2020 Childhood Lead Surveillance Annual Report

Childhood Lead Poisoning Prevention Program

January 2022

pennsylvania
DEPARTMENT OF HEALTH

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Executive Summary

This is the Pennsylvania Department of Health's (Department) 15th childhood lead surveillance annual report, covering data for children tested in Pennsylvania during the calendar year 2020. Data were extracted from the Department's electronic reportable disease surveillance system, Pennsylvania National Electronic Disease Surveillance System (PA-NEDSS). This report is provided as a source of information for the public: federal, state, and local agencies; health care providers; and other organizations and individuals interested in lead poisoning prevention in Pennsylvania. The report is an overview of lead testing in Pennsylvania and provides information about testing for children under the age of 2, as well as under the age of 6 by confirmation status; method of testing; method of reporting; county of residence; municipality; race and ethnicity; and residence in a rural county or an urban county.

Exposure to lead, even at low levels, can cause intellectual, behavioral, and academic deficits.[1,2] For this reason, in 2012, the Centers for Disease Control and Prevention (CDC) defined an elevated blood lead level (EBLL) as a blood lead level (BLL) ≥ 5 micrograms per deciliter (µg/dL).[3] This value is also used to identify children who require case management because, even at low levels, lead has been known to affect IQ, the ability to pay attention, and educational achievement.

This report will be used by the Department to 1) identify areas that may be at high risk for lead exposure; 2) locate areas of potential under-testing; and 3) make data available for state and local needs assessments. This report may also be used by federal agencies, hospitals, universities, providers, and county/municipal health departments.

The Department received 171,775 blood lead test results and when deduplicated, representing 165,029 unique blood lead tests for 153,906 children ages 0-15 in 2020. There were 5,408 children aged 0-15 with an initial capillary test $\geq$ 5 µg/dL. Of those, 2,988 (55.25%) were retested appropriately. There were 86,276 children (31.71% of the population) under age 2 tested and 148,432 (17.61% of the population) children under age 6 tested in 2020. There were 1,882 children under the age of 2 (2.18% of those tested and 0.69% of the population) with a confirmed EBLL $\geq$ 5 µg/dL. There were 4,385 children under the age of 6 (2.95% of those tested and 0.52% of the population) with a confirmed EBLL $\geq$ 5 µg/dL.

Nearly 55% of children did not have race or ethnicity information provided in their blood lead testing results data. We decreased this percentage to approximately 10% by matching children's blood lead testing data to 2012-2020 birth certificate data to obtain the race/ethnicity information from their birth certificates. Among those children 0-23 months of age, testing rates for non-Hispanic Black or African American children and non-Hispanic Asian children were higher statewide than for Hispanic and non-Hispanic white children (35.42% and 39.44% versus 30.41% and 27.85%, respectively). Non-Hispanic Black or African American and Hispanic children had higher percentages of EBLLs of 5-9.9 µg/dL than non-Hispanic white children (2.52% and 2.03% versus 1.33%, respectively) among those tested. Percentages of test results ≥ 10 µg/dL were also higher among non-Hispanic Black or African American and Hispanic children than for non-Hispanic white children (1.03% and 0.74% versus 0.41%, respectively). Non-Hispanic Black or African American and Hispanic

children also had higher percentages of unconfirmed elevated results among those tested than non-Hispanic white children, indicating gaps in appropriate follow-up among these populations. The same relationships were seen for children ages 0-71 months.

This report also includes testing and EBLL data for the 10 municipalities in Pennsylvania with the highest number of children under 6 years of age, as well as 2 other cities with an Act 315 of 1951 municipal health department. These included Philadelphia, Pittsburgh, Allentown, Reading, Erie (city), Upper Darby Township, Harrisburg, Scranton, Lancaster, York City, Bethlehem, and Wilkes-Barre. Testing rates and percentages of children with EBLLs among major municipalities/cities were generally higher than for their respective counties for both children under the age of 2 and under the age of 6. This finding likely highlights the historical burden of older housing stock in Pennsylvania municipalities/cities. The city of Pittsburgh had the highest (45.76%) and the city of Scranton had the lowest (25.98%) lead testing rate for children 0-23 months old among major municipalities. The higher testing rate in Pittsburgh could be due to the fact that, in 2018, Allegheny County started mandatory blood lead testing or children between 9 and 12 months and at 24 months. The percentage of EBLL ≥ 5 µg/dL as a percentage of those tested under age 2 was highest in the cities of Reading (8.13%) EBLL) and Lancaster (5.64% EBLL).

Nationally, among states with older housing stock, lead-based paint is a significant source of lead exposure in young children. According to the 2020 American Community Survey estimate, Pennsylvania ranks fifth in the nation for the percentage of housing units identified as having been built before 1950, when lead was most prevalent.[4] Other sources of lead exposure include toys, ceramics, and other consumer products.[3] Drinking water can also be a source of lead exposure when it flows through older lead plumbing or pipes where lead solder has been used (which can occur in newer plumbing as well).

Lead poisoning is a preventable environmental health hazard and, if not addressed, affects families regardless of race, ethnicity, or socioeconomic status. In recent years, there has been a national reduction in children's BLLs. The Department continues to provide resources to families to prevent and address elevated blood lead through multiple strategies. Through the federally funded Childhood Lead Poisoning Prevention Program (CLPPP), the Department is working collaboratively with 6 local county and municipal health departments in Allegheny, Chester, Montgomery, Luzerne, Lehigh, and York counties to reduce lead exposure and promote childhood lead poisoning prevention. Specifically, local partners are utilizing CLPPP funding to implement strategies and activities to increase blood lead testing; strengthen population-based interventions, and strengthen processes to identify lead-exposed children and link them to services. Additionally, the Department maintains a toll-free lead information hotline to provide information about lead poisoning prevention, testing, follow-up, and local resources for assistance.

In 2020, lead abatement efforts continued through the federally funded Lead Hazard Control Program (LHCP), which provided funding to local partners to contract with certified lead professionals. In addition, the Department worked with partners in targeted high-risk areas across the commonwealth to identify and remove lead hazards in housing units occupied by low-income families with children 6 years of age and under. The goal of the LHCP is to protect Pennsylvania's children from the long-term effects of lead poisoning and evaluate the

overall living conditions within the home to obtain healthier outcomes for Pennsylvania families.

The Department's community health nurses (CHNs) continue to monitor elevated lead levels (≥ 5 µg/dL) in children aged 6 and under living in Pennsylvania. The Department's community health nurses cover the counties and areas of the state not covered by the 10 county and municipal health departments (CMHDs). The CMHDs include 6 counties (Allegheny, Bucks, Chester, Erie, Montgomery, and Philadelphia) and 4 municipal (Allentown, Bethlehem, Wilkes-Barre, and York city) health departments that have their own specific case management protocols. The Department's CHNs contact families to provide education on laboratory results, potential sources of lead exposure, and actions to take to prevent/decrease the risk of exposure and help facilitate follow-up testing between clients and their pediatricians. The CHNs encourage every family of children with levels of 5 µg/dL and above to discuss the potential need for an environmental investigation with their provider; CHNs work with the pediatrician and facilitate referrals to obtain home inspections, which could identify the source of exposure as well as provide hands-on education to parents. CHNs also provide referrals to the Pennsylvania Special Supplemental Nutrition Program for Women, Infants and Children (WIC) and early intervention programs where appropriate.

In 2020, the Department continued an ongoing collaboration with the Pennsylvania Department of Human Services on a data match project to share data between the Medicaid claims database and the lead surveillance database. The data match will lead to improved quality lead data and better service provision for Medicaid-enrolled children.

The Wolf administration and the Department are committed to preventing lead exposure and, by coordinating with state agencies, will work toward improving the outcomes of children throughout the commonwealth. In August 2019, Governor Wolf launched the Lead-Free PA Initiative, which seeks to increase access to blood lead level testing for children, increase local response efforts, and plan for the training of more certified lead abatement professionals. The Department and other state agencies participate in an interagency workgroup to achieve the goals of the Lead-Free PA Initiative. This report is intended to provide information that is concise, comprehensible, and accessible to the public. Although lead surveillance should be considered an ongoing process, the goal of the report is to provide meaningful, useful, and easy-to-access data to the commonwealth and its citizens, so that the data can be better utilized for decision-making, targeting of resources, and implementing initiatives aimed at preventing exposure to lead.

Data Methods and Case Definitions

Reporting of Test Results and Case Investigations

In Pennsylvania, clinical laboratories are required to report all BLL results from both venous and capillary specimens for persons under 16 years of age to the Pennsylvania Department of Health (28 Pa. Code § 27.34). In addition, clinicians are required to report cases of lead poisoning for children under 16 and for pregnant women (28 Pa. Code § 27.34). Reports are submitted electronically (either through electronic laboratory reporting or online key entry) to the Department through NEDSS. In 2020, reports with a BLL ≥ 5 µg/dL were assigned to public health investigators for follow-up based on the location of the patients' residence. Investigators reviewed, verified, and corrected, when necessary, critical pieces of information such as date of birth, address, and specimen source.

It is quite common for different entities to report the same BLL test result. For example, the ordering provider and the lab performing the analysis may both report the same test. The Department does not discourage reporting from multiple sources, as it maximizes the likelihood that reporting will occur. In addition, different reporters often have different information about the patient–for instance, one may know more details about the specimen source (capillary or venous), and another may have better address information. PA-NEDSS is designed to handle duplicate reports from different sources. Several strategies are used in PA-NEDSS to ensure that all reports pertaining to the same patient are assigned to a single patient identifier. For the purposes of this annual report, tests with identical specimen collection dates and identical BLL results from the same patient were considered as a single test. The total number of BLL tests was defined as the total number of deduplicated BLL tests obtained from children who were within the specified age categories during 2020. All BLL tests were counted, including those collected for screening, confirmation or follow-up purposes. Since many children had more than one BLL test during the year, the total number of children tested is less than the total number of BLL tests performed. Per-child summary BLL measures were calculated using all BLL results obtained while the child was in the given age category.

Case Definition

In May 2012, the CDC accepted the recommendation from the Advisory Committee on Lead Poisoning Prevention to eliminate the term "level of concern" (associated with the level of 10 µg/dL) and to begin using a reference value of 5 µg/dL based on the 97.5 percentile of the blood lead distribution among US children.[3,5] A new case definition was officially implemented by CDC in 2016 and is used in this report to identify children with confirmed EBLL. A confirmed EBLL is defined as a venous blood lead test ≥ 5 µg/dL, or two capillary blood lead tests ≥ 5 µg/dL drawn within 84 days (12 weeks) of each other. An unconfirmed EBLL is defined as a capillary blood lead test ≥ 5 µg/dL with no other blood lead test done in the next 84 days.[6,7]

To apply the CDC case definition, several different data elements need to be evaluated. These data elements were handled as follows in our analyses:

- If the specimen collection date was missing or illogical, the laboratory received date or result date was used instead. If all 3 were missing, the reported date was used.

- Specimens with unknown specimen sources or characterized as simply “blood” (as opposed to venous or capillary) were treated as if they were capillary specimens.
- Tests with undetectable BLLs were either reported as below a numeric detection limit or with a qualitative result of “negative,” “not detected,” or “normal.”
- If an elevated capillary test was obtained on a child near the end of 2020 or as the child neared the limit of a particular age category, and if another elevated test result was obtained within the next 84 days, the initial elevated test was considered to be confirmed, even if the confirmatory test occurred in 2021 or outside of the age category. For example, if a child had an elevated capillary test at 23 months of age in November 2020 and received a confirmatory follow-up test within 12 weeks (in 2021), this was considered an EBLL result in 2020 for a child “aged 0−23 months.”

For children who had multiple BLL tests performed, they could qualify for more than one case definition category (for example, they may have had an unconfirmed elevated test and then, 6 months later, had another elevated test that was confirmed). In these situations, a child was assigned to the highest BLL case definition category for which they qualified.

Statistical Methods

All BLL test data obtained on children less than 16 years of age in 2020 was extracted from the PA-NEDSS database. Analyses were performed on a per-test or per-child basis as indicated in the tables below.

Most of the analyses in this report are limited to children in 2 overlapping age categories, under 2 years of age (0–23 months) and under 6 years of age (0–71 months). Age was defined as age at the time of the specimen collection date.

Information on race and ethnicity is not routinely collected or stored by most laboratories. Only 55% of the reports contained race/ethnicity data. Since obtaining more complete race and ethnicity data is critical to evaluating disparities in screening and lead exposures, data in PA-NEDSS was supplemented with data from the Pennsylvania birth registry, supplied by the Bureau of Health Statistics. Children with lead test results in PA-NEDSS were first matched to the 2014-2020 birth certificate data using a deterministic match method using first name, last name, date of birth, gender, and zip code by the Bureau of Epidemiology program staff. After the initial match of 96,958 children, unmatched children were matched to the 2014-2020 birth certificate data using Match pro, a probabilistic matching method. An additional 35,989 children were matched using this method.

