ARIZONA

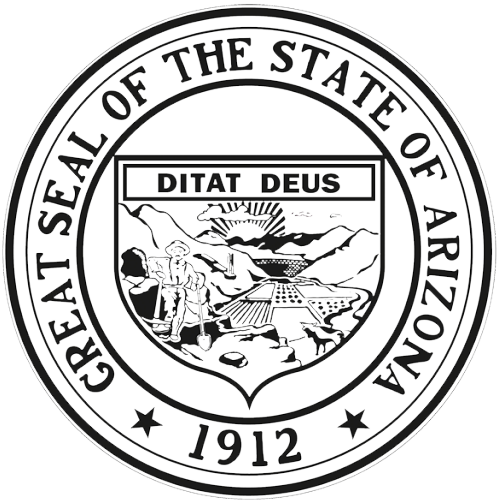
2017

ANNUAL REPORT

BLOOD LEAD SURVEILLANCE

CHILDHOOD LEAD POISONING PREVENTION PROGRAM

ARIZONA DEPARTMENT
OF HEALTH SERVICES



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REPORT OVERVIEW

Per Arizona Administrative Code R9-4-302, all blood lead results are reportable to the Arizona Department of Health Services (ADHS). The 2017 Blood Lead Surveillance Annual Report describes childhood blood lead data maintained and analyzed by the Childhood Lead Poisoning Prevention Program (CLPPP) for the 2017 calendar year.

The report contains an analysis of statewide and county level data, including a breakdown of elevated blood lead levels (EBLLs) and screening rates in high-risk zip codes. The high-risk zip codes used for analyses in this report came from the 2014 Targeted Lead Screening Plan for the Prevention of Childhood Lead Poisoning. The intent of this report is to provide information for stakeholders to identify areas across Arizona to target interventions.

Data displayed are for children less than 6 years of age at the time of first reported EBLL or first reported test. A child was considered to have had an EBLL when a venous test was reported greater than or equal to (≥) 5 µg/dL.

Screening rates were calculated using venous and capillary blood lead test results reported to ADHS. These rates do not include verbal assessments or questionnaires administered by health care providers.

2017 ANNUAL SURVEILLANCE REPORT HIGHLIGHTS

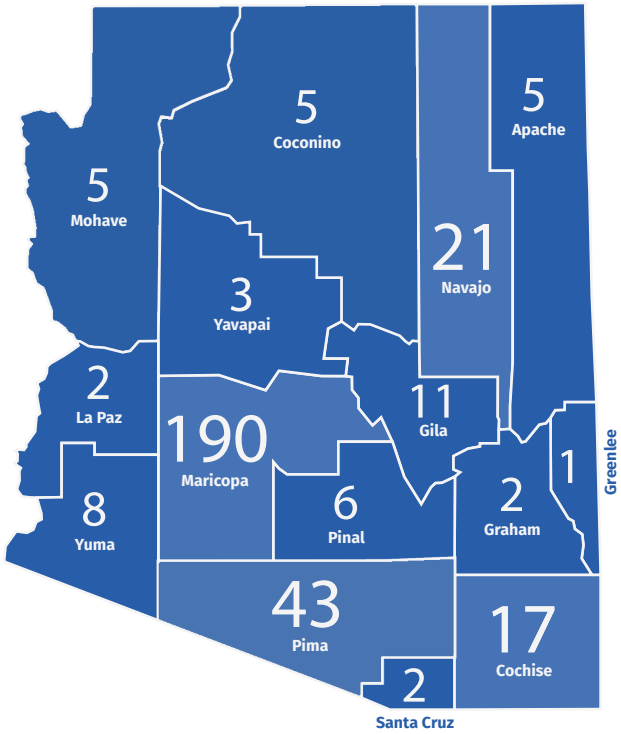
321 total children had elevated blood lead levels in 2017.

85% of cases were reported in 4 counties.

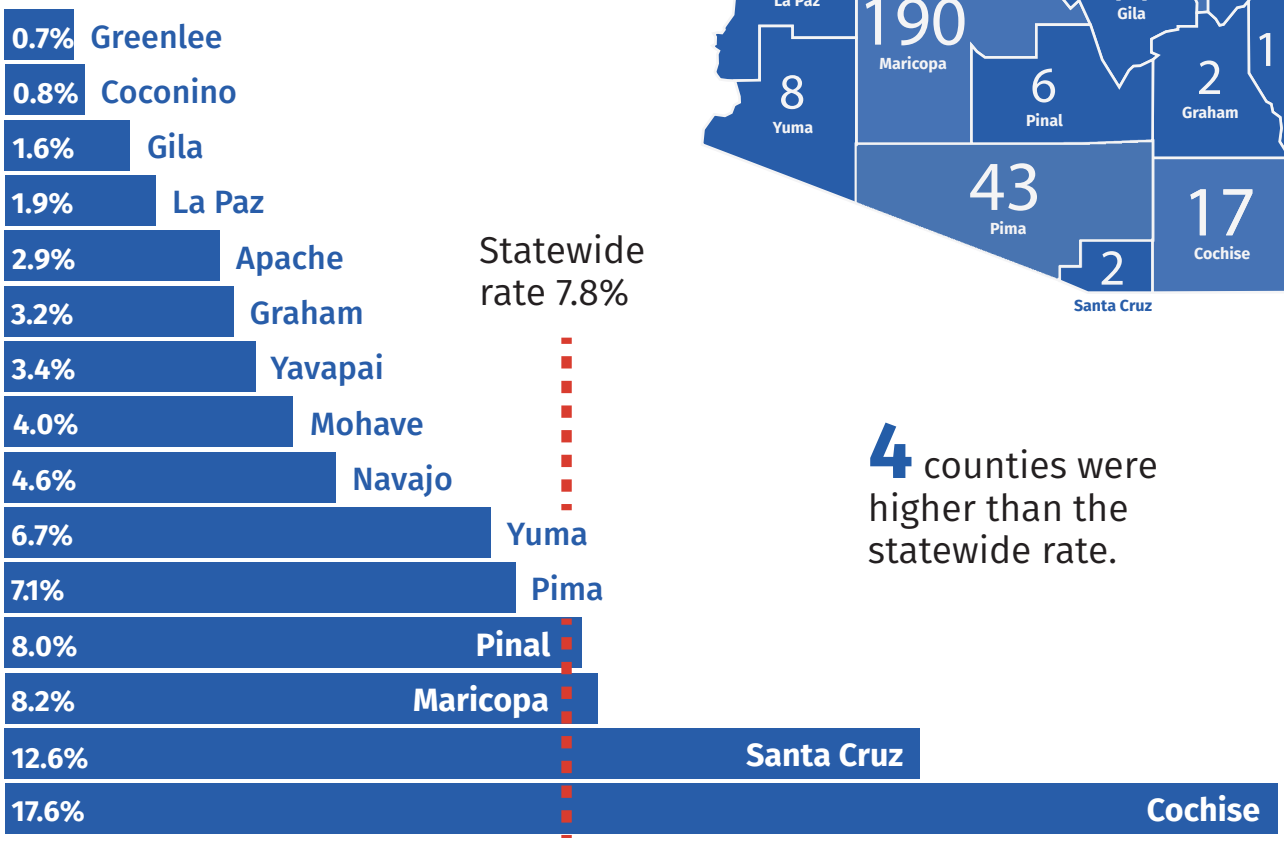
62,176 unique children under the age of 6 had a blood lead test in 2017.

