269	1	0	0	0
Montville	252	250	2	0	0	0
Morris	19	19	0	0	0	0
Naugatuck	546	542	4	1	0	0
New Britain	2001	1963	38	15	6	5

Official Town	Total Confirmed Tests	< 5 µg/dL	> 5 µg/dL	> 10 µg/dL	> 15 µg/dL	> 20 µg/dL
New Canaan	403	401	2	2	0	0
New Fairfield	157	156	1	0	0	0
New Hartford	74	74	0	0	0	0
New Haven	3231	3065	166	47	18	13
New London	439	404	35	11	4	2
New Milford	393	389	4	0	0	0
Newington	414	408	6	2	1	1
Newtown	358	357	1	0	0	0
Norfolk	9	9	0	0	0	0
North Branford	195	194	1	1	1	0
North Canaan	27	24	3	1	0	0
North Haven	364	363	1	0	0	0
North Stonington	58	58	0	0	0	0
Norwalk	1824	1804	20	4	1	0
Norwich	651	624	27	6	6	4
Old Lyme	112	111	1	0	0	0
Old Saybrook	109	109	0	0	0	0
Orange	211	208	3	0	0	0
Oxford	171	171	0	0	0	0
Plainfield	227	218	9	5	0	0
Plainville	211	211	0	0	0	0
Plymouth	123	122	1	0	0	0
Pomfret	74	72	2	0	0	0
Portland	132	132	0	0	0	0
Preston	59	58	1	0	0	0
Prospect	102	101	1	0	0	0
Putnam	137	130	7	2	1	0
Redding	115	115	0	0	0	0
Ridgefield	317	316	1	0	0	0
Rocky Hill	312	305	7	1	0	0

Official Town	Total Confirmed Tests	< 5 µg/dL	> 5 µg/dL	> 10 µg/dL	> 15 µg/dL	> 20 µg/dL
Roxbury	22	22	0	0	0	0
Salem	58	57	1	0	0	0
Salisbury	21	21	0	0	0	0
Scotland	4	S	S	0	0	0
Seymour	306	301	5	2	1	0
Sharon	23	S	S	0	0	0
Shelton	606	603	3	0	0	0
Sherman	42	42	0	0	0	0
Simsbury	276	274	2	1	1	0
Somers	141	141	0	0	0	0
South Windsor	377	376	1	1	0	0
Southbury	160	159	1	0	0	0
Southington	474	470	4	2	0	0
Sprague	34	34	0	0	0	0
Stafford	189	188	1	0	0	0
Stamford	3017	2990	27	6	2	2
Sterling	55	54	1	0	0	0
Stonington	175	171	4	1	0	0
Stratford	903	889	14	7	2	2
Suffield	187	185	2	1	1	1
Thomaston	91	87	4	0	0	0
Thompson	119	117	2	0	0	0
Tolland	259	259	0	0	0	0
Torrington	562	545	17	3	0	0
Trumbull	574	571	3	3	0	0
Union	10	10	0	0	0	0
Vernon	564	558	6	3	1	1
Voluntown	31	31	0	0	0	0
Wallingford	610	609	1	0	0	0
Warren	5	5	0	0	0	0

Official Town	Total Confirmed Tests	< 5 µg/dL	> 5 µg/dL	> 10 µg/dL	> 15 µg/dL	> 20 µg/dL
Washington	42	42	0	0	0	0
Waterbury	3343	3245	98	33	17	10
Waterford	234	234	0	0	0	0
Watertown	271	270	1	0	0	0
West Hartford	1035	1025	10	2	1	1
West Haven	1029	1001	28	12	3	3
Westbrook	69	69	0	0	0	0
Weston	155	154	1	0	0	0
Westport	403	403	0	0	0	0
Wethersfield	395	393	2	0	0	0
Willington	89	88	1	0	0	0
Wilton	296	296	0	0	0	0
Winchester	128	125	3	2	1	1
Windham	376	357	19	6	2	2
Windsor	360	358	2	1	1	0
Windsor Locks	168	168	0	0	0	0
Wolcott	163	162	1	0	0	0
Woodbridge	130	130	0	0	0	0
Woodbury	73	73	0	0	0	0
Woodstock	117	115	2	1	0	0