We matched 89.6% (132,947 out of 148,432) of children under the age of 6 who had BLL test results reported in PA-NEDSS to children in the birth registry. Information from the birth registry was added to the PA-NEDSS lead testing data if a PA-NEDSS record matched to a birth registry record by name and a combination of date of birth, sex, and residential zip code. Race and ethnicity information from the birth registry was added to the PA-NEDSS lead testing data if ethnicity was missing or unknown and if the race was listed as “Unknown” or “Other.” After the matching process was completed, race information was available for nearly 90% of the children under 6 years of age reported to PA-NEDSS with BLL test results. The race and ethnicity categories aligned with those used in the US census. Because of small numbers, multiracial children, American Indians, Alaskan Natives, and Pacific Islanders were

combined into an “Other” category. For race and ethnicity analyses by county, categories were combined and collapsed into non-Hispanic Black or African American, non-Hispanic white, and Hispanic. Children in the Asian, Pacific Islander, American Indian, Alaska Native, Other and Unknown categories were not included in the county analyses due to small numbers.

For the per-child analyses, 2 measures were used to indicate their BLL status:

- The maximum BLL was defined as the highest venous BLL obtained from a child in 2020 while they were in the specified age category. If a child had no venous BLL test performed during that time period, maximum BLL was defined as the highest BLL from a capillary or unknown specimen source. Venous results were ranked over capillary results because capillary test results may be skewed by the presence of lead dust on the skin.
- EBLL confirmation status was determined as described in the case definition section above.

County-specific Analysis

For county-specific analyses, the residential address accompanying the report that contained the BLL result of interest was used to determine the county. For the maximum BLL measure, the county was determined from the report containing the maximum test result. For the EBLL confirmation status measure, county was determined from the address accompanying the initial EBLL. PA-NEDSS attempts to geocode all residential addresses. For addresses that were successfully verified, county was based on the actual home address. If an address was not able to be verified, the county was based on the centroid of the residential zip code. A small proportion of children did not have a residential address reported; the county was set by the location of the provider who ordered the test.

Intercensal population estimates for 2019 by county, age, race and ethnicity were obtained from the National Center for Health Statistics (NCHS) website (Vintage 2019 bridged-race postcensal population estimates, https://www.cdc.gov/nchs/nvss/bridged_race.htm).[8] These figures were used to calculate the proportion of children tested for BLL and the proportion of children with EBLLs in the county-specific analysis. The 2020 estimates were not yet available when this report was created.

The 17 counties in Pennsylvania with the largest number of children under 6 years of age were selected for county-specific race/ethnicity analyses.

Municipality-specific Analysis

For the municipality-level analyses, the residential address accompanying the report that contained the EBLL confirmation status measure was used to determine the specific municipality. PA-NEDSS attempts to geocode all residential addresses. For addresses that were successfully verified, the municipality was based on the report address. If the report address was missing, then the home address was used. If an address was not able to be verified automatically, it was verified by the application of manual geocoding. If an address was not able to be verified, municipality was based on the centroid of the residential zip code.

For municipality-level analyses, the population estimate of children was obtained by the 2019 American Community Survey, the most recent and available population data source at the municipal level.

The 10 municipalities in Pennsylvania with the highest number of children under 6 years of age, as well as 2 other cities with an Act 315 of 1951 municipal health department were selected for municipality-specific analyses. These included Philadelphia, Pittsburgh, Allentown, Reading, Erie (city), Upper Darby Township, Harrisburg, Scranton, Lancaster, York City, Bethlehem, and Wilkes-Barre.

Limitations

The 2020 Childhood Lead Surveillance Annual Report presents an analysis of surveillance data displayed in graphic and tabular form, in keeping with CDC guidance for analysis of childhood lead data.

Users of the report should be aware that public health surveillance data for childhood lead has inherent limitations that influence the interpretation of the data. Data such as specimen source, the residence of child, race, and ethnicity, and other important information may be missing on laboratory test results. As described in the Methods section, efforts were made to fill these gaps. Supplementing race and ethnicity data with information from the birth registry was done for the first time for the 2018 report and is successfully continued in this report.

In addition, Allegheny County was the only county in Pennsylvania with mandatory testing regulations or requirements for children between 9 and 12 months and at 24 months. In May 2019, the Philadelphia city council passed a bill requiring physicians to test children twice before the age of 2. However, Pennsylvania does not mandate universal and complete screening of all children. Therefore, testing of children for BLL is targeted rather than random, which makes interpretation of rates of EBLLs by geographic area or demographic factors difficult.

An emerging issue is the increasing use of point-of-care testing devices for blood lead screening. A growing number of clinical practices can do capillary lead screening tests on children onsite. These providers are often unaccustomed to reporting results to the Department and are unaware of reporting requirements. This could adversely affect the number of screening test results counted and skew the proportion of children screened downwards. The Department is working with many clinics who are using this equipment to ensure that BLLs are reported. Furthermore, some point-of-care analyzers have been found to give falsely low BLL results when used to analyze venous blood. These devices should be used only on capillary specimens, but the Department generally does not know the type of equipment used to perform BLL tests and cannot control for this source of uncertainty. The impact of this issue cannot be assessed, as the type of testing device used is not captured in the PA-NEDSS surveillance data sets. Between May and September 2021, Magellan Diagnostics issued several recalls for Leadcare test kits dating back to October 2020 for potentially underestimating blood lead levels. It is unknown at this time what impact this could have.

High rates of children with EBLLs in one area may reflect a true higher exposure risk in that area, or it may reflect more robust and targeted testing in that area. The burden of childhood EBLLs is best understood through a series of metrics: the percentage of children tested; the percentage who go on to have retests where appropriate (and conversely the percentage who do not get appropriate testing and follow-up); and, finally, the percentage of children with BLLs 5–9.9 µg/dL and those ≥ 10 µg/dL. This report shows both the number and percentage of children tested with unconfirmed EBLLs ≥ 5 µg/dL, confirmed EBLLs 5-9.9 µg/dL, and confirmed EBLLs ≥ 10 µg/dL.

Discussion

Between 2019 and 2020, the percent of children under the age of 2 tested for lead decreased from 33.20% to 31.71% (a decrease of 4,076 children tested). The percent of children under the age of 6 tested decreased from 19.89% to 17.61% (a decrease of 19,176 children tested) from 2019 to 2020. Between 2019 and 2020, the percent of children under age 2 with a confirmed EBLL $\geq$ 5 µg/dL decreased from 2.43% to 2.18% of those tested (a decrease of 318 children), while the percent of children under age 6 with a confirmed EBLL $\geq$ 5 µg/dL decreased from 3.46% to 2.95% of those tested (a decrease of 1,331 children). The percent of children with an unconfirmed EBLL $\geq$ 5 µg/dL increased from 0.96% to 1.29% for children under age 2 (an increase of 240 children) and from 1.19% to 1.60% for children under age 6 (an increase of 378 children), among those tested. The percent of children aged 0-15 who were appropriately retested after an elevated capillary test decreased from 59.10% to 55.25% between 2019 and 2020. In summary, in 2020 compared to 2019, testing rates have decreased, the percent of confirmed EBLLs has decreased, and the percent of unconfirmed EBLLs has increased. This is most likely due to the Covid-19 pandemic. Providers' offices were closed for a time making it difficult to get a test. Parents may have been reluctant to risk exposure to Covid at their provider or a lab to get their children a BLL test or the follow-up confirmatory BLL test.

Pennsylvania was able to explore race and ethnicity data more fully for the first time in 2018 by matching children's BLL testing data to birth certificate data to determine the race for nearly 60% of children who did not have race or ethnicity information provided on their BLL testing results data. The same approach was implemented for this report. Testing rates for non-Hispanic Black or African American children and non-Hispanic Asian children were higher statewide than for Hispanic and non-Hispanic white children. Confirmed EBLL rates were also higher among non-Hispanic Black or African American children, both as a percentage of children tested and as a percentage of the population, for both age groups. In general, Hispanic and non-Hispanic Asian children had percentages of EBLLs in-between values for non-Hispanic Black or African American children and non-Hispanic white children.

In general, for children under the age of 2 and under the age of 6, municipalities/cities had a higher percentage of children tested for lead than in their respective counties. In general, the percentage of children with EBLLs among those tested and as a percentage of the population was also higher in all municipalities/cities than in their respective counties. For the largest counties, where race and ethnicity data are presented, most had higher testing rates among non-Hispanic Black or African American and Hispanic children than non-Hispanic white children. However, that pattern was not seen in Allegheny, Cumberland, Dauphin, Erie, Luzerne, Westmoreland, and York counties. In many of these counties, the percentage of those tested with EBLLs was highest among minority populations, although not all counties had this pattern.

The 10 county and municipal health departments (CMHDs) include 6 counties (Allegheny, Bucks, Chester, Erie, Montgomery, and Philadelphia) and 4 municipal (Allentown, Bethlehem, Wilkes-Barre, and York city) health departments. Testing rates for the ten CMHDs coverage area range from 16.49% (Bucks County) to 45.51% (Allegheny County) for children under age 2 and 8.15% (Bucks County) to 27.88% (Allentown) for children under age 6. Confirmed EBLLs $\geq$5 µg/dL range from 1.04% (Bucks County) to 4.85% (York City) for children under age 2 and 1.20% (Bucks County) to 9.79% (York City) for children under age 6.

As mentioned previously, not all of the point-of-care testing results were reported to PA-NEDSS. Because of this, for some areas, the testing rates may actually be higher than reported and the percent tested with EBLLs may actually be lower than what is in this report. As providers move toward point-of-care testing, the Department is working to facilitate reporting of test results to achieve an accurate understanding of the burden of childhood lead exposure. The Department is also working with laboratories to increase the use of electronic reporting of testing results to reduce the resource burden and errors associated with faxed results and hand-keyed data entry.

Definitions

Age: Age of the child at the time of the test, expressed in months. Children under age 2 are 0−23 months, and children under age 6 are 0−71 months.

Blood lead level (BLL): The numeric result of a blood lead test, expressed in micrograms per deciliter (µg/dL)

Capillary: A blood lead test with blood drawn by a finger stick

Confirmed EBLL ≥ 5 µg/dL: One venous blood lead test ≥ 5 µg/dL or two capillary blood lead tests ≥ 5 µg/dL drawn within 12 weeks of each other

Confirmed EBLL ≥ 10 µg/dL: One venous blood lead test ≥ 10 µg/dL or two capillary blood lead tests ≥ 10 µg/dL drawn within 12 weeks of each other

Electronic lab reporting (ELR): The system by which blood lead reports are submitted electronically from a laboratory's system to PA-NEDSS

Elevated blood lead level (EBLL): A BLL ≥ 5 µg/dL

Ethnicity: Hispanic or non-Hispanic

Micrograms per deciliter (µg/dL): The amount of lead in the blood, measured by micrograms of lead per deciliter of blood

Municipality: A political subdivision of a state within which a municipal corporation has been established to provide general local government for a specific population concentration in a defined area

Not elevated: A child with a confirmed venous or capillary BLL < 5 µg/dL, or who had an initial elevated capillary BLL that was found to be < 5 µg/dL on either a venous or capillary follow-up test

Online key entry: Manual entry of blood lead reports into PA-NEDSS

Pennsylvania National Electronic Disease Surveillance System (PA-NEDSS): the Pennsylvania Department of Health's online disease surveillance system. It serves as the Department's reporting system for all reportable conditions and has been utilized for childhood lead surveillance since 2003.

Race: White, Black or African American, Asian, Other (multiracial children, American Indians, Alaska Native, and Pacific Islanders), or Unknown

Race/Ethnicity: Non-Hispanic white, non-Hispanic Black or African American, Hispanic, and non-Hispanic Asian

Rural versus urban counties: The Center for Rural Pennsylvania defines rural and urban counties in terms of population density. Those counties with a population density above the state average (284 persons per square mile) are considered urban, and those below the state average are considered rural. For more information and definitions concerning rural and urban counties, please see the Center for Rural Pa's website at: http://www.rural.palegislature.us/demographics_rural_urban.html.

Findings

Statewide Summaries by Age:

The Commonwealth of Pennsylvania does not have a universal childhood BLL testing law, so there is no mandate for children to be tested by a certain age. However, the Early Periodic Screening, Diagnosis and Treatment (EPSDT) program (administered by the Pennsylvania Department of Human Services) requires providers to test children on Medical Assistance twice by age 24 months (between 9 and 11 months and at 24 months). Furthermore, most clinical practice guidelines recommend testing children under age 7 and focusing on children at ages 1 and 2.

The following charts include statewide aggregate childhood lead testing data broken out by the age groupings of children tested and the age at the time of their highest result. The charts also include breakouts of sex, race, ethnicity, and the range of the highest BLL.

Table 1: Summary of Blood Lead Tests Performed in 2020 by Age Category

Age category*	Total number of tests†	Capillary test#		Venous test	
		N	%	N	%
0−23 months (under 2 years)	91,841	64,796	70.55	27,045	29.45
0−71 months (under 6 years)	159,156	107,429	67.50	51,727	32.50
0−15 years	165,029	108,531	65.76	56,498	34.24

*Age at time of specimen collection
†Total number of deduplicated blood tests obtained on children within the age category. A blood lead test may be collected for screening, confirmation, or follow-up. Many children had more than one test in any given year. The remainder of the tables were analyzed on a per child basis rather than per test.
#Blood specimens of unknown sources were treated as though they were capillary tests.
Data sources: Pennsylvania Department of Health, PA-NEDSS.