EBLL Case Distribution Across the State

This map shows the distribution of unique children under the age of 6 years reported with a venous blood lead level ≥5 µg/dL in 2017.



12 & 24 Month Screening Rates in High-Risk Zip Codes*



4 counties were higher than the statewide rate.

*Children living in high-risk zip codes were recommended a blood lead test at both 12 and 24 months of age. For current high-risk areas, visit www.azhealth.gov/leadmap.

Statewide Data

62,176 unique children under the age of 6 had a venous or capillary blood lead test in 2017. Of those children tested, there were 321 who had a venous elevated blood lead level (EBLL) greater than or equal to 5 µg/dL. 256 children had EBLLs between 5 and 9.9 µg/dL, and 65 children had levels greater than or equal to 10 µg/dL. The highest venous blood lead level identified in a child was 40.8 µg/dL.

Of the children with an EBLL in 2017, over 75% had their first reported EBLL in 2017.

2017 EBLL Prevalent Cases

321 total children had an elevated blood lead level in 2017.

2017 EBLL Incident Cases

243 of the 320 children had their first reported elevated blood lead level in 2017.

Screening Rates

Children living in high-risk zip codes* in Arizona should receive a blood lead test at 12 and 24 months of age through their health care provider. 27.2% of children living in a high-risk zip code had a blood lead test at 12 months of age. Even fewer, 16.2%, had a blood lead test at 24 months of age. Even fewer still, 7.8%, had received both recommended blood lead tests at 12 and 24 months of age.

*A list of high-risk zip codes by county can be found in Appendix D.

Screening Age	Statewide
12 & 24 months	7.8%†
12 months	27.2%†
24 months	16.2%†

† Significantly different from 2016 rate (p <0.05)

Statewide Sources

CLPPP makes efforts to gather more information about a child's environment and behaviors through a standardized questionnaire completed with families regarding potential sources of lead exposure. When a potential source is identified, CLPPP provides guidance to families on ways to reduce exposure. The information summarized below has been reported by parents and guardians for children identified with an EBLL in 2017. Not all sources can be or have been confirmed as the source of lead exposure for each child, but this summary may give a better understanding of the possible sources of lead that impact Arizona children.

130 children had a history of living in pre-1978 housing in Arizona.

42 children were reported to have mouthed or eaten soil and/or non-food items.

20 children were reported to have products from another country in their home, such as candy, spices, or make-up.

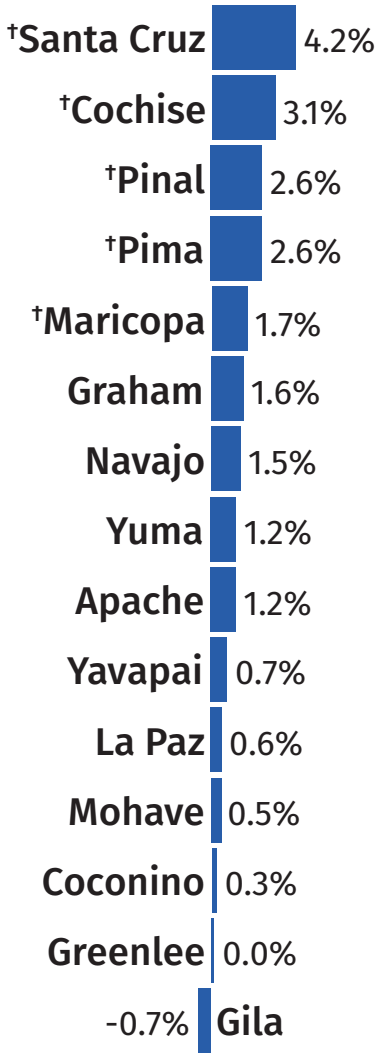
11 children were reported to have imported or handmade glazed ceramics, pewter, crystal, or porcelain in their home.

25 children were reported to live with someone who has an occupation or hobby with a potential lead exposure.

14 children were reported to have lived or visited outside of the U.S. in the past year.

Among the environmental samples collected in 2017 for children identified with an EBLL in the same year, CLPPP identified the following lead sources: pre-1978 paint, soil, household member hobbies, make-ups, and spices brought from another country.

Percent Change in Screening Rates: 2016 vs. 2017 for 12 & 24 month rates*



All children living in a high-risk zip code were recommended to receive a blood lead test at both 12 and 24 months of age.

The statewide rate for at-risk children receiving a blood lead test at both recommended ages increased by 1.8% from 2016 to 2017.†

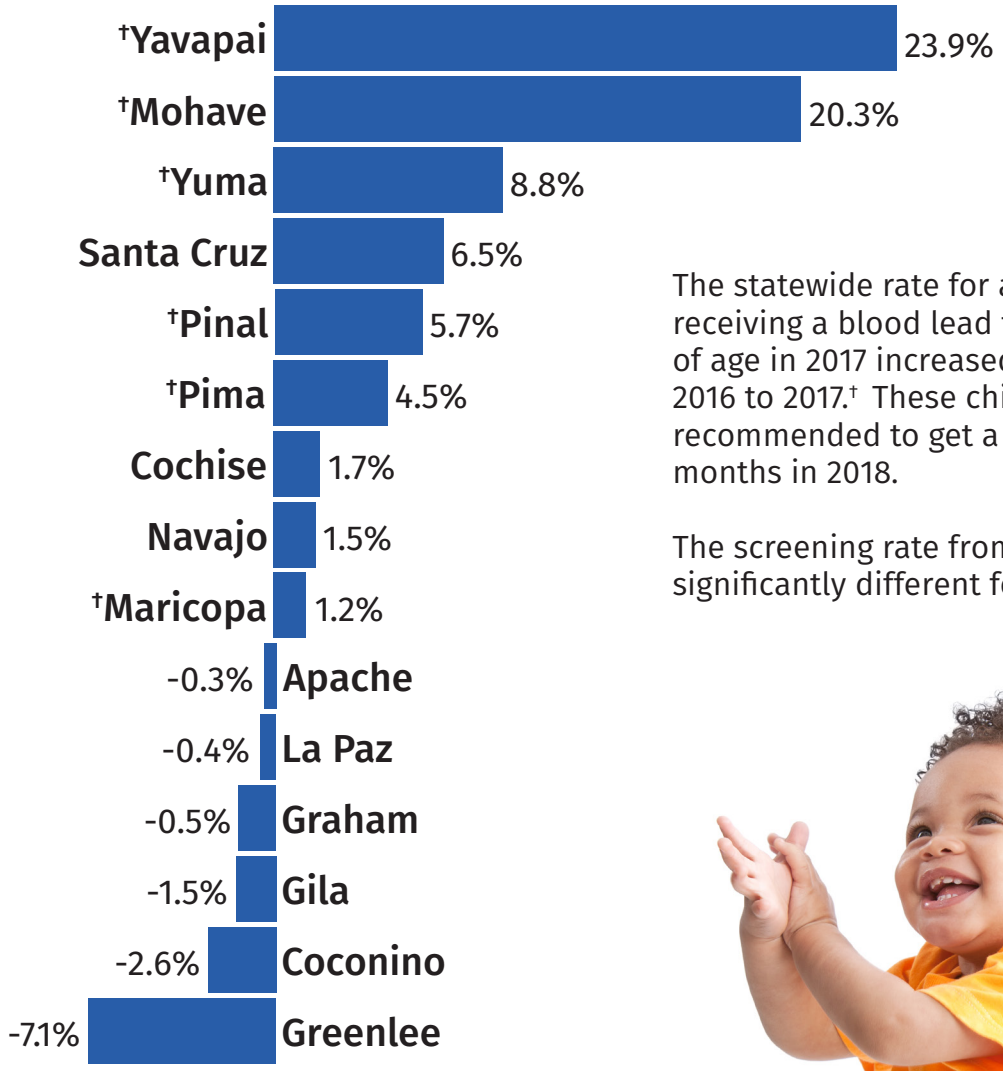
The screening rate from 2016 to 2017 was significantly different for 5 counties.