Table 2: Characteristics of Children Tested for Lead by Age Category, 2020

	Children aged 0−23 months		Children aged 0−71 months	
	N	% of total	N	% of total
Total number of children tested†	86,276	100.00	148,432	100.00
Age at time of maximum BLL				
Under 1 year	44,046	51.05	44,046	29.67
One year	42,230	48.95	41,828	28.18
Two years	-	-	45,179	30.44
Three years	-	-	6,994	4.71
Four years	-	-	5,292	3.57
Five years	-	-	5,093	3.43
Sex				
Female	41,873	48.53	71,774	48.35
Male	44,138	51.16	76,270	51.38
Unknown	265	0.31	388	0.26
Race				
Asian	4,404	5.10	9,355	6.30
Black or African American	14,907	17.28	27,879	18.78
White	55,926	64.82	91,550	61.68
Other^	4,254	4.93	6,294	4.24
Unknown	6,940	7.86	13,354	9.00
Ethnicity				
Hispanic	11,389	13.20	20,305	13.68
Non-Hispanic	67,947	78.76	112,958	76.10
Unknown or missing	6,940	8.04	15,169	10.22
Maximum BLL (µg/dL)*				
< 5	83,146	96.37	141,529	95.35
5–9.9	2,397	2.78	5,161	3.48
10–19.9	578	0.67	1,355	0.91
20–44.9	143	0.17	348	0.23
45–59.9	8	0.01	23	0.02
60–69.9	0	0.00	4	0.00
≥ 70	4	0.00	12	0.01

†Number of Pennsylvania children within the age category who had at least one blood lead test done with a specimen collection date in 2020
^Other race includes multiracial children, American Indians, and Pacific Islanders.
*Highest venous blood lead level (BLL) obtained per child in 2020, or highest BLL from a capillary or unknown specimen source, if no venous test was performed
Data sources: Pennsylvania Department of Health, PA-NEDSS, Vital Records

Statewide Summaries by Confirmed Elevated Status:

The following charts display EBLL by confirmation status. Confirmation status can be: not elevated, elevated but not confirmed, or confirmed elevated. Also included is data on how the results were confirmed. Children can be tested for lead by either a finger stick (capillary) or blood draw (venous). Because capillary tests are more subject to contamination, they are less reliable than venous tests, so venous tests are preferred to get the most accurate result. It is not always possible to perform a venous test, so elevated capillary results are confirmed with either another capillary test or a venous test. Venous testing requires a trained phlebotomist, and some clinical settings may not have this expertise; in addition, successfully getting a venous specimen in very small children can be difficult.

Table 3: Elevated Blood Lead Confirmation Status per 2016 CDC Case Definition* by Age Category, 2020

	Children aged 0−23 months		Children aged 0−71 months	
	N	% of total	N	% of total
Total number of children tested	86,276	100	148,432	100
Confirmation status				
Not elevated (< 5 µg/dL)**	83,284	96.53	141,677	95.45
Unconfirmed elevated (≥ 5 µg/dL)†	1,110	1.29	2,370	1.60
Confirmed 5−9.9 µg/dL	1,385	1.61	3,119	2.10
Confirmed ≥ 10 µg/dL	497	0.58	1,266	0.85

*CDC case definition defines a confirmed elevated BLL as one venous blood lead test ≥5 µg/dL, or 2 capillary blood lead tests ≥5 µg/dL drawn within 12 weeks of each other.
**The child had either no BLL ≥5 µg/dL or had an initially elevated capillary BLL that was found to be <5 µg/dL on either venous or capillary retest.
†The initial capillary test was ≥5 µg/dL, but the test result was not confirmed by a venous or capillary retest within 12 weeks.
Data sources: Pennsylvania Department of Health, PA-NEDSS.

Table 4: Details of Elevated Blood Lead Confirmation Status* by Age Category, 2020

		Children aged 0–23 months		Children aged 0–71 months	
		N	% of total	N	% of total
Total number of children tested		86,276	100	148,432	100
Confirmation status	**Outcome**				
Not elevated (< 5 µg/dL)	BLL< 5 µg/dL	82,217	95.3	139,797	94.18
	Repeat capillary test did not confirm the initial elevated capillary test.	147	0.17	229	0.15
	The venous test did not confirm the initial elevated capillary test.	920	1.07	1,651	1.11
Unconfirmed elevated (≥ 5 µg/dL)†	Not retested appropriately	1,110	1.29	2,370	1.60
Confirmed 5–9.9 µg/dL	Capillary confirmed by repeat capillary test	44	0.05	69	0.05
	Capillary confirmed by venous test	425	0.49	688	0.46
	Venous test	916	1.06	2,362	1.59
Confirmed ≥ 10 µg/dL	Capillary confirmed by repeat capillary test	15	0.02	25	0.02
	Capillary confirmed by venous test	144	0.17	291	0.20
	Venous test	338	0.39	950	0.64

*Per CDC 2016 Confirmed Elevated Blood Lead case definition
† Initial capillary test was ≥5 µg/dL, but the test result was not confirmed by a venous or capillary retest within 12 weeks.
Data sources: Pennsylvania Department of Health, PA-NEDSS.

Table 5: Confirmation After an Elevated Capillary Blood Lead Test by Capillary Test Level, Children Aged 0-15 years, 2020

Blood lead level of initial elevated capillary test (µg/dL)	Number of children*	Children with a diagnostic venous test within 12 weeks†		Children with either a venous or capillary retest within 12 weeks†	
		N	%	N	%
5–9.9	4,133	1,883	45.56	2,127	51.46
10–19.9	976	564	57.79	620	63.52
20–44.9	264	189	71.59	210	79.55
45–59.9	20	14	70.00	18	90.00
60–69.9	6	6	100.00	6	100.00
≥ 70	9	6	66.67	7	77.78
Overall	5,408	2,662	49.22	2,988	55.25

*Children aged 0–15 years
†Retest results may not be in the same blood lead level range as the initial capillary test.
Data sources: Pennsylvania Department of Health, PA-NEDSS.

Reporting by Method and Organization:

The chart below displays data on how BLL reports were submitted to PA-NEDSS and who submitted the report. By law, all BLL tests analyzed by laboratories on children under 16 years of age are required to be reported to the Department. Reports can be submitted by electronic laboratory reporting (ELR) or by online key-entry. ELR is the preferred method of receiving reports, as the information is usually more accurate, complete, and timely. From 2013 to 2020, the number of laboratories reporting through electronic laboratory reporting increased from 20 to 39.

Table 6: Blood Lead Reporting by Method of Report and Type of Reporting Organization, 2015–2020

	Method of report	2015	2016	2017	2018	2019	2020
Number of reports submitted†	ELR*	146,104	160,488	169,675	175,802	178,999	150,321
	Online key-entry by lab	14,997	14,561	13,011	11,720	10,769	4,967
	Online key-entry by provider#	2,642	3,401	2,775	7,423	11,925	16,487
	Total	163,743	178,450	185,461	194,945	201,693	171,775
% ELR		89.23	89.93	91.49	90.18	88.75	87.51

*ELR=electronic laboratory reporting
†The same test result may be reported by the ordering provider, the receiving laboratory, and/or the reference lab that performs the test. The data in this table are not deduplicated. Also, reports may contain more than one test result.
#Online key-entry by provider includes some test results key-entered by Department staff on behalf of providers.
Data sources: Pennsylvania Department of Health, PA-NEDSS.

Testing Summaries by Race and Ethnicity:

The following are summaries of children under age 2 and under age 6 tested by race and ethnicity, including the number of children tested, the percent of the population tested, and confirmation status. For children ages 0-23 months, non-Hispanic Black or African American children and non-Hispanic Asian children were more often tested than Hispanic and non-Hispanic white children (35.42% and 39.44% versus 30.41% and 27.85%, respectively). Among those tested, non-Hispanic Black or African American and Hispanic children had higher percentages of EBLLs of 5-9.9 µg/dL than non-Hispanic white children (2.52% and 2.03% versus 1.04%, respectively). Percentages of test results ≥10 µg /dL were also higher among non-Hispanic Black or African American and Hispanic children than non-Hispanic white children (1.03% and 0.74% versus 0.37%, respectively). Among those tested, non-Hispanic Black or African American and Hispanic children also had higher percentages of unconfirmed elevated results among those tested than did non-Hispanic white children. These same relationships were seen for children ages 0-71 months.

Table 7: Number of Children Aged 0–23 Months by Race/Ethnicity and Elevated Blood Lead Confirmation Status,* 2020

Race/Ethnicity	Population of children aged 0–23 months†	Children tested**		Unconfirmed elevated (≥ 5 µg/dL)			Confirmed 5–9.9 µg/dL			Confirmed ≥ 10 µg/dL		
		N	% of population ***	N	% of tested	% of population	N	% of tested	% of population	N	% of tested	% of population
Total	272,114	86,276	31.71	1,110	1.29	0.41	1,385	1.61	0.51	497	0.58	0.18
Race/Ethnicity^												
Non-Hispanic white	184,727	51,445	27.85	599	1.16	0.32	682	1.33	0.37	211	0.41	0.11
Non-Hispanic Black or African-American	38,662	13,696	35.42	195	1.42	0.50	345	2.52	0.89	141	1.03	0.36
Hispanic	37,447	11,389	30.41	179	1.57	0.48	231	2.03	0.62	84	0.74	0.22
Non-Hispanic Asian	10,719	4,228	39.44	19	0.45	0.18	44	1.04	0.41	27	0.64	0.25

*Per CDC 2016 Confirmed Elevated Blood Lead case definition
**Note that Pennsylvania does not mandate universal screening of children; screening of children is recommended between 9 and 12 months and at 24 months. Allegheny and Philadelphia are currently the only counties with mandatory testing.
***Percent was calculated as the number of children tested divided by the population of children in the county for the specified age range.
†2019 intercensal estimate
^Other and Unknown are not included in the table
Data sources: Pennsylvania Department of Health, PA-NEDSS., Vital Records, National Center for Health Statistics

Table 8: Number of Children Aged 0–71 Months by Race/Ethnicity and Elevated Blood Lead Confirmation Status,* 2020

Race/Ethnicity	Population of children aged 0–71 months†	Children tested**		Unconfirmed elevated (≥ 5 µg/dL)			Confirmed 5–9.9 µg/dL			Confirmed ≥ 10 µg/dL		
		N	% of population ***	N	% of tested	% of population	N	% of tested	% of population	N	% of tested	% of population
Total	842,742	148,432	17.61	2,370	1.6	0.28	3,119	2.1	0.37	1,266	0.85	0.15
Race/Ethnicity^												
Non-Hispanic white	566,374	83,714	14.78	1,156	1.38	0.2	1,241	1.48	0.22	477	0.57	0.08
Non-Hispanic Black or African-American	125,118	25,763	20.59	475	1.84	0.38	1,056	4.1	0.84	418	1.62	0.33
Hispanic	114,448	20,305	17.74	415	2.04	0.36	490	2.41	0.43	211	1.04	0.18
Non-Hispanic Asian	34,981	7,064	20.19	65	0.92	0.19	113	1.6	0.32	59	0.84	0.17

*Per CDC 2016 Confirmed Elevated Blood Lead case definition
**Note that Pennsylvania does not mandate universal screening of children; screening of children is recommended between 9 and 12 months and at 24 months. Allegheny and Philadelphia are currently the only counties with mandatory testing
***Percent was calculated as the number of children tested divided by the population of children in the county for the specified age range.
†2019 intercensal estimate
^Other and Unknown are not included in the table
Data sources: Pennsylvania Department of Health, PA-NEDSS., Vital Records, National Center for Health Statistics

Testing Summaries by Major Municipality:

The following are summaries of children under age 2 and under age 6 tested in major municipalities, including the number of children tested, the percent of the population tested and confirmation status. Testing rates and percentages of children with EBLLs among major municipalities/cities were generally higher than for their respective counties, for both children under the age of 2 and under the age of 6. This finding likely highlights the historical burden of older housing stock and other urban sources of lead in Pennsylvania municipalities/cities. For children 0-23 months, testing rates were highest in Pittsburgh and lowest in Scranton, and the percentages of EBLL ≥ 5 µg/dL as a percentage of those tested were highest in the cities of Reading and Lancaster. Pittsburgh's and Philadelphia's testing rates may be higher due to the fact that in 2018, Allegheny County started mandatory blood lead testing for children between 9 and 12 months and at 24 months and in May 2019, the Philadelphia city council passed a bill requiring physicians to test children twice before the age of 2.

Table 9: Number of Children Aged 0–23 Months by Major Municipality and Elevated Blood Lead Confirmation Status,* 2020

Residence		Population of children aged 0–23 months†	Children tested**		Unconfirmed ≥ 5 µg/dL			Confirmed ≥ 5 µg/dL		
Municipality	County		N	% of population ***	N	% of tested	% of population	N	% of tested	% of population
Philadelphia	Philadelphia	44,001	16,073	36.53	154	0.96	0.35	540	3.36	1.23
Pittsburgh	Allegheny	5,920	2,709	45.76	48	1.77	0.81	83	3.06	1.40
Allentown	Lehigh	3,658	1,626	44.45	51	3.14	1.39	23	1.41	0.63
Reading	Berks	2,846	947	33.28	46	4.86	1.62	77	8.13	2.71
Erie	Erie	2,693	932	34.60	24	2.58	0.89	30	3.22	1.11
Upper Darby township	Delaware	2,487	936	37.63	10	1.07	0.40	26	2.78	1.05
Scranton	Lackawanna	1,794	466	25.98	8	1.72	0.45	21	4.51	1.17
Bethlehem	Northampton/ Lehigh	1,744	506	29.01	9	1.78	0.52	10	1.98	0.57
Harrisburg	Dauphin	1,707	545	31.93	11	2.02	0.64	12	2.20	0.70
Lancaster	Lancaster	1,579	567	35.92	17	3.00	1.08	32	5.64	2.03
York city	York	1,328	371	27.93	20	5.39	1.51	18	4.85	1.36
Wilkes-Barre	Luzerne	1,097	347	31.63	6	1.73	0.55	10	2.88	0.91
Pennsylvania Total		272,114	86,276	31.71	1,110	1.29	0.41	1,882	2.18	0.69

*Per CDC 2016 Confirmed Elevated Blood Lead case definition
**Note that Pennsylvania does not mandate universal screening of children; screening of children is recommended between 9 and 12 months and at 24 months. Allegheny and Philadelphia are currently the only counties with mandatory testing

***Percent was calculated as the number of children tested divided by the population of children in the municipality for the specified age range.
†2019 American Community Survey
Data sources: Pennsylvania Department of Health, PA-NEDSS., 2018 American Community Survey

Table 10: Number of Children Aged 0–71 Months by Major Municipality and Elevated Blood Lead Confirmation Status,* 2020

Residence		Population of children aged 0–71 months†	Children tested**		Unconfirmed ≥ 5 µg/dL			Confirmed ≥ 5 µg/dL		
Municipality	County		N	% of population ***	N	% of tested	% of population	N	% of tested	% of population
Philadelphia	Philadelphia	126,108	29,768	23.61	331	1.11	0.26	1,418	4.76	1.12
Pittsburgh	Allegheny	16,608	4,613	27.77	100	2.17	0.60	161	3.49	0.97
Allentown	Lehigh	10,894	3,037	27.88	108	3.56	0.99	83	2.73	0.76
Reading	Berks	8,564	2,035	23.76	105	5.16	1.23	169	8.30	1.97
Erie	Erie	7,984	1,777	22.26	62	3.49	0.78	80	4.50	1.00
Upper Darby township	Delaware	7,016	1,739	24.79	30	1.73	0.43	65	3.74	0.93
Scranton	Lackawanna	5,289	868	16.41	28	3.23	0.53	71	8.18	1.34
Bethlehem	Northampton/ Lehigh	5,227	945	18.08	26	2.75	0.50	19	2.01	0.36
Harrisburg	Dauphin	4,955	977	19.72	23	2.35	0.46	39	3.99	0.79
Lancaster	Lancaster	4,429	937	21.15	30	3.20	0.68	72	7.68	1.63
York city	York	3,938	613	15.57	40	6.53	1.02	60	9.79	1.52
Wilkes-Barre	Luzerne	3,231	597	18.48	23	3.85	0.71	33	5.53	1.02
Pennsylvania Total		842,742	148,432	17.61	2,370	1.60	0.28	4,385	2.95	0.52

*Per CDC 2016 Confirmed Elevated Blood Lead case definition
**Note that Pennsylvania does not mandate universal screening of children; screening of children is recommended between 9 and 12 months and at 24 months. Allegheny and Philadelphia are currently the only counties with mandatory testing.
***Percent was calculated as the number of children tested divided by the population of children in the municipality for the specified age range.
†2019 American Community Survey
Data sources: Pennsylvania Department of Health, PA-NEDSS., 2019 American Community Survey

Testing Summaries by County and Race/Ethnicity for Selected Counties:

The following are summaries of children under age 2 and under age 6 by county and race/ethnicity, including the number of children tested, the percent of the population tested and confirmed EBLLs of ≥5 µg/dL. Asian, Pacific Islander, American Indian and Alaska Native, Other, and Unknown races are not included. The 17 counties with the largest populations were selected to include the largest cities and the counties with county or municipal health departments.

Table 11: Number of Children with Confirmed EBLL* by County of Residence and Race/Ethnicity, Children Aged 0–23 Months, for Select Counties, 2020**

County of residence	Race/Ethnicity	Population 0-23 months†	Children tested*		Confirmed EBLL ≥ 5		
			N	% of population**	N	% of tested	% of population
Allegheny	Non-Hispanic Black or African American	4,620	2,187	47.34	61	2.79	1.32
Allegheny	Hispanic	728	262	35.99	1	0.38	0.14
Allegheny	Non-Hispanic white	18,689	7,655	40.96	82	1.07	0.44
Berks	Non-Hispanic Black or African American	555	129	23.24	9	6.98	1.62
Berks	Hispanic	3,806	1,007	26.46	68	6.75	1.79
Berks	Non-Hispanic white	4,964	1,262	25.42	39	3.09	0.79
Bucks	Non-Hispanic Black or African American	798	125	15.66	2	1.60	0.25
Bucks	Hispanic	1,199	321	26.77	3	0.93	0.25
Bucks	Non-Hispanic white	8,932	1,157	12.95	14	1.21	0.16
Chester	Non-Hispanic Black or African American	778	236	30.33	0	0.00	0.00
Chester	Hispanic	1,565	582	37.19	13	2.23	0.83
Chester	Non-Hispanic white	7,758	1,715	22.11	24	1.40	0.31
Cumberland	Non-Hispanic Black or African American	389	88	22.62	1	1.14	0.26
Cumberland	Hispanic	346	53	15.32	1	1.89	0.29
Cumberland	Non-Hispanic white	4,237	781	18.43	8	1.02	0.19
Dauphin	Non-Hispanic Black or African American	1,533	483	31.51	8	1.66	0.52
Dauphin	Hispanic	1,154	269	23.31	5	1.86	0.43
Dauphin	Non-Hispanic white	3,593	935	26.02	10	1.07	0.28
Delaware	Non-Hispanic Black or African American	3,806	1,497	39.33	19	1.27	0.50
Delaware	Hispanic	906	380	41.94	7	1.84	0.77
Delaware	Non-Hispanic white	7,642	2,002	26.20	13	0.65	0.17

County of residence	Race/Ethnicity	Population 0-23 months†	Children tested*		Confirmed EBLL ≥ 5		
			N	% of population**	N	% of tested	% of population
Erie	Non-Hispanic Black or African American	722	246	34.07	13	5.28	1.80
Erie	Hispanic	505	145	28.71	2	1.38	0.40
Erie	Non-Hispanic white	4,403	1,432	32.52	18	1.26	0.41
Lackawanna	Non-Hispanic Black or African American	252	58	23.02	3	5.17	1.19
Lackawanna	Hispanic	658	165	25.08	4	2.42	0.61
Lackawanna	Non-Hispanic white	3,023	755	24.98	19	2.52	0.63
Lancaster	Non-Hispanic Black or African American	839	157	18.71	8	5.10	0.95
Lancaster	Hispanic	2,192	637	29.06	19	2.98	0.87
Lancaster	Non-Hispanic white	10,779	1,992	18.48	41	2.06	0.38
Lehigh	Non-Hispanic Black or African American	672	227	33.78	3	1.32	0.45
Lehigh	Hispanic	3,760	1,408	37.45	16	1.14	0.43
Lehigh	Non-Hispanic white	3,887	601	15.46	10	1.66	0.26
Luzerne	Non-Hispanic Black or African American	448	143	31.92	9	6.29	2.01
Luzerne	Hispanic	2,039	486	23.84	13	2.67	0.64
Luzerne	Non-Hispanic white	3,985	1,367	34.30	16	1.17	0.40
Montgomery	Non-Hispanic Black or African American	2,012	645	32.06	8	1.24	0.40
Montgomery	Hispanic	1,853	712	38.42	35	4.92	1.89
Montgomery	Non-Hispanic white	12,137	2,867	23.62	27	0.94	0.22
Northampton	Non-Hispanic Black or African American	441	120	27.21	1	0.83	0.23
Northampton	Hispanic	1,371	472	34.43	11	2.33	0.80
Northampton	Non-Hispanic white	3,587	628	17.51	9	1.43	0.25
Philadelphia	Non-Hispanic Black or African American	16,257	6,254	38.47	314	5.02	1.93
Philadelphia	Hispanic	9,373	3,126	33.35	79	2.53	0.84
Philadelphia	Non-Hispanic white	12,973	4,193	32.32	83	1.98	0.64
Westmoreland	Non-Hispanic Black or African American	284	100	35.21	4	4.00	1.41
Westmoreland	Hispanic	114	22	19.30	0	0.00	0.00
Westmoreland	Non-Hispanic white	5,403	2,183	40.40	35	1.60	0.65

County of residence	Race/Ethnicity	Population 0-23 months†	Children tested*		Confirmed EBLL ≥ 5		
			N	% of population**	N	% of tested	% of population
York	Non-Hispanic Black or African American	840	175	20.83	4	2.29	0.48
York	Hispanic	1,475	347	23.53	7	2.02	0.47
York	Non-Hispanic white	7,304	1,740	23.82	36	2.07	0.49
Pennsylvania Total	Non-Hispanic Black or African American	38,662	13,696	35.42	486	3.55	1.26
Pennsylvania Total	Hispanic	37,447	11,389	30.41	315	2.77	0.84
Pennsylvania Total	Non-Hispanic white	184,727	51,445	27.85	893	1.74	0.48
Pennsylvania Total		272,114	86,276	31.71	1,882	2.18	0.69

*Note that Pennsylvania does not mandate universal screening of children; screening of children is recommended between 9 and 12 months and at 24 months. Allegheny and Philadelphia are currently the only counties with mandatory testing.
**Percent was calculated as the number of children tested divided by the population of children in the county for the specified age range.
****Per CDC 2016 Elevated Blood Lead case definition
†2019 intercensal estimate
Data sources: Pennsylvania Department of Health, PA-NEDSS., Vital Records, National Center for Health Statistics

Table 12: Number of Children with Confirmed EBLL* by County of Residence and Race/Ethnicity, Children Aged 0–71 Months, for Select Counties, 2020**

County of residence	Race/Ethnicity	Population 0-71 months†	Children tested*		Confirmed EBLL ≥ 5		
			N	% of population**	N	% of tested	% of population
Allegheny	Non-Hispanic Black or African American	15,150	3,884	25.64	163	4.20	1.08
Allegheny	Hispanic	2,481	431	17.37	4	0.93	0.16
Allegheny	Non-Hispanic white	54,434	13,834	25.41	142	1.03	0.26
Berks	Non-Hispanic Black or African American	1,701	251	14.76	18	7.17	1.06
Berks	Hispanic	11,336	2,056	18.14	139	6.76	1.23
Berks	Non-Hispanic white	15,607	1,743	11.17	61	3.50	0.39
Bucks	Non-Hispanic Black or African American	2,413	206	8.54	4	1.94	0.17
Bucks	Hispanic	3,671	515	14.03	5	0.97	0.14
Bucks	Non-Hispanic white	28,517	1,752	6.14	21	1.20	0.07
Chester	Non-Hispanic Black or African American	2,405	452	18.79	7	1.55	0.29
Chester	Hispanic	4,806	1,083	22.53	25	2.31	0.52
Chester	Non-Hispanic white	25,102	2,798	11.15	33	1.18	0.13
Cumberland	Non-Hispanic Black or African American	1,250	133	10.64	2	1.50	0.16
Cumberland	Hispanic	1,067	96	9.00	2	2.08	0.19
Cumberland	Non-Hispanic white	13,066	1,112	8.51	16	1.44	0.12
Dauphin	Non-Hispanic Black or African American	5,013	827	16.50	22	2.66	0.44
Dauphin	Hispanic	3,637	482	13.25	18	3.73	0.49
Dauphin	Non-Hispanic white	10,575	1,424	13.47	19	1.33	0.18
Delaware	Non-Hispanic Black or African American	11,620	2,708	23.30	79	2.92	0.68
Delaware	Hispanic	2,622	695	26.51	18	2.59	0.69
Delaware	Non-Hispanic white	23,405	3,281	14.02	28	0.85	0.12
Erie	Non-Hispanic Black or African American	2,485	484	19.48	30	6.20	1.21
Erie	Hispanic	1,580	246	15.57	5	2.03	0.32
Erie	Non-Hispanic white	13,511	2,571	19.03	42	1.63	0.31
Lackawanna	Non-Hispanic Black or African American	902	124	13.75	13	10.48	1.44
Lackawanna	Hispanic	2,297	280	12.19	11	3.93	0.48
Lackawanna	Non-Hispanic white	9,650	1,162	12.04	48	4.13	0.50