* Screening rates among children who were 24 months old in 2017

† Significantly different from 2016 rate ($p < 0.05$)

See appendix H for a full list of screening rates for the state and counties.

Percent Change in Screening Rates: 2016 vs. 2017 for 12 month rates*



The statewide rate for at-risk children receiving a blood lead test at 12 months of age in 2017 increased by 3.0% from 2016 to 2017.† These children were also recommended to get a test at the age of 24 months in 2018.

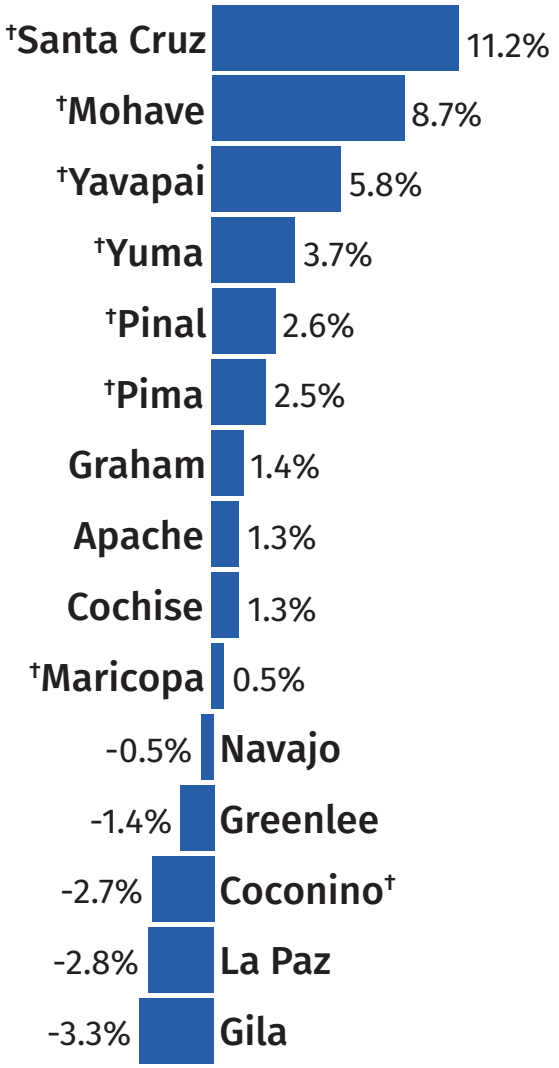
The screening rate from 2016 to 2017 was significantly different for 6 counties.

* Screening rates among children who were 12 months old in 2017

† Significantly different from 2016 rate ($p < 0.05$)

See appendix H for a full list of screening rates for the state and counties.

Percent Change in Screening Rates: 2016 vs. 2017 for 24 month rates*



The statewide rate for at-risk children receiving a blood lead test at only 24 months of age increased by 1.4% from 2016 to 2017.†

The screening rate from 2016 to 2017 was significantly different for 8 counties.

* Screening rates among children who were 24 months old in 2017

† Significantly different from 2016 rate ($p < 0.05$)

See appendix H for a full list of screening rates for the state and counties.

Apache County

405 unique children under the age of 6 had a venous or capillary blood lead test in 2017. Of those children tested, there were 5 who had a venous elevated blood lead level (EBLL) greater than or equal to 5 µg/dL, compared to 6 children in 2016.

Unique children with an EBLL

5 total children had an elevated blood lead level in 2017. 4 of these children had their first reported EBLL in 2017.

3	2
5-9 µg/dL First EBLL	≥10 µg/dL First EBLL

Screening Rates

Children living in high-risk zip codes* in Arizona should receive a blood lead test at 12 and 24 months of age through their health care provider. 9.0% of children living in a high-risk zip code in Apache County had a blood lead test at 12 months of age. 8.1% of children had a blood lead test at 24 months of age and 2.9% of children had received both recommended blood lead tests at 12 and 24 months of age.

Screening Age	Apache	Statewide
12 & 24 months	2.9%	7.8%†
12 months	9.0%	27.2%†
24 months	8.1%	16.2%†

* A list of high-risk zip codes by county can be found in Appendix D.

† Significantly different from 2016 rate ($p < 0.05$)

Cochise County

1,825 unique children under the age of 6 had a venous or capillary blood lead test in 2017. Of those children tested, there were 17 who had a venous elevated blood lead level (EBLL) greater than or equal to 5 µg/dL, compared to 22 children in 2016.

Unique children with an EBLL

17 total children had an elevated blood lead level in 2017. 10 of these children had their first reported EBLL in 2017.

Screening Rates

Children living in high-risk zip codes* in Arizona should receive a blood lead test at 12 and 24 months of age through their health care provider. 41.3% of children living in a high-risk zip code in Cochise County had a blood lead test at 12 months of age. 29.3% of children had a blood lead test at 24 months of age and 17.6% of children had received both recommended blood lead tests at 12 and 24 months of age.

Screening Age	Cochise	Statewide
12 & 24 months	17.6%†	7.8%†
12 months	41.3%	27.2%†
24 months	29.3%	16.2%†

* A list of high-risk zip codes by county can be found in Appendix D.

† Significantly different from 2016 rate ($p < 0.05$)

Coconino County

1,008 unique children under the age of 6 had a venous or capillary blood lead test in 2017. Of those children tested, there were 5 who had a venous elevated blood lead level (EBLL) greater than or equal to 5 µg/dL, compared to 5 children in 2016.

Unique children with an EBLL

5 total children had an elevated blood lead level in 2017. All 5 children had their first reported EBLL in 2017.

3	2
5-9 µg/dL First EBLL	≥10 µg/dL First EBLL

Screening Rates

Children living in high-risk zip codes* in Arizona should receive a blood lead test at 12 and 24 months of age through their health care provider. 5.5% of children living in a high-risk zip code in Coconino County had a blood lead test at 12 months of age. 3.6% of children had a blood lead test at 24 months of age and 0.8% of children had received both recommended blood lead tests at 12 and 24 months of age.