County of residence	Race/Ethnicity	Population 0-71 months†	Children tested*		Confirmed EBLL ≥ 5		
			N	% of population**	N	% of tested	% of population
Lancaster	Non-Hispanic Black or African American	2,497	277	11.09	24	8.66	0.96
Lancaster	Hispanic	6,743	1,051	15.59	41	3.90	0.61
Lancaster	Non-Hispanic white	32,252	3,232	10.02	67	2.07	0.21
Lehigh	Non-Hispanic Black or African American	2,224	452	20.32	16	3.54	0.72
Lehigh	Hispanic	11,058	2,521	22.80	49	1.94	0.44
Lehigh	Non-Hispanic white	12,241	1,035	8.46	22	2.13	0.18
Luzerne	Non-Hispanic Black or African American	1,522	292	19.19	21	7.19	1.38
Luzerne	Hispanic	5,918	842	14.23	31	3.68	0.52
Luzerne	Non-Hispanic white	12,234	2,133	17.44	45	2.11	0.37
Montgomery	Non-Hispanic Black or African American	6,134	1,066	17.38	31	2.91	0.51
Montgomery	Hispanic	5,391	1,200	22.26	66	5.50	1.22
Montgomery	Non-Hispanic white	38,462	4,764	12.39	54	1.13	0.14
Northampton	Non-Hispanic Black or African American	1,506	226	15.01	7	3.10	0.46
Northampton	Hispanic	4,249	867	20.40	21	2.42	0.49
Northampton	Non-Hispanic white	11,266	1,098	9.75	17	1.55	0.15
Philadelphia	Non-Hispanic Black or African American	53,474	12,438	23.26	940	7.56	1.76
Philadelphia	Hispanic	28,284	5,675	20.06	176	3.10	0.62
Philadelphia	Non-Hispanic white	32,902	6,708	20.39	130	1.94	0.40
Westmoreland	Non-Hispanic Black or African American	1,010	179	17.72	8	4.47	0.79
Westmoreland	Hispanic	475	41	8.63	1	2.44	0.21
Westmoreland	Non-Hispanic white	17,199	3,450	20.06	54	1.57	0.31
York	Non-Hispanic Black or African American	2,817	290	10.29	20	6.90	0.71
York	Hispanic	4,529	518	11.44	22	4.25	0.49
York	Non-Hispanic white	22,844	2,455	10.75	62	2.53	0.27
Pennsylvania Total	Non-Hispanic Black or African American	125,118	25,763	20.59	1,474	5.72	1.18
Pennsylvania Total	Hispanic	114,448	20,305	17.74	701	3.45	0.61
Pennsylvania Total	Non-Hispanic white	566,374	83,714	14.78	1,718	2.05	0.30
Pennsylvania Total		842,742	148,432	17.61	4,385	2.95	0.52

*Note that Pennsylvania does not mandate universal screening of children; screening of children is recommended between 9 and 12 months and at 24 months. Allegheny and Philadelphia are currently the only counties with mandatory testing.
**Percent was calculated as the number of children tested divided by the population of children in the county for the specified age range.
****Per CDC 2016 Elevated Blood Lead case definition
†2019 intercensal estimate
Data sources: Pennsylvania Department of Health, PA-NEDSS., Vital Records, National Center for Health Statistics

Testing Summaries by County:

The following are summaries of children under age 2 and under age 6 tested by county, including the number of children tested, the percent of the population tested, and BLLs of 5−9.9 and ≥ 10 µg/dL by maximum blood level and by confirmed blood level for all 67 counties.

Table 13: Number of Children Tested for Lead by Maximum Blood Lead Level and County of Residence, Children Aged 0–23 Months, 2020

County of residence	Population of children aged 0–23 months†	Children tested*		Maximum BLL 5–9.9 µg/dL			Maximum BLL ≥ 10 µg/dL		
		N	% of population**	N	% of tested	% of population	N	% of tested	% of population
Adams	1,967	804	40.87	19	2.36	0.97	5	0.62	0.25
Allegheny	25,385	11,547	45.49	251	2.17	0.99	60	0.52	0.24
Armstrong	1,263	556	44.02	17	3.06	1.35	2	0.36	0.16
Beaver	3,051	1,095	35.89	41	3.74	1.34	8	0.73	0.26
Bedford	916	365	39.85	7	1.92	0.76	4	1.10	0.44
Berks	9,450	2,553	27.02	161	6.31	1.70	50	1.96	0.53
Blair	2,350	834	35.49	36	4.32	1.53	10	1.20	0.43
Bradford	1,244	461	37.06	14	3.04	1.13	4	0.87	0.32
Bucks	11,612	1,927	16.59	22	1.14	0.19	2	0.10	0.02
Butler	3,455	1,492	43.18	17	1.14	0.49	3	0.20	0.09
Cambria	2,448	979	39.99	25	2.55	1.02	12	1.23	0.49
Cameron	74	16	21.62	0	0.00	0.00	0	0.00	0.00
Carbon	1,173	234	19.95	7	2.99	0.60	4	1.71	0.34
Centre	2,303	498	21.62	1	0.20	0.04	0	0.00	0.00
Chester	10,843	2,984	27.52	44	1.47	0.41	14	0.47	0.13
Clarion	734	267	36.38	14	5.24	1.91	1	0.37	0.14
Clearfield	1,469	495	33.70	7	1.41	0.48	5	1.01	0.34
Clinton	766	177	23.11	8	4.52	1.04	2	1.13	0.26
Columbia	1,042	211	20.25	6	2.84	0.58	2	0.95	0.19
Crawford	1,830	522	28.52	13	2.49	0.71	4	0.77	0.22
Cumberland	5,269	1,072	20.35	13	1.21	0.25	11	1.03	0.21
Dauphin	6,684	2,019	30.21	39	1.93	0.58	11	0.54	0.16

County of residence	Population of children aged 0–23 months†	Children tested*		Maximum BLL 5–9.9 µg/dL			Maximum BLL ≥ 10 µg/dL		
		N	% of population**	N	% of tested	% of population	N	% of tested	% of population
Delaware	13,199	4,403	33.36	67	1.52	0.51	24	0.55	0.18
Elk	539	150	27.83	2	1.33	0.37	1	0.67	0.19
Erie	5,803	2,077	35.79	70	3.37	1.21	25	1.20	0.43
Fayette	2,487	578	23.24	18	3.11	0.72	7	1.21	0.28
Forest	41	25	60.98	1	4.00	2.44	1	4.00	2.44
Franklin	3,461	972	28.08	20	2.06	0.58	9	0.93	0.26
Fulton	295	74	25.08	2	2.70	0.68	0	0.00	0.00
Greene	708	252	35.59	7	2.78	0.99	1	0.40	0.14
Huntingdon	702	221	31.48	6	2.71	0.85	2	0.90	0.28
Indiana	1,538	617	40.12	7	1.13	0.46	4	0.65	0.26
Jefferson	927	273	29.45	10	3.66	1.08	3	1.10	0.32
Juniata	574	110	19.16	4	3.64	0.70	1	0.91	0.17
Lackawanna	4,086	1,113	27.24	35	3.14	0.86	26	2.34	0.64
Lancaster	14,218	3,012	21.18	99	3.29	0.70	32	1.06	0.23
Lawrence	1,759	457	25.98	9	1.97	0.51	4	0.88	0.23
Lebanon	3,261	725	22.23	35	4.83	1.07	11	1.52	0.34
Lehigh	8,587	2,497	29.08	86	3.44	1.00	20	0.80	0.23
Luzerne	6,581	2,159	32.81	61	2.83	0.93	31	1.44	0.47
Lycoming	2,336	552	23.63	20	3.62	0.86	10	1.81	0.43
McKean	756	302	39.95	10	3.31	1.32	3	0.99	0.40
Mercer	2,090	677	32.39	23	3.40	1.10	3	0.44	0.14
Mifflin	1,156	254	21.97	9	3.54	0.78	1	0.39	0.09
Monroe	3,126	420	13.44	4	0.95	0.13	0	0.00	0.00
Montgomery	17,481	5,013	28.68	97	1.93	0.55	20	0.40	0.11
Montour	420	108	25.71	1	0.93	0.24	0	0.00	0.00
Northampton	5,572	1,363	24.46	35	2.57	0.63	9	0.66	0.16
Northumberland	1,848	438	23.70	22	5.02	1.19	12	2.74	0.65
Perry	996	209	20.98	7	3.35	0.70	2	0.96	0.20
Philadelphia	41,338	16,062	38.86	539	3.36	1.30	157	0.98	0.38

County of residence	Population of children aged 0–23 months†	Children tested*		Maximum BLL 5–9.9 µg/dL			Maximum BLL ≥ 10 µg/dL		
		N	% of population**	N	% of tested	% of population	N	% of tested	% of population
Pike	866	143	16.51	3	2.10	0.35	1	0.70	0.12
Potter	313	124	39.62	4	3.23	1.28	0	0.00	0.00
Schuylkill	2,576	1,038	40.30	57	5.49	2.21	15	1.45	0.58
Snyder	826	95	11.50	2	2.11	0.24	3	3.16	0.36
Somerset	1,286	484	37.64	11	2.27	0.86	3	0.62	0.23
Sullivan	65	29	44.62	2	6.90	3.08	0	0.00	0.00
Susquehanna	723	114	15.77	4	3.51	0.55	1	0.88	0.14
Tioga	832	179	21.51	3	1.68	0.36	1	0.56	0.12
Union	809	145	17.92	3	2.07	0.37	2	1.38	0.25
Venango	899	314	34.93	10	3.18	1.11	8	2.55	0.89
Warren	836	309	36.96	20	6.47	2.39	4	1.29	0.48
Washington	3,911	1,723	44.06	45	2.61	1.15	15	0.87	0.38
Wayne	745	290	38.93	5	1.72	0.67	2	0.69	0.27
Westmoreland	5,877	2,438	41.48	59	2.42	1.00	16	0.66	0.27
Wyoming	523	90	17.21	3	3.33	0.57	2	2.22	0.38
York	9,814	2,540	25.88	98	3.86	1.00	27	1.06	0.28
Total	272,114	86,276	31.71	2,397	2.78	0.88	733	0.85	0.27

*Note that Pennsylvania does not mandate universal screening of children; screening of children is recommended between 9 and 12 months and at 24 months. Allegheny County is currently the only county with mandatory testing.
**Percent was calculated as the number of children tested divided by the population of children in the county for the specified age range.
†2019 intercensal estimate
Data sources: Pennsylvania Department of Health, PA-NEDSS., National Center for Health Statistics

Table 14: Number of Children Aged 0–23 Months by County of Residence and Elevated Blood Lead Confirmation Status,* 2020

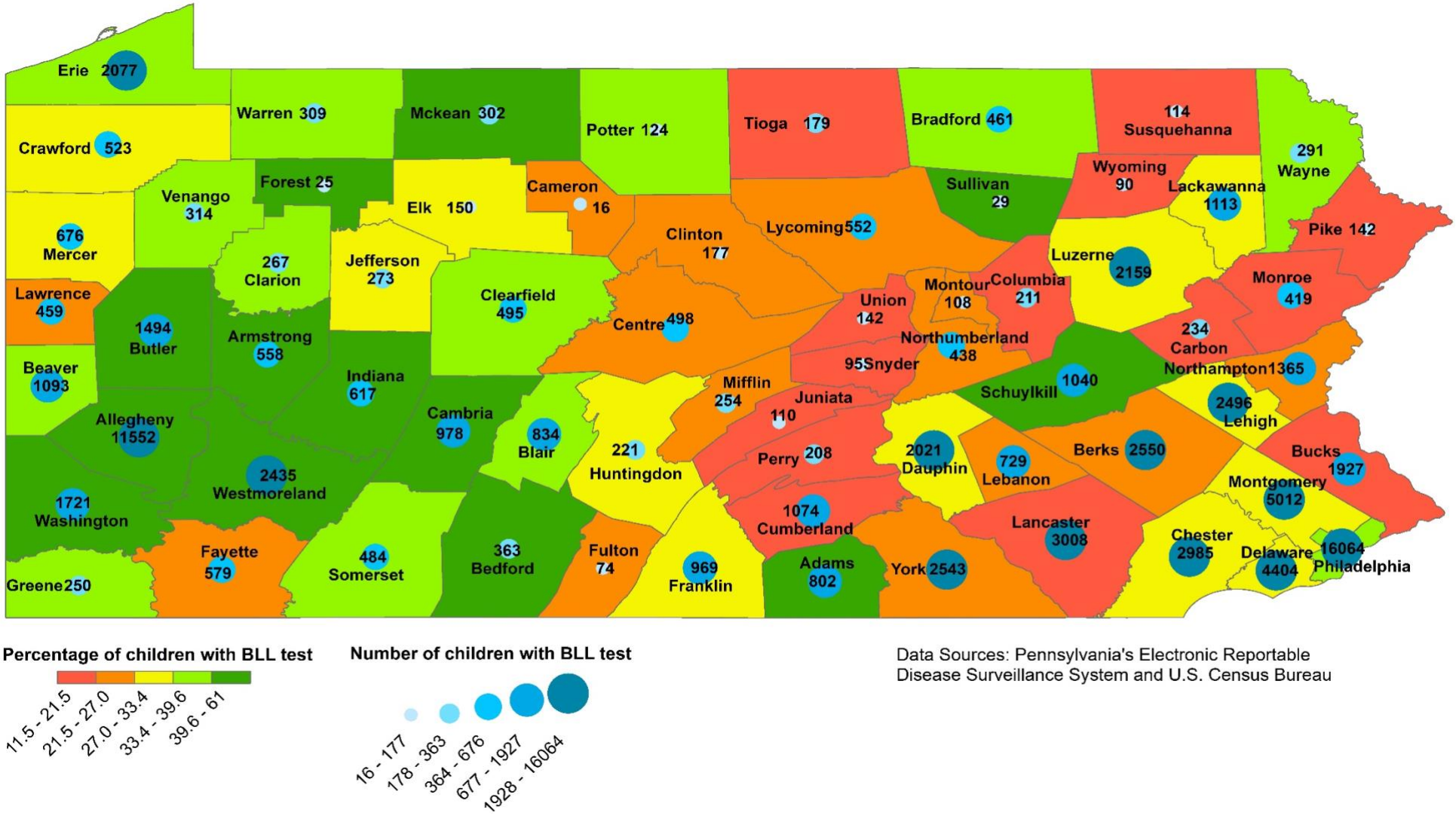
County of residence	Population of children aged 0–23 months†	Children tested**		Unconfirmed elevated (≥ 5 µg/dL)			Confirmed 5–9.9 µg/dL			Confirmed ≥ 10 µg/dL		
		N	% of population^	N	% of tested	% of population	N	% of tested	% of population	N	% of tested	% of population
Adams	1,967	802	40.77	12	1.50	0.61	6	0.75	0.31	3	0.37	0.15
Allegheny	25,385	11,552	45.51	129	1.12	0.51	129	1.12	0.51	37	0.32	0.15
Armstrong	1,263	558	44.18	6	1.08	0.48	6	1.08	0.48	1	0.18	0.08
Beaver	3,051	1,093	35.82	20	1.83	0.66	23	2.10	0.75	4	0.37	0.13
Bedford	916	363	39.63	7	1.93	0.76	3	0.83	0.33	2	0.55	0.22
Berks	9,450	2,550	26.98	91	3.57	0.96	89	3.49	0.94	37	1.45	0.39
Blair	2,350	834	35.49	11	1.32	0.47	25	3.00	1.06	8	0.96	0.34
Bradford	1,244	461	37.06	2	0.43	0.16	11	2.39	0.88	4	0.87	0.32
Bucks	11,612	1,927	16.59	3	0.16	0.03	19	0.99	0.16	1	0.05	0.01
Butler	3,455	1,494	43.24	7	0.47	0.20	9	0.60	0.26	2	0.13	0.06
Cambria	2,448	978	39.95	16	1.64	0.65	14	1.43	0.57	7	0.72	0.29
Cameron	74	16	21.62	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
Carbon	1,173	234	19.95	4	1.71	0.34	4	1.71	0.34	2	0.85	0.17
Centre	2,303	498	21.62	1	0.20	0.04	1	0.20	0.04	0	0.00	0.00
Chester	10,843	2,985	27.53	16	0.54	0.15	30	1.01	0.28	12	0.40	0.11
Clarion	734	267	36.38	10	3.75	1.36	4	1.50	0.54	0	0.00	0.00
Clearfield	1,469	495	33.70	4	0.81	0.27	5	1.01	0.34	2	0.40	0.14
Clinton	766	177	23.11	2	1.13	0.26	6	3.39	0.78	2	1.13	0.26
Columbia	1,042	211	20.25	0	0.00	0.00	6	2.84	0.58	1	0.47	0.10
Crawford	1,830	523	28.58	9	1.72	0.49	7	1.34	0.38	2	0.38	0.11
Cumberland	5,269	1,074	20.38	11	1.02	0.21	7	0.65	0.13	7	0.65	0.13
Dauphin	6,684	2,021	30.24	22	1.09	0.33	22	1.09	0.33	6	0.30	0.09
Delaware	13,199	4,404	33.37	36	0.82	0.27	32	0.73	0.24	21	0.48	0.16
Elk	539	150	27.83	1	0.67	0.19	1	0.67	0.19	1	0.67	0.19
Erie	5,803	2,077	35.79	49	2.36	0.84	29	1.40	0.50	13	0.63	0.22

County of residence	Population of children aged 0–23 months†	Children tested**		Unconfirmed elevated (≥ 5 µg/dL)			Confirmed 5–9.9 µg/dL			Confirmed ≥ 10 µg/dL		
		N	% of population^	N	% of tested	% of population	N	% of tested	% of population	N	% of tested	% of population
Fayette	2,487	579	23.28	6	1.04	0.24	14	2.42	0.56	6	1.04	0.24
Forest	41	25	60.98	1	4.00	2.44	1	4.00	2.44	0	0.00	0.00
Franklin	3,461	969	28.00	13	1.34	0.38	10	1.03	0.29	3	0.31	0.09
Fulton	295	74	25.08	0	0.00	0.00	2	2.70	0.68	0	0.00	0.00
Greene	708	250	35.31	0	0.00	0.00	7	2.80	0.99	1	0.40	0.14
Huntingdon	702	221	31.48	4	1.81	0.57	3	1.36	0.43	1	0.45	0.14
Indiana	1,538	617	40.12	6	0.97	0.39	3	0.49	0.20	3	0.49	0.20
Jefferson	927	273	29.45	5	1.83	0.54	6	2.20	0.65	2	0.73	0.22
Juniata	574	110	19.16	3	2.73	0.52	1	0.91	0.17	1	0.91	0.17
Lackawanna	4,086	1,113	27.24	17	1.53	0.42	19	1.71	0.47	13	1.17	0.32
Lancaster	14,218	3,008	21.16	48	1.60	0.34	60	1.99	0.42	19	0.63	0.13
Lawrence	1,759	459	26.09	4	0.87	0.23	7	1.53	0.40	3	0.65	0.17
Lebanon	3,261	729	22.36	18	2.47	0.55	18	2.47	0.55	8	1.10	0.25
Lehigh	8,587	2,496	29.07	63	2.52	0.73	23	0.92	0.27	10	0.40	0.12
Luzerne	6,581	2,159	32.81	43	1.99	0.65	20	0.93	0.30	22	1.02	0.33
Lycoming	2,336	552	23.63	5	0.91	0.21	16	2.90	0.68	6	1.09	0.26
McKean	756	302	39.95	2	0.66	0.26	9	2.98	1.19	0	0.00	0.00
Mercer	2,090	676	32.34	12	1.78	0.57	8	1.18	0.38	2	0.30	0.10
Mifflin	1,156	254	21.97	1	0.39	0.09	8	3.15	0.69	1	0.39	0.09
Monroe	3,126	419	13.40	0	0.00	0.00	3	0.72	0.10	0	0.00	0.00
Montgomery	17,481	5,012	28.67	31	0.62	0.18	63	1.26	0.36	17	0.34	0.10
Montour	420	108	25.71	1	0.93	0.24	1	0.93	0.24	0	0.00	0.00
Northampton	5,572	1,365	24.50	18	1.32	0.32	18	1.32	0.32	6	0.44	0.11
Northumberland	1,848	438	23.70	11	2.51	0.60	11	2.51	0.60	9	2.05	0.49
Perry	996	208	20.88	3	1.44	0.30	4	1.92	0.40	1	0.48	0.10
Philadelphia	41,338	16,064	38.86	154	0.96	0.37	403	2.51	0.97	135	0.84	0.33
Pike	866	142	16.40	0	0.00	0.00	2	1.41	0.23	1	0.70	0.12

County of residence	Population of children aged 0–23 months†	Children tested**		Unconfirmed elevated (≥ 5 µg/dL)			Confirmed 5–9.9 µg/dL			Confirmed ≥ 10 µg/dL		
		N	% of population^	N	% of tested	% of population	N	% of tested	% of population	N	% of tested	% of population
Potter	313	124	39.62	0	0.00	0.00	3	2.42	0.96	0	0.00	0.00
Schuylkill	2,576	1,040	40.37	31	2.98	1.20	22	2.12	0.85	8	0.77	0.31
Snyder	826	95	11.50	2	2.11	0.24	1	1.05	0.12	2	2.11	0.24
Somerset	1,286	484	37.64	8	1.65	0.62	5	1.03	0.39	0	0.00	0.00
Sullivan	65	29	44.62	0	0.00	0.00	2	6.90	3.08	0	0.00	0.00
Susquehanna	723	114	15.77	0	0.00	0.00	2	1.75	0.28	1	0.88	0.14
Tioga	832	179	21.51	0	0.00	0.00	3	1.68	0.36	1	0.56	0.12
Union	809	142	17.55	1	0.70	0.12	3	2.11	0.37	1	0.70	0.12
Venango	899	314	34.93	6	1.91	0.67	5	1.59	0.56	7	2.23	0.78
Warren	836	309	36.96	11	3.56	1.32	11	3.56	1.32	2	0.65	0.24
Washington	3,911	1,721	44.00	30	1.74	0.77	20	1.16	0.51	9	0.52	0.23
Wayne	745	291	39.06	3	1.03	0.40	4	1.37	0.54	0	0.00	0.00
Westmoreland	5,877	2,435	41.43	23	0.94	0.39	31	1.27	0.53	8	0.33	0.14
Wyoming	523	90	17.21	0	0.00	0.00	3	3.33	0.57	2	2.22	0.38
York	9,814	2,543	25.91	57	2.24	0.58	42	1.65	0.43	11	0.43	0.11
Total	272,114	86,276	31.71	1,110	1.29	0.41	1,385	1.61	0.51	497	0.58	0.18

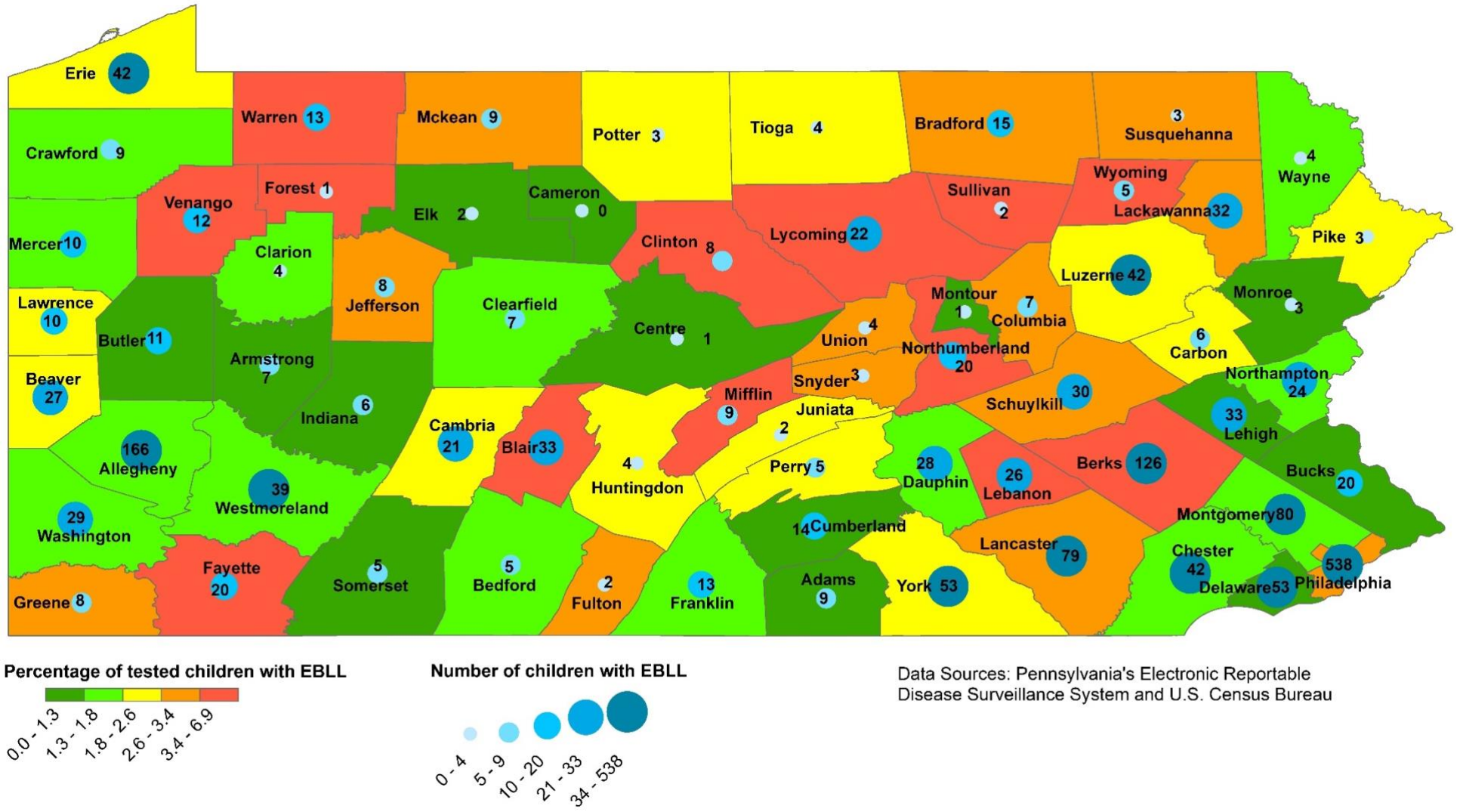
*Per CDC 2016 Confirmed Elevated Blood Lead case definition
**Note that Pennsylvania does not mandate universal screening of children; screening of children is recommended between 9 and 12 months and at 24 months. Allegheny County is currently the only county with mandatory testing.
^Percent was calculated as the number of children tested divided by the population of children in the county for the specified age range.
†2019 intercensal estimate
Data sources: Pennsylvania Department of Health, PA-NEDSS., National Center for Health Statistics

Figure 1: Number and Percentage* of Children Aged 0–23 Months Tested for Blood Lead Level by County, 2020



*Percentage was calculated by dividing the number of children aged 0−23 months tested in each county by the 2019 intercensal estimate of the number of children aged 0−23 months residing in the county.

Figure 2: Number and Percentage* of Children Aged 0–23 Months with Confirmed Elevated Blood Lead Level by County, 2020



*Percentage was calculated by dividing the number of children aged 0−23 months with EBLL by the total number of children aged 0−23 months tested for blood lead level in 2020.