Screening Age	Coconino	Statewide
12 & 24 months	0.8%	7.8%†
12 months	5.5%	27.2%†
24 months	3.6%†	16.2%†

* A list of high-risk zip codes by county can be found in Appendix D.

† Significantly different from 2016 rate ($p < 0.05$)

Gila County

235 unique children under the age of 6 had a venous or capillary blood lead test in 2017. Of those children tested, there were 11 who had a venous elevated blood lead level (EBLL) greater than or equal to 5 µg/dL, compared to 8 children in 2016.

Unique children with an EBLL

11 total children had an elevated blood lead level in 2017. 9 of these children had their first reported EBLL in 2017.

9	2
5-9 µg/dL First EBLL	≥10 µg/dL First EBLL

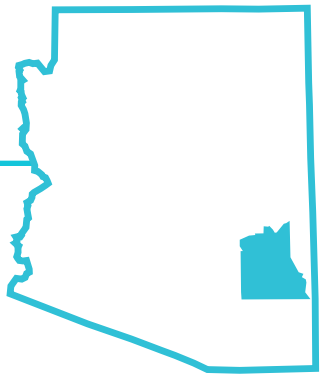
Screening Rates

Children living in high-risk zip codes* in Arizona should receive a blood lead test at 12 and 24 months of age through their health care provider. 13.1% of children living in a high-risk zip code in Gila County had a blood lead test at 12 months of age. 7.3% of children had a blood lead test at 24 months of age and 1.6% of children had received both recommended blood lead tests at 12 and 24 months of age.

Screening Age	Gila	Statewide
12 & 24 months	1.6%	7.8%†
12 months	13.1%	27.2%†
24 months	7.3%	16.2%†

* A list of high-risk zip codes by county can be found in Appendix D.

† Significantly different from 2016 rate ($p < 0.05$)



Graham County

189 unique children under the age of 6 had a venous or capillary blood lead test in 2017. Of those children tested, there were 2 who had a venous elevated blood lead level (EBLL) greater than or equal to 5 µg/dL, compared to 3 children in 2016.

Unique children with an EBLL

2 total children had an elevated blood lead level in 2017. Both of these children had their first reported EBLL in 2017.

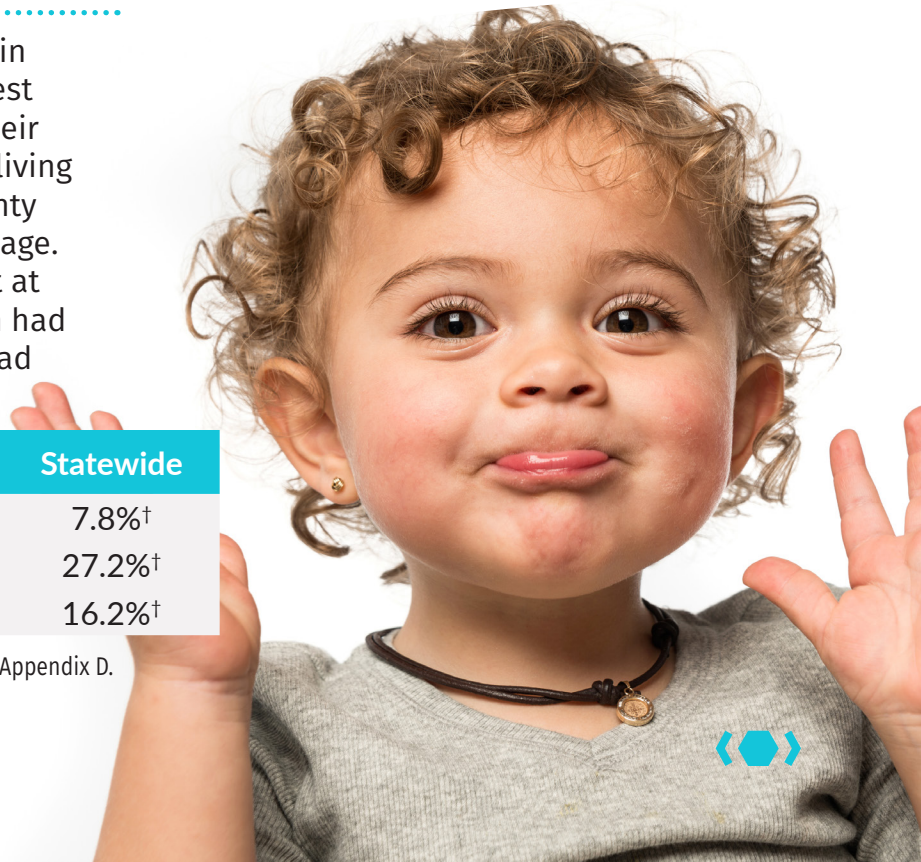
2

5-9 µg/dL
First EBLL

Screening Rates

Children living in high-risk zip codes* in Arizona should receive a blood lead test at 12 and 24 months of age through their health care provider. 7.5% of children living in a high-risk zip code in Graham County had a blood lead test at 12 months of age. 6.0% of children had a blood lead test at 24 months of age and 3.2% of children had received both recommended blood lead tests at 12 and 24 months of age.

Screening Age	Graham	Statewide
12 & 24 months	3.2%	7.8%†
12 months	7.5%	27.2%†
24 months	6.0%	16.2%†



* A list of high-risk zip codes by county can be found in Appendix D.

† Significantly different from 2016 rate ($p < 0.05$)

Greenlee County

54 unique children under the age of 6 had a venous or capillary blood lead test in 2017. Of those children tested, there was 1 who had a venous elevated blood lead level (EBLL) greater than or equal to 5 µg/dL, compared to 2 children in 2016.

Unique children with an EBLL

1 child had an elevated blood lead level in 2017. This child had at least one EBLL reported prior to 2017.

1

≥10 µg/dL
First EBLL

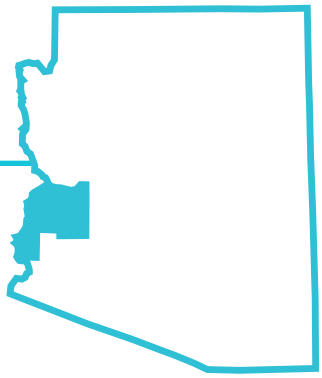
Screening Rates

Children living in high-risk zip codes* in Arizona should receive a blood lead test at 12 and 24 months of age through their health care provider. 6.9% of children living in a high-risk zip code in Greenlee County had a blood lead test at 12 months of age. 2.9% of children had a blood lead test at 24 months of age and 0.7% of children had received both recommended blood lead tests at 12 and 24 months of age.

Screening Age	Greenlee	Statewide
12 & 24 months	0.7%	7.8%†
12 months	6.9%	27.2%†
24 months	2.9%	16.2%†

* A list of high-risk zip codes by county can be found in Appendix D.

† Significantly different from 2016 rate ($p < 0.05$)



La Paz County

110 unique children under the age of 6 had a venous or capillary blood lead test in 2017. Of those children tested, there were 2 who had a venous elevated blood lead level (EBLL) greater than or equal to 5 µg/dL, compared to 2 children in 2016.

Unique children with an EBLL

2 total children had an elevated blood lead level in 2017. Neither of these children had their first reported EBLL in 2017.

2
5-9 µg/dL
First EBLL

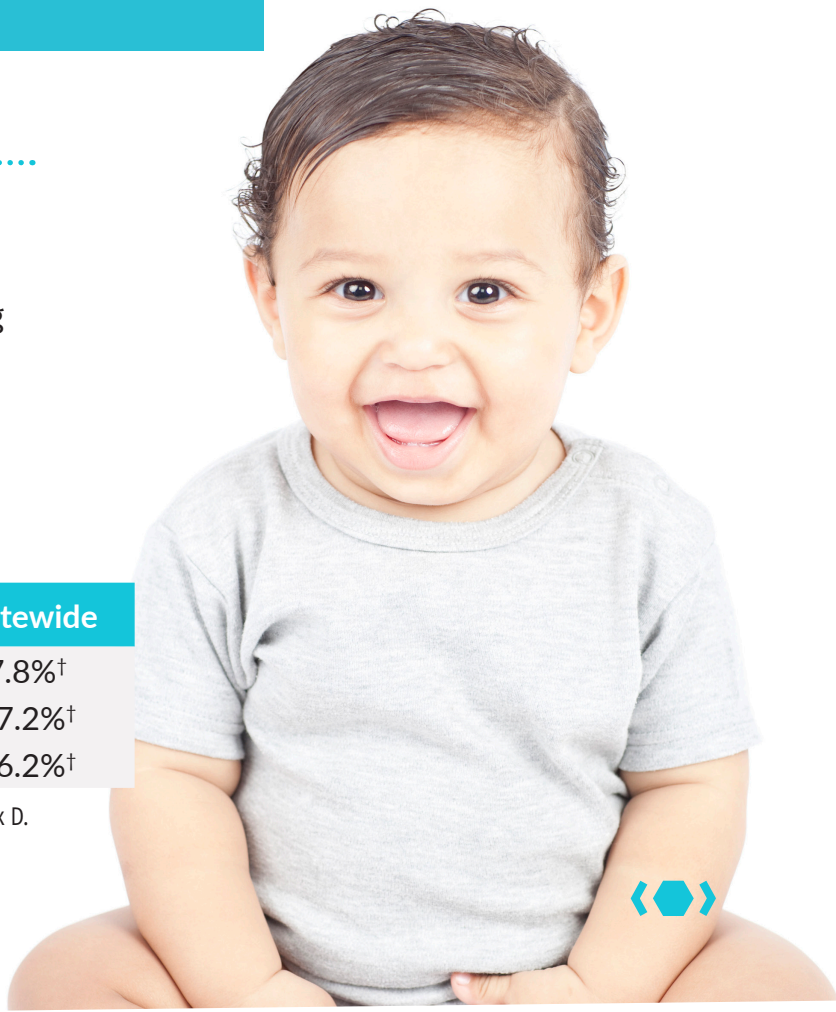
Screening Rates

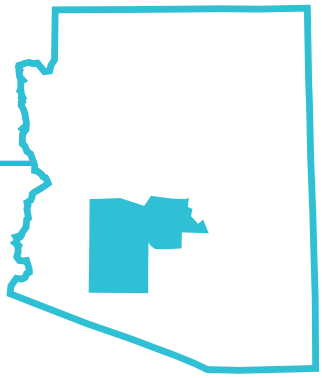
Children living in high-risk zip codes* in Arizona should receive a blood lead test at 12 and 24 months of age through their health care provider. 11.9% of children living in a high-risk zip code in La Paz County had a blood lead test at 12 months of age. 6.5% of children had a blood lead test at 24 months of age and 1.9% of children had received both recommended blood lead tests at 12 and 24 months of age.

Screening Age	La Paz	Statewide
12 & 24 months	1.9%	7.8%†
12 months	11.9%	27.2%†
24 months	6.5%	16.2%†

* A list of high-risk zip codes by county can be found in Appendix D.

† Significantly different from 2016 rate ($p < 0.05$)





Maricopa County

35,321 unique children under the age of 6 had a venous or capillary blood lead test in 2017. Of those children tested, there were 190 who had a venous elevated blood lead level (EBLL) greater than or equal to 5 µg/dL, compared to 196 children in 2016.

Unique children with an EBLL

190 total children had an elevated blood lead level in 2017. 144 of these children had their first reported EBLL in 2017.

151	39
5-9 µg/dL First EBLL	≥10 µg/dL First EBLL

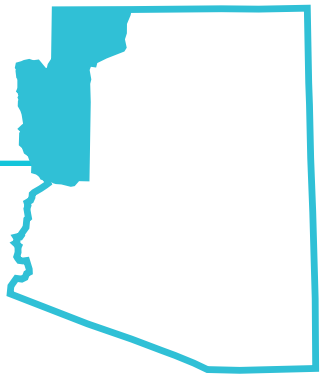
Screening Rates

Children living in high-risk zip codes* in Arizona should receive a blood lead test at 12 and 24 months of age through their health care provider. 26.5% of children living in a high-risk zip code in Maricopa County had a blood lead test at 12 months of age. 16.1% of children had a blood lead test at 24 months of age and 8.2% of children had received both recommended blood lead tests at 12 and 24 months of age.

Screening Age	Maricopa	Statewide
12 & 24 months	8.2%†	7.8%†
12 months	26.5%†	27.2%†
24 months	16.1%†	16.2%†

* A list of high-risk zip codes by county can be found in Appendix D.

† Significantly different from 2016 rate ($p < 0.05$)



Mohave County

1,288 unique children under the age of 6 had a venous or capillary blood lead test in 2017. Of those children tested, there were 5 who had a venous elevated blood lead level (EBLL) greater than or equal to 5 µg/dL, compared to 4 children in 2016.

Unique children with an EBLL

5 total children had an elevated blood lead level in 2017. 3 of these children had their first reported EBLL in 2017.

4	1
5-9 µg/dL First EBLL	≥10 µg/dL First EBLL

Screening Rates

Children living in high-risk zip codes* in Arizona should receive a blood lead test at 12 and 24 months of age through their health care provider. 31.4% of children living in a high-risk zip code in Mohave County had a blood lead test at 12 months of age. 18.9% of children had a blood lead test at 24 months of age and 4.0% of children had received both recommended blood lead tests at 12 and 24 months of age.

Screening Age	Mohave	Statewide
12 & 24 months	4.0%	7.8%†
12 months	31.4%†	27.2%†
24 months	18.9%†	16.2%†

* A list of high-risk zip codes by county can be found in Appendix D.

† Significantly different from 2016 rate ($p < 0.05$)

Navajo County

786 unique children under the age of 6 had a venous or capillary blood lead test in 2017. Of those children tested, there were 21 who had a venous elevated blood lead level (EBLL) greater than or equal to 5 µg/dL, compared to 5 children in 2016.

Unique children with an EBLL

21 total children had an elevated blood lead level in 2017. 20 of these children had their first reported EBLL in 2017.