Table 15: Number of Children Tested for Lead by Maximum Blood Lead Level and County of Residence, Children Aged 0–71 Months, 2020

County of residence	Population of children aged 0–71 months†	Children tested*		Maximum BLL 5–9.9 µg/dL			Maximum BLL ≥ 10 µg/dL		
		N	% of population**	N	% of tested	% of population	N	% of tested	% of population
Adams	6,203	1,206	19.44	32	2.65	0.52	13	1.08	0.21
Allegheny	76,390	21,014	27.51	523	2.49	0.68	139	0.66	0.18
Armstrong	3,793	1,027	27.08	38	3.70	1.00	7	0.68	0.18
Beaver	9,890	1,526	15.43	50	3.28	0.51	15	0.98	0.15
Bedford	2,819	625	22.17	14	2.24	0.50	7	1.12	0.25
Berks	29,040	4,404	15.17	300	6.81	1.03	110	2.50	0.38
Blair	7,618	1,155	15.16	62	5.37	0.81	22	1.90	0.29
Bradford	4,146	868	20.94	33	3.80	0.80	16	1.84	0.39
Bucks	36,927	3,011	8.15	39	1.30	0.11	8	0.27	0.02
Butler	11,405	2,364	20.73	33	1.40	0.29	7	0.30	0.06
Cambria	7,778	1,503	19.32	59	3.93	0.76	35	2.33	0.45
Cameron	265	40	15.09	0	0.00	0.00	0	0.00	0.00
Carbon	3,708	424	11.43	20	4.72	0.54	12	2.83	0.32
Centre	7,450	580	7.79	2	0.34	0.03	1	0.17	0.01
Chester	35,016	5,139	14.68	95	1.85	0.27	27	0.53	0.08
Clarion	2,383	429	18.00	22	5.13	0.92	3	0.70	0.13
Clearfield	4,430	774	17.47	15	1.94	0.34	9	1.16	0.20
Clinton	2,367	275	11.62	10	3.64	0.42	2	0.73	0.08
Columbia	3,443	300	8.71	11	3.67	0.32	4	1.33	0.12
Crawford	5,541	1,064	19.20	32	3.01	0.58	10	0.94	0.18
Cumberland	16,426	1,607	9.78	31	1.93	0.19	18	1.12	0.11
Dauphin	20,567	3,356	16.32	83	2.47	0.40	32	0.95	0.16
Delaware	40,473	7,718	19.07	193	2.50	0.48	56	0.73	0.14
Elk	1,766	252	14.27	9	3.57	0.51	1	0.40	0.06
Erie	18,191	3,839	21.10	160	4.17	0.88	57	1.48	0.31
Fayette	7,853	1,032	13.14	28	2.71	0.36	16	1.55	0.20

County of residence	Population of children aged 0–71 months†	Children tested*		Maximum BLL 5–9.9 µg/dL			Maximum BLL ≥ 10 µg/dL		
		N	% of population**	N	% of tested	% of population	N	% of tested	% of population
Forest	174	33	18.97	1	3.03	0.57	1	3.03	0.57
Franklin	10,940	1,490	13.62	43	2.89	0.39	15	1.01	0.14
Fulton	913	136	14.90	3	2.21	0.33	0	0.00	0.00
Greene	2,299	480	20.88	18	3.75	0.78	4	0.83	0.17
Huntingdon	2,334	394	16.88	9	2.28	0.39	4	1.02	0.17
Indiana	4,748	864	18.20	22	2.55	0.46	7	0.81	0.15
Jefferson	2,931	458	15.63	19	4.15	0.65	5	1.09	0.17
Juniata	1,716	147	8.57	4	2.72	0.23	3	2.04	0.17
Lackawanna	13,409	1,838	13.71	100	5.44	0.75	54	2.94	0.40
Lancaster	42,779	4,995	11.68	180	3.60	0.42	64	1.28	0.15
Lawrence	5,443	833	15.30	27	3.24	0.50	8	0.96	0.15
Lebanon	9,997	1,204	12.04	62	5.15	0.62	23	1.91	0.23
Lehigh	26,469	4,544	17.17	185	4.07	0.70	61	1.34	0.23
Luzerne	20,062	3,626	18.07	156	4.30	0.78	86	2.37	0.43
Lycoming	7,250	855	11.79	43	5.03	0.59	21	2.46	0.29
McKean	2,395	585	24.43	25	4.27	1.04	7	1.20	0.29
Mercer	6,462	1,273	19.70	55	4.32	0.85	10	0.79	0.15
Mifflin	3,391	332	9.79	11	3.31	0.32	2	0.60	0.06
Monroe	9,567	785	8.21	9	1.15	0.09	2	0.25	0.02
Montgomery	55,145	8,352	15.15	196	2.35	0.36	52	0.62	0.09
Montour	1,262	214	16.96	7	3.27	0.55	2	0.93	0.16
Northampton	17,623	2,511	14.25	87	3.46	0.49	20	0.80	0.11
Northumberland	5,664	726	12.82	38	5.23	0.67	20	2.75	0.35
Perry	3,181	301	9.46	10	3.32	0.31	3	1.00	0.09
Philadelphia	122,887	29,752	24.21	1,321	4.44	1.07	431	1.45	0.35
Pike	2,619	298	11.38	6	2.01	0.23	3	1.01	0.11
Potter	1,016	230	22.64	7	3.04	0.69	0	0.00	0.00
Schuylkill	8,343	1,713	20.53	110	6.42	1.32	39	2.28	0.47

County of residence	Population of children aged 0–71 months†	Children tested*		Maximum BLL 5–9.9 µg/dL			Maximum BLL ≥ 10 µg/dL		
		N	% of population**	N	% of tested	% of population	N	% of tested	% of population
Snyder	2,611	130	4.98	5	3.85	0.19	4	3.08	0.15
Somerset	4,024	670	16.65	17	2.54	0.42	5	0.75	0.12
Sullivan	204	50	24.51	2	4.00	0.98	0	0.00	0.00
Susquehanna	2,274	183	8.05	8	4.37	0.35	2	1.09	0.09
Tioga	2,554	293	11.47	4	1.37	0.16	3	1.02	0.12
Union	2,469	201	8.14	8	3.98	0.32	4	1.99	0.16
Venango	2,897	706	24.37	39	5.52	1.35	11	1.56	0.38
Warren	2,449	582	23.76	41	7.04	1.67	12	2.06	0.49
Washington	12,556	2,724	21.69	77	2.83	0.61	26	0.95	0.21
Wayne	2,504	595	23.76	20	3.36	0.80	3	0.50	0.12
Westmoreland	18,955	3,890	20.52	97	2.49	0.51	28	0.72	0.15
Wyoming	1,574	128	8.13	5	3.91	0.32	2	1.56	0.13
York	30,764	3,779	12.28	190	5.03	0.62	68	1.80	0.22
Total	842,742	148,432	17.61	5,161	3.48	0.61	1,742	1.17	0.21

*Note that Pennsylvania does not mandate universal screening of children; screening of children is recommended between 9 and 12 months and at 24 months. Allegheny and Philadelphia are currently the only counties with mandatory testing.
**Percent was calculated as the number of children tested divided by the population of children in the county for the specified age range.
†2019 intercensal estimate
Data sources: Pennsylvania Department of Health, PA-NEDSS., National Center for Health Statistics

Table 16: Number of Children Aged 0–71 Months by County of Residence and Elevated Blood Lead Confirmation Status,* 2020

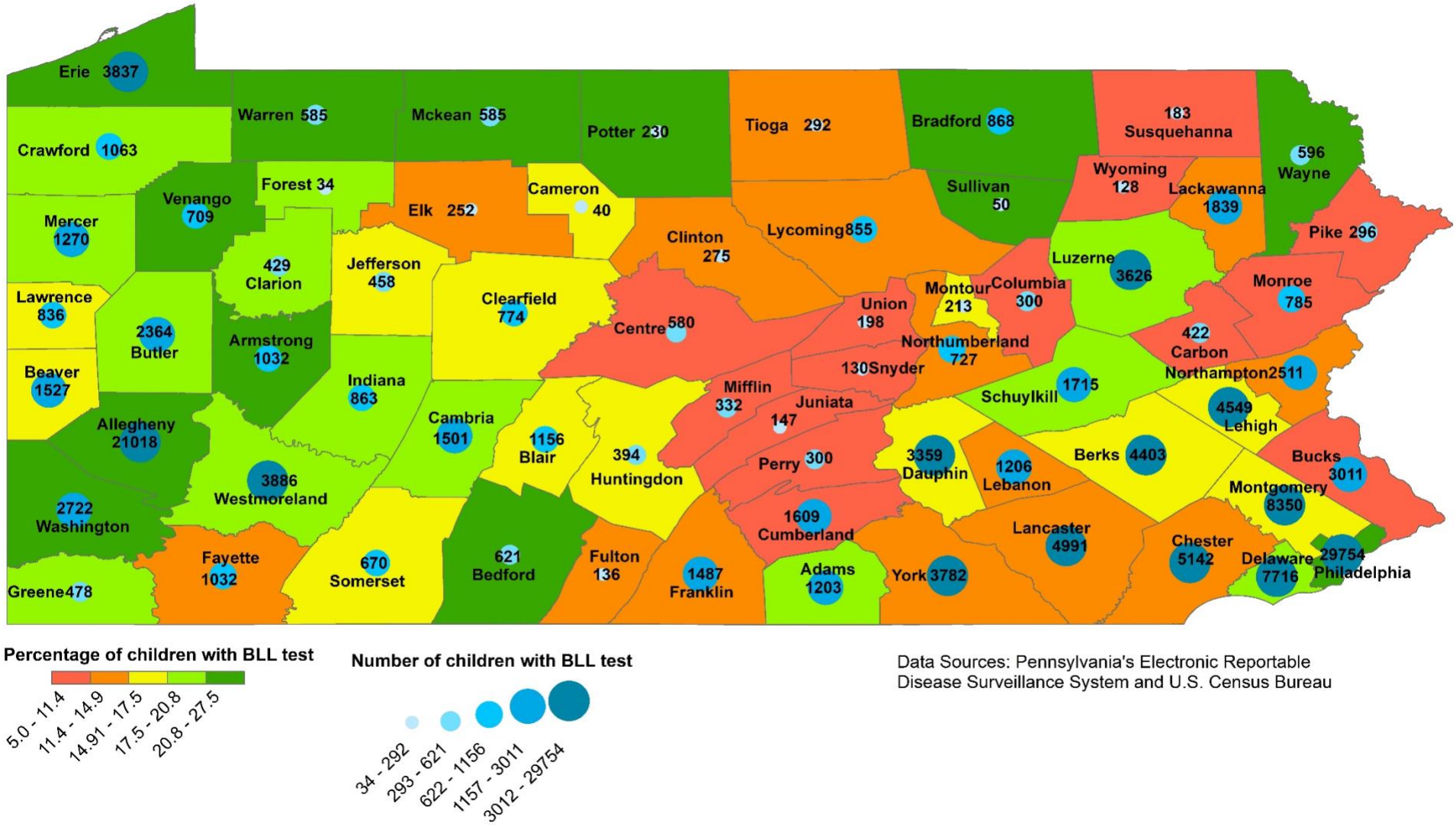
County of residence	Population of children aged 0–71 months†	Children tested**		Unconfirmed elevated (≥ 5 µg/dL)			Confirmed 5–9.9 µg/dL			Confirmed ≥ 10 µg/dL		
		N	% of population^	N	% of tested	% of population	N	% of tested	% of population	N	% of tested	% of population
Adams	6,203	1,203	19.39	17	1.41	0.27	13	1.08	0.21	10	0.83	0.16
Allegheny	76,390	21,018	27.51	290	1.38	0.38	257	1.22	0.34	95	0.45	0.12
Armstrong	3,793	1,032	27.21	14	1.36	0.37	22	2.13	0.58	5	0.48	0.13
Beaver	9,890	1,527	15.44	23	1.51	0.23	30	1.96	0.30	11	0.72	0.11
Bedford	2,819	621	22.03	8	1.29	0.28	7	1.13	0.25	5	0.81	0.18
Berks	29,040	4,403	15.16	173	3.93	0.60	168	3.82	0.58	81	1.84	0.28
Blair	7,618	1,156	15.17	19	1.64	0.25	43	3.72	0.56	20	1.73	0.26
Bradford	4,146	868	20.94	10	1.15	0.24	26	3.00	0.63	13	1.50	0.31
Bucks	36,927	3,011	8.15	12	0.40	0.03	30	1.00	0.08	6	0.20	0.02
Butler	11,405	2,364	20.73	12	0.51	0.11	16	0.68	0.14	6	0.25	0.05
Cambria	7,778	1,501	19.30	39	2.60	0.50	40	2.66	0.51	21	1.40	0.27
Cameron	265	40	15.09	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
Carbon	3,708	422	11.38	10	2.37	0.27	14	3.32	0.38	5	1.18	0.13
Centre	7,450	580	7.79	1	0.17	0.01	2	0.34	0.03	1	0.17	0.01
Chester	35,016	5,142	14.68	50	0.97	0.14	55	1.07	0.16	20	0.39	0.06
Clarion	2,383	429	18.00	14	3.26	0.59	9	2.10	0.38	1	0.23	0.04
Clearfield	4,430	774	17.47	6	0.78	0.14	11	1.42	0.25	6	0.78	0.14
Clinton	2,367	275	11.62	2	0.73	0.08	8	2.91	0.34	2	0.73	0.08
Columbia	3,443	300	8.71	2	0.67	0.06	11	3.67	0.32	2	0.67	0.06
Crawford	5,541	1,063	19.18	23	2.16	0.42	15	1.41	0.27	6	0.56	0.11
Cumberland	16,426	1,609	9.80	20	1.24	0.12	14	0.87	0.09	14	0.87	0.09
Dauphin	20,567	3,359	16.33	42	1.25	0.20	50	1.49	0.24	22	0.65	0.11
Delaware	40,473	7,716	19.06	85	1.10	0.21	110	1.43	0.27	47	0.61	0.12
Elk	1,766	252	14.27	4	1.59	0.23	5	1.98	0.28	1	0.40	0.06
Erie	18,191	3,837	21.09	105	2.74	0.58	72	1.88	0.40	32	0.83	0.18