16	5
5-9 µg/dL First EBLL	≥10 µg/dL First EBLL

Screening Rates

Children living in high-risk zip codes* in Arizona should receive a blood lead test at 12 and 24 months of age through their health care provider. 18.7% of children living in a high-risk zip code in Navajo County had a blood lead test at 12 months of age. 8.9% of children had a blood lead test at 24 months of age and 4.6% of children had received both recommended blood lead tests at 12 and 24 months of age.

Screening Age	Navajo	Statewide
12 & 24 months	4.6%	7.8%†
12 months	18.7%	27.2%†
24 months	8.9%	16.2%†

* A list of high-risk zip codes by county can be found in Appendix D.

† Significantly different from 2016 rate ($p < 0.05$)

Pima County

7,737 unique children under the age of 6 had a venous or capillary blood lead test in 2017. Of those children tested, there were 43 who had a venous elevated blood lead level (EBLL) greater than or equal to 5 µg/dL, compared to 37 children in 2016.

Unique children with an EBLL

43 total children had an elevated blood lead level in 2017. 34 of these children had their first reported EBLL in 2017.

35	8
5-9 µg/dL First EBLL	≥10 µg/dL First EBLL

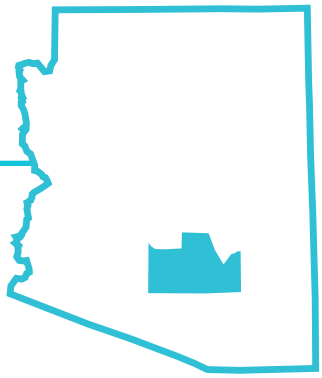
Screening Rates

Children living in high-risk zip codes* in Arizona should receive a blood lead test at 12 and 24 months of age through their health care provider. 28.7% of children living in a high-risk zip code in Pima County had a blood lead test at 12 months of age. 16.0% of children had a blood lead test at 24 months of age and 7.1% of children had received both recommended blood lead tests at 12 and 24 months of age.

Screening Age	Pima	Statewide
12 & 24 months	7.1%†	7.8%†
12 months	28.7%†	27.2%†
24 months	16.0%†	16.2%†

* A list of high-risk zip codes by county can be found in Appendix D.

† Significantly different from 2016 rate ($p < 0.05$)



Pinal County

3,003 unique children under the age of 6 had a venous or capillary blood lead test in 2017. Of those children tested, there were 6 who had a venous elevated blood lead level (EBLL) greater than or equal to 5 µg/dL, compared to 6 children in 2016.

Unique children with an EBLL

6 total children had an elevated blood lead level in 2017. 3 of these children had their first reported EBLL in 2017.

6

5-9 µg/dL
First EBLL

Screening Rates

Children living in high-risk zip codes* in Arizona should receive a blood lead test at 12 and 24 months of age through their health care provider. 28.3% of children living in a high-risk zip code in Pinal County had a blood lead test at 12 months of age. 17.2% of children had a blood lead test at 24 months of age and 8.0% of children had received both recommended blood lead tests at 12 and 24 months of age.

Screening Age	Pinal	Statewide
12 & 24 months	8.0%†	7.8%†
12 months	28.3%†	27.2%†
24 months	17.2%†	16.2%†

* A list of high-risk zip codes by county can be found in Appendix D.

† Significantly different from 2016 rate ($p < 0.05$)

Santa Cruz County

908 unique children under the age of 6 had a venous or capillary blood lead test in 2017. Of those children tested, there were 2 who had a venous elevated blood lead level (EBLL) greater than or equal to 5 µg/dL, compared to 1 child in 2016.

Unique children with an EBLL

2 total children had an elevated blood lead level in 2017. Both of these children had their first reported EBLL in 2017.

1	1
5-9 µg/dL First EBLL	≥10 µg/dL First EBLL

Screening Rates

Children living in high-risk zip codes* in Arizona should receive a blood lead test at 12 and 24 months of age through their health care provider. 43.8% of children living in a high-risk zip code in Santa Cruz County had a blood lead test at 12 months of age. 32.0% of children had a blood lead test at 24 months of age and 12.6% of children had received both recommended blood lead tests at 12 and 24 months of age.

Screening Age	Santa Cruz	Statewide
12 & 24 months	12.6%†	7.8%†
12 months	43.8%	27.2%†
24 months	32.0%†	16.2%†

* A list of high-risk zip codes by county can be found in Appendix D.

† Significantly different from 2016 rate ($p < 0.05$)

Yavapai County

1,298 unique children under the age of 6 had a venous or capillary blood lead test in 2017. Of those children tested, there were 3 who had a venous elevated blood lead level (EBLL) greater than or equal to 5 µg/dL, compared to 7 children in 2016.

Unique children with an EBLL

3 total children had an elevated blood lead level in 2017. All 3 of these children had their first reported EBLL in 2017.

2	1
5-9 µg/dL First EBLL	≥10 µg/dL First EBLL

Screening Rates

Children living in high-risk zip codes* in Arizona should receive a blood lead test at 12 and 24 months of age through their health care provider. 43.9% of children living in a high-risk zip code in Yavapai County had a blood lead test at 12 months of age. 13.5% of children had a blood lead test at 24 months of age and 3.4% of children had received both recommended blood lead tests at 12 and 24 months of age.

Screening Age	Yavapai	Statewide
12 & 24 months	3.4%	7.8%†
12 months	43.9%†	27.2%†
24 months	13.5%†	16.2%†

* A list of high-risk zip codes by county can be found in Appendix D.

† Significantly different from 2016 rate ($p < 0.05$)

Yuma County

3,454 unique children under the age of 6 had a venous or capillary blood lead test in 2017. Of those children tested, there were 8 who had a venous elevated blood lead level (EBLL) greater than or equal to 5 µg/dL, compared to 7 children in 2016.

Unique children with an EBLL

8 total children had an elevated blood lead level in 2017. 4 of these children had their first reported EBLL in 2017.

6	2
5-9 µg/dL First EBLL	≥10 µg/dL First EBLL

Screening Rates

Children living in high-risk zip codes* in Arizona should receive a blood lead test at 12 and 24 months of age through their health care provider. 27.7% of children living in a high-risk zip code in Yuma County had a blood lead test at 12 months of age. 15.9% of children had a blood lead test at 24 months of age and 6.7% of children had received both recommended blood lead tests at 12 and 24 months of age.

Screening Age	Yuma	Statewide
12 & 24 months	6.7%	7.8%†
12 months	27.7%†	27.2%†
24 months	15.9%†	16.2%†

* A list of high-risk zip codes by county can be found in Appendix D.

† Significantly different from 2016 rate ($p < 0.05$)

APPENDIX A: DESCRIPTION OF DATA

Per Arizona Administrative Code R9-4-302, all blood lead results are reportable to the Arizona Department of Health Services (ADHS). 2011-2016 data were maintained in the Arizona lead registry database, Systematic Tracking of Elevated Lead Levels and Remediation (STELLAR), and 2017 data were maintained in the Arizona Medical Electronic Disease Surveillance Intelligence System (MEDSIS). Data were combined and managed in SAS (statistical analysis system) version 9.4. Prior to analyses, efforts were taken to de-duplicate test results and children based on demographic and test result data. Analyses were performed on first reported blood lead result or elevated venous blood lead level (EBLL) result per child in 2017 whose age was less than 72 months. Test results were excluded when the child's address was outside of Arizona. Children with a blank address were assumed to have resided in Arizona at the time of the test. Claritas 2017 population estimates were used to calculate screening rates. Results are not representative of all children living in Arizona because blood lead testing is not universal. Please note that there is a potential underestimation of counts and rates presented in this report due to ADHS' reliance on provider and laboratory reporting of blood lead test results. Rates based on counts less than 20 may be unstable and should be interpreted with caution. Children with missing address information were not included in screening rate calculations. Test results reported for the zip code 85135 were excluded from screening rate calculations due to lack of population estimate data for this zip code.

APPENDIX B: BACKGROUND

Lead is a naturally occurring heavy metal, but most high levels in the environment that people are exposed to come from human activities. Lead has properties that make it easy to work with and has been widely used in a variety of products and materials such as pipes, paints, ceramics, and gasoline. When ingested or inhaled, lead can have adverse effects on nearly all organ systems in the body. Children under the age of six years are especially at risk because they are still developing, have a tendency to put objects and their hands in their mouth, and absorb lead easily. Lead exposure often occurs with no obvious signs and symptoms. In children, lead poisoning can cause slowed development, reading and other learning problems, behavioral problems, as well as brain, liver, and kidney damage. Pregnant women can also pass lead to their unborn babies. For these reasons, major public health campaigns have focused on eliminating childhood lead poisoning.

Childhood lead poisoning is entirely preventable; however, it remains one of the most common environmental health dangers to children. In 2012, the Centers for Disease Control and Prevention (CDC) adopted the reference level of 5µg/dL for an elevated blood lead level (EBLL). This reference level was determined as the 97.5th percentile of the blood lead distribution in children one to five years of age from the National Health and Nutrition Examination Survey (NHANES). Children with blood lead levels at the reference level or higher are considered to have been exposed to more lead than most other children.

APPENDIX C: SUMMARY OF ADHS SCREENING RECOMMENDATIONS

The Arizona Department of Health Services developed and used the following recommendations in 2017 to identify children with elevated blood lead levels in order to eliminate exposure and reduce the effects of lead on Arizona children.

A more in-depth discussion of our current screening recommendations can be found in Arizona's Targeted Lead Screening Plan for the Prevention of Childhood Lead Poisoning. For current high-risk areas, visit www.azhealth.gov/leadmap.

1. **Children living in high-risk zip codes:** All children living in high-risk zip codes should have had a blood lead test at 12 and 24 months of age. Children aged 36 to 72 months should be tested if they have not been previously tested.

2. **Children living outside of high-risk zip codes:** Children living in Arizona, but not in a high-risk zip code, should have received an individual risk assessment questionnaire at 12 and 24 months of age.

APPENDIX D: 2014 HIGH-RISK LEAD POSIONING ZIP CODES

COUNTY City	Zip Codes
APACHE	
Eagar	85925
St. Johns	85936
Dennehotso	
Teec Nos Pos	86535
COCHISE	
Benson	85602
Bisbee	85603
Douglas	85607
Hereford	85615
Mc Neal	85617
San Simon	
Portal	85632
Sierra Vista	85635
Tombstone	85638
Willcox	
Ft Grant	85643
COCONINO	
Flagstaff	86004
Williams	86046
GILA	
Globe	85501
Miami	85539
Hayden	85135
GRAHAM	
Bylas	85530
Pima	85543
Safford	85546
Thatcher	85552
GREENLEE	
Clifton	85533
Duncan	85534
Morenci	85540
LA PAZ	
Parker	85344
Salome	85348
MARICOPA	
Avondale	85323
	85392
Buckeye	85326
Chandler	85225
	85226
El Mirage	85335
Glendale	85301
	85302
	85303
	85304
Gila Bend	85337
Goodyear	85338
Guadalupe	85283
Laveen	85339
Mesa	85201
	85202
	85203
	85204
	85205
	85207
	85208
	85210
	85212
	85213
Peoria	85345
Phoenix	85003
	85006
	85007
	85008
	85009
	85012
	85013
	85014
	85015
	85016
	85017
	85018
	85019
	85020
	85021
	85022
	85023
	85028
	85029
	85031
	85032
	85033
	85034
	85035
	85037
	85040
	85041
	85042
	85043
	85051
	85053
Scottsdale	85250
	85251
	85254
	85257
Surprise	85378
Tempe	85281
	85282
	85283
Tolleson	85353
Tonopah	85354
Youngtown	85363
MOHAVE	
Kingman	86401
	86409
Bullhead City	86442
NAVAJO	
Whiteriver	85941
Holbrook	86025
Kayenta	86033
Winslow	86047
PIMA	
Ajo	85321
Green Valley	85614
Sahuarita	85629
Sells	
Pisinemo	85634
Tucson	85701
	85704
	85705
	85706
	85710
	85711
	85712
	85713
	85714
	85715
	85716
	85719
	85730
	85735
	85736
	85741
	85745
	85746
	85750
	85756
	85757
PINAL	
Apache Junction	
	85119
	85120
Casa Grande	85122
	85194
Coolidge	85128
Eloy	85131
Florence	85132
Kearny	85137
Maricopa	85138
	85139
Oracle	85623
Superior	85173
San Manuel	85631
Winkelman	
Dudleyville	85192
SANTA CRUZ	
Nogales	85621
Tubac	85646
Rio Rico	85648
YAVAPAI	
Prescott	86301
Prescott Valley	
	86314
Ash Fork	86320
Bagdad	86321
Cottonwood	86326
YUMA	
Roll	85347
San Luis	85349
Somerton	85350
Wellton	85356
Yuma	85364
	85365

APPENDIX E: 2016 VS. 2017 NUMBER OF CHILDREN <6 YEARS WHO HAD A VENOUS OR CAPILLARY TEST

	2016*	2017*
Arizona	59,596	62,176
Apache	321	405
Cochise	1,662	1,825
Coconino	1,096	1,008
Gila	280	235
Graham	172	189
Greenlee	55	54
La Paz	123	110
Maricopa	34,667	35,321
Mohave	1,092	1,288
Navajo	782	786
Pima	7,275	7,737
Pinal	2,723	3,003
Santa Cruz	752	908
Yavapai	684	1,298
Yuma	2,669	3,454

*5,243 screened children from 2016 and 4,555 screened children from 2017 were missing address information and were not counted at the county level.