County of residence	Population of children aged 0–71 months†	Children tested**		Unconfirmed elevated (≥ 5 µg/dL)			Confirmed 5–9.9 µg/dL			Confirmed ≥ 10 µg/dL		
		N	% of population^	N	% of tested	% of population	N	% of tested	% of population	N	% of tested	% of population
Fayette	7,853	1,032	13.14	7	0.68	0.09	23	2.23	0.29	15	1.45	0.19
Forest	174	34	19.54	1	2.94	0.57	2	5.88	1.15	0	0.00	0.00
Franklin	10,940	1,487	13.59	26	1.75	0.24	24	1.61	0.22	6	0.40	0.05
Fulton	913	136	14.90	0	0.00	0.00	3	2.21	0.33	0	0.00	0.00
Greene	2,299	478	20.79	3	0.63	0.13	15	3.14	0.65	3	0.63	0.13
Huntingdon	2,334	394	16.88	8	2.03	0.34	4	1.02	0.17	3	0.76	0.13
Indiana	4,748	863	18.18	15	1.74	0.32	5	0.58	0.11	4	0.46	0.08
Jefferson	2,931	458	15.63	14	3.06	0.48	11	2.40	0.38	3	0.66	0.10
Juniata	1,716	147	8.57	3	2.04	0.17	1	0.68	0.06	3	2.04	0.17
Lackawanna	13,409	1,839	13.71	46	2.50	0.34	61	3.32	0.45	31	1.69	0.23
Lancaster	42,779	4,991	11.67	88	1.76	0.21	105	2.10	0.25	47	0.94	0.11
Lawrence	5,443	836	15.36	18	2.15	0.33	15	1.79	0.28	5	0.60	0.09
Lebanon	9,997	1,206	12.06	34	2.82	0.34	32	2.65	0.32	16	1.33	0.16
Lehigh	26,469	4,549	17.19	130	2.86	0.49	68	1.49	0.26	35	0.77	0.13
Luzerne	20,062	3,626	18.07	129	3.56	0.64	56	1.54	0.28	52	1.43	0.26
Lycoming	7,250	855	11.79	7	0.82	0.10	38	4.44	0.52	17	1.99	0.23
McKean	2,395	585	24.43	5	0.85	0.21	21	3.59	0.88	4	0.68	0.17
Mercer	6,462	1,270	19.65	27	2.13	0.42	28	2.20	0.43	6	0.47	0.09
Mifflin	3,391	332	9.79	1	0.30	0.03	9	2.71	0.27	2	0.60	0.06
Monroe	9,567	785	8.21	3	0.38	0.03	5	0.64	0.05	3	0.38	0.03
Montgomery	55,145	8,350	15.14	72	0.86	0.13	131	1.57	0.24	42	0.50	0.08
Montour	1,262	213	16.88	1	0.47	0.08	5	2.35	0.40	2	0.94	0.16
Northampton	17,623	2,511	14.25	47	1.87	0.27	41	1.63	0.23	11	0.44	0.06
Northumberland	5,664	727	12.84	12	1.65	0.21	29	3.99	0.51	17	2.34	0.30
Perry	3,181	300	9.43	4	1.33	0.13	6	2.00	0.19	2	0.67	0.06
Philadelphia	122,887	29,754	24.21	331	1.11	0.27	1,038	3.49	0.84	378	1.27	0.31

County of residence	Population of children aged 0–71 months†	Children tested**		Unconfirmed elevated (≥ 5 µg/dL)			Confirmed 5–9.9 µg/dL			Confirmed ≥ 10 µg/dL		
		N	% of population^	N	% of tested	% of population	N	% of tested	% of population	N	% of tested	% of population
Pike	2,619	296	11.30	1	0.34	0.04	4	1.35	0.15	3	1.01	0.11
Potter	1,016	230	22.64	2	0.87	0.20	5	2.17	0.49	0	0.00	0.00
Schuylkill	8,343	1,715	20.56	64	3.73	0.77	52	3.03	0.62	27	1.57	0.32
Snyder	2,611	130	4.98	5	3.85	0.19	3	2.31	0.11	2	1.54	0.08
Somerset	4,024	670	16.65	12	1.79	0.30	8	1.19	0.20	2	0.30	0.05
Sullivan	204	50	24.51	0	0.00	0.00	2	4.00	0.98	0	0.00	0.00
Susquehanna	2,274	183	8.05	0	0.00	0.00	6	3.28	0.26	2	1.09	0.09
Tioga	2,554	292	11.43	1	0.34	0.04	4	1.37	0.16	1	0.34	0.04
Union	2,469	198	8.02	1	0.51	0.04	8	4.04	0.32	3	1.52	0.12
Venango	2,897	709	24.47	16	2.26	0.55	27	3.81	0.93	8	1.13	0.28
Warren	2,449	585	23.89	30	5.13	1.22	18	3.08	0.73	7	1.20	0.29
Washington	12,556	2,722	21.68	51	1.87	0.41	36	1.32	0.29	16	0.59	0.13
Wayne	2,504	596	23.80	16	2.68	0.64	8	1.34	0.32	1	0.17	0.04
Westmoreland	18,955	3,886	20.50	43	1.11	0.23	48	1.24	0.25	15	0.39	0.08
Wyoming	1,574	128	8.13	2	1.56	0.13	3	2.34	0.19	2	1.56	0.13
York	30,764	3,782	12.29	113	2.99	0.37	83	2.19	0.27	38	1.00	0.12
Total	842,742	148,432	17.61	2,370	1.60	0.28	3,119	2.10	0.37	1,266	0.85	0.15

*Per CDC 2016 Confirmed Elevated Blood Lead case definition
**Note that Pennsylvania does not mandate universal screening of children; screening of children is recommended between 9 and 12 months and at 24 months. Allegheny and Philadelphia are currently the only counties with mandatory testing.
^Percent was calculated as the number of children tested divided by the population of children in the county for the specified age range.
†2019 intercensal estimate
Data sources: Pennsylvania Department of Health, PA-NEDSS., National Center for Health Statistics

Figure 3: Number and Percentage* of Children Aged 0–71 Months Tested for Blood Lead Level by County, 2020



Percentage of children with BLL test

5.0 - 11.4
11.4 - 14.9
14.91 - 17.5
17.5 - 20.8
20.8 - 27.5

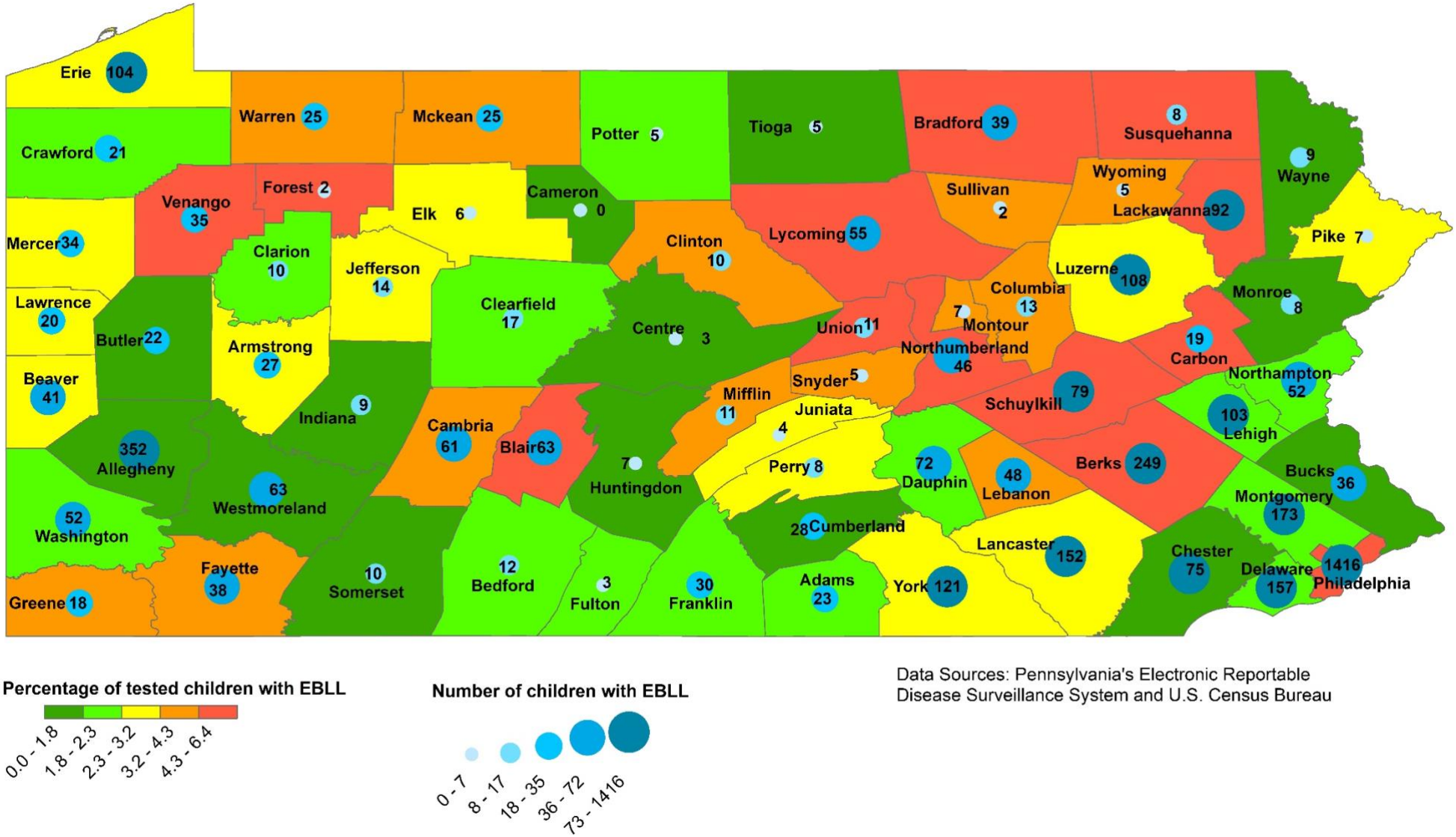
Number of children with BLL test

34 - 292
293 - 621
622 - 1156
1157 - 3011
3012 - 29754

Data Sources: Pennsylvania's Electronic Reportable Disease Surveillance System and U.S. Census Bureau

*Percentage was calculated by dividing the number of children aged 0−71 months tested in each county by the 2019 intercensal estimate of the number of children aged 0−71 months residing in the county.

Figure 4: Number and Percentage* of Children Aged 0–71 Months with Confirmed Elevated Blood Lead Level by County, 2020.



*Percentage was calculated by dividing the number of children aged 0−71 months with EBLL by the total number of children aged 0−71 months tested for blood lead level in 2020.

Testing in Rural and Urban Counties:

The chart below contains testing data on children under age 6, broken out by residence in either a rural or urban county. The chart also further displays results broken out by EBLL and whether they were confirmed.

Table 17: Number of Children Aged 0–71 Months by Urban/Rural Status of County of Residence and Elevated Blood Lead Confirmation Status,* 2020

Status of county of residence	Population of children aged 0–71 months**	Children tested		Unconfirmed elevated (≥ 5 µg/dL)			Confirmed 5–9.9 µg/dL			Confirmed ≥ 10 µg/dL		
		N	% of population†	N	% of tested	% of population	N	% of tested	% of population	N	% of tested	% of population
Rural	201,732	32,316	16.02	537	1.66	0.27	670	2.07	0.33	273	0.84	0.14
Urban	641,010	116,116	18.11	1,833	1.58	0.29	2,449	2.11	0.38	993	0.86	0.15
Total	842,742	148,432	17.61	2,370	1.60	0.28	3,119	2.10	0.37	1,266	0.85	0.15

*Per CDC 2016 Elevated Blood Lead case definition
**2019 intercensal estimate
†Percent was calculated as the number of children tested/population of children in the county for the specified age range.
Data sources: Pennsylvania Department of Health, PA-NEDSS., National Center for Health Statistics

Note: A county is rural when the number of persons per square mile within the county is less than 284. Counties that have 284 persons or more per square mile are considered urban. The current mix of 48 rural and 19 urban counties has remained unchanged since 1970. Population projections from the Pennsylvania State Data Center show that this current mix of rural/urban counties will remain the same until 2040. Urban counties are Allegheny, Beaver, Berks, Bucks, Chester, Cumberland, Dauphin, Delaware, Erie, Lackawanna, Lancaster, Lebanon, Lehigh, Luzerne, Montgomery, Northampton, Philadelphia, Westmoreland, and York.

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This report can be found at: https://www.health.pa.gov/Pages/default.aspx.