APPENDIX F: 2016 VS. 2017 PREVALENT CASES OF CHILDREN <6 YEARS OLD IDENTIFIED WITH AN EBLL

	Total children with EBLL		Children with 5-9 µg/dL EBLL		Children with ≥10 µg/dL EBLL	
	2016*	2017	2016*	2017	2016*	2017
Arizona	340	321	260	256	80	65
Apache	6	5	5	3	1	2
Cochise	22	17	19	16	3	1
Coconino	5	5	4	3	1	2
Gila	8	11	6	9	2	2
Graham	3	2	3	2	0	0
Greenlee	2	1	2	0	0	1
La Paz	2	2	1	2	1	0
Maricopa	196	190	148	151	48	39
Mohave	4	5	3	4	1	1
Navajo	5	21	3	16	2	5
Pima	37	43	26	35	11	8
Pinal	6	6	6	6	0	0
Santa Cruz	1	2	1	1	0	1
Yavapai	7	3	3	2	4	1
Yuma	7	8	6	6	1	2

* 29 prevalent cases from 2016 were missing address information and were not counted at the county level.

APPENDIX G: 2016 VS. 2017 PERCENT OF CHILDREN <6 YEARS SCREENED WHO HAD AN EBLL

GREEN indicates a decrease and RED indicates an increase in the percent of children screened who had an EBLL

	2016*	2017*†
Arizona	0.6	0.5
Apache	1.9	1.2
Cochise	1.3	0.9
Coconino	0.5	0.5
Gila	2.9	4.7
Graham	1.7	1.1
Greenlee	3.6	1.9
La Paz	1.6	1.8
Maricopa	0.6	0.5
Mohave	0.4	0.4
Navajo	0.6	2.7†
Pima	0.5	0.6
Pinal	0.2	0.2
Santa Cruz	0.1	0.2
Yavapai	1.0	0.2 †
Yuma	0.3	0.2

* 5,243 screened children from 2016 and 4,555 screened children from 2017 were missing address information and were not counted at the county level.

† Significantly different from 2016 (p <0.05)

APPENDIX H: 2016 VS. 2017 SCREENING RATES OF CHILDREN <6 YEARS OLD IN HIGH-RISK ZIP CODES (%)

GREEN indicates an increase and RED indicates a decrease in the screening rate in comparison to the previous year

	At both 12 & 24 months*		At 12 months only*		At 24 months only*	
	2016	2017	2016	2017	2016	2017
Arizona	6.0	7.8†	24.2	27.2†	14.8	16.2†
Apache	1.7	2.9	9.3	9.0	6.8	8.1
Cochise	14.5	17.6†	39.6	41.3	28.0	29.3
Coconino	0.5	0.8	8.1	5.5	6.3	3.6†
Gila	2.3	1.6	14.6	13.1	10.6	7.3
Graham	1.6	3.2	8.0	7.5	4.6	6.0
Greenlee	0.7	0.7	14.0	6.9	4.3	2.9
La Paz	1.3	1.9	12.3	11.9	9.3	6.5
Maricopa	6.5	8.2†	25.3	26.5†	15.6	16.1†
Mohave	3.5	4.0	11.1	31.4†	10.2	18.9†
Navajo	3.1	4.6	17.2	18.7	9.4	8.9
Pima	4.5	7.1†	24.2	28.7†	13.5	16.0†
Pinal	5.4	8.0†	22.6	28.3†	14.6	17.2†
Santa Cruz	8.4	12.6†	37.3	43.8	20.8	32.0†
Yavapai	2.7	3.4	20.0	43.9†	7.7	13.5†
Yuma	5.5	6.7	18.9	27.7†	12.2	15.9†

* Children living in a high-risk zip code were recommended a blood lead test at both 12 & 24 months of age. Screening rates for 12 & 24 month and 24 months only indicators were calculated for children who were 24 months old in 2017. Screening rates for the 12 months only indicator was calculated for children who were 12 months old in 2017.

† Significantly different from 2016 rate (p <0.05)

APPENDIX I: INCIDENT CASES AND RATES OF CHILDREN <6 YEARS OLD IDENTIFIED WITH AN EBLL ≥5 µg/dL

GREEN indicates a decrease and RED indicates an increase in the number of newly identified cases and incidence rates in comparison to the previous year

	Newly identified cases*		Case rates per 10,000	
	2016	2017	2016	2017
Arizona	270	243	5.1	4.6
Apache	5	4	7.5	6.2
Cochise	13	10	13.4	10.3
Coconino	3	5	3.0	5.0
Gila	8	9	22.3	25.0
Graham	3	2	7.8	5.4
Greenlee	2	0	24.0	0.0
La Paz	1	0	9.2	0.0
Maricopa	157	144	4.6	4.2
Mohave	3	3	2.5	2.6
Navajo	4	20	4.0	20.3†
Pima	31	34	4.3	4.7
Pinal	6	3	2.0	1.0
Santa Cruz	1	2	2.4	4.9
Yavapai	3	3	2.6	2.6
Yuma	4	4	2.2	2.2

* 26 incident cases from 2016 were missing address information and were not included in the county-level case counts and rates.

† Significantly different from 2016 rate ($p < 0.05$)

APPENDIX I: INCIDENT CASES AND RATES OF CHILDREN <6 YEARS OLD IDENTIFIED WITH AN EBLL 5-9.9 µg/dL

GREEN indicates a decrease and RED indicates an increase in the number of newly identified cases and incidence rates in comparison to the previous year

	Newly identified cases*		Case rates per 10,000	
	2016	2017	2016	2017
Arizona	214	193	4.0	3.6
Apache	4	2	6.0	3.1
Cochise	12	9	12.4	9.3
Coconino	2	3	2.0	3.0
Gila	6	7	16.7	19.4
Graham	3	2	7.8	5.4
Greenlee	2	0	24.0	0.0
La Paz	1	0	9.2	0.0
Maricopa	124	116	3.6	3.4
Mohave	3	3	2.5	2.6
Navajo	2	16	2.0	16.2 †
Pima	21	27	2.9	3.8
Pinal	6	3	2.0	1.0
Santa Cruz	1	1	2.4	2.5
Yavapai	2	2	1.7	1.7
Yuma	3	2	1.7	1.1

* 22 incident cases from 2016 with initial EBLL between 5-9.9 µg/dL were missing address information and were not included in the county-level case counts and rates.

† Significantly different from 2016 rate (p <0.05)

APPENDIX I: INCIDENT CASES AND RATES OF CHILDREN <6 YEARS OLD IDENTIFIED WITH AN EBLL ≥10 µg/dL

GREEN indicates a decrease and RED indicates an increase in the number of newly identified cases and incidence rates in comparison to the previous year

	Newly identified cases*		Case rates per 10,000	
	2016	2017	2016	2017
Arizona	56	50	1.0	0.9
Apache	1	2	1.5	3.1
Cochise	1	1	1.0	1.0
Coconino	1	2	1.0	2.0
Gila	2	2	5.6	5.6
Graham	0	0	0.0	0.0
Greenlee	0	0	0.0	0.0
La Paz	0	0	0.0	0.0
Maricopa	33	28	1.0	0.8
Mohave	0	0	0.0	0.0
Navajo	2	4	2.0	4.1
Pima	10	7	1.4	1.1
Pinal	0	0	0.0	0.0
Santa Cruz	0	1	0.0	2.5
Yavapai	1	1	0.9	0.9
Yuma	1	2	0.6	1.1

* 4 incident cases from 2016 with initial EBLL ≥10 µg/dL were missing address information and were not included in the county-level case counts and rates.

† Significantly different from 2016 rate (p <0.05)