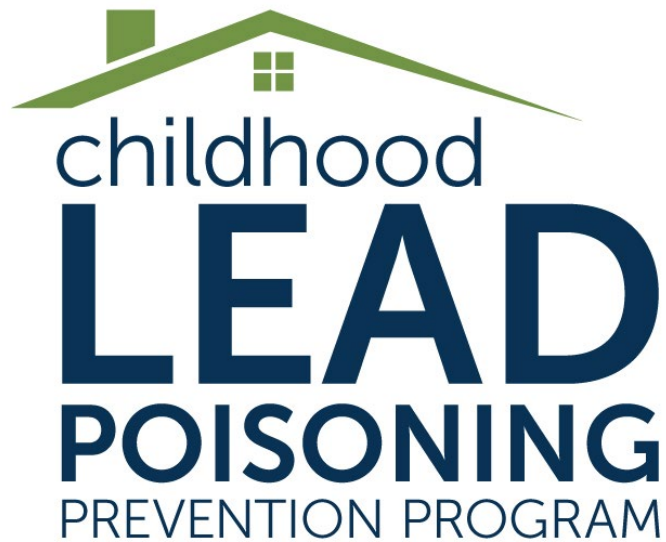




SOUTH DAKOTA DEPARTMENT OF HEALTH

2024 Blood Lead Annual Report

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EXECUTIVE SUMMARY

This report presents the South Dakota Department of Health's (SD-DOH) third annual report on childhood blood lead testing and surveillance, compiled by the South Dakota Childhood Lead Poisoning Prevention Program (SD CLPPP). It includes 2024 blood lead testing data for children and adults, with historical trends dating back to 2016 when blood lead became a reportable condition in South Dakota.

Lead poisoning is a preventable condition but represents a significant environmental hazard for children across the country. Children younger than 6 years of age are at the greatest risk of harm from lead exposure due to the rapid brain development that occurs during early childhood. Childhood exposure to lead, through inhalation or ingestion, can cause long-term neurological damage and decreased intelligence that may be associated with learning and behavioral problems (CDC, Health Effects of Lead Exposure, 2023).

While no safe blood lead level in children has been identified, the Centers for Disease Control and Prevention (CDC) uses a blood lead reference value (BLRV) to identify children with higher levels of lead in their blood compared to other children. From 2012-2021, the CDC BLRV was 5 micrograms per deciliter ($\mu\text{g}/\text{dL}$). In October 2021, the CDC lowered the BLRV to 3.5 $\mu\text{g}/\text{dL}$ to reflect the decreasing presence of lead in the blood at the population level and further identify children still at risk for poor health outcomes at levels below the previous BLRV (CDC, Blood Lead Reference Value, 2021). For surveillance purposes, this report defines an elevated blood lead level (EBLL) as a single capillary or venous blood lead test result at or above the CDC blood lead reference value (3.5 $\mu\text{g}/\text{dL}$).

In 2024, SD-DOH received 7,171 blood lead test results for 6,836 unique South Dakota children younger than 6 years of age. Of these, 188 children (2.8%) had a Blood Lead Level (BLL) at or above the BLRV of 3.5 $\mu\text{g}/\text{dL}$. Among them, 105 children met the national surveillance case definition for a confirmed case, and 83 were classified as suspect cases. Most children tested 75% were 0–24 months of age, reflecting Medicaid screening requirements at 12 and 24 months. Testing volume was highest in August ($N = 777$) and May ($N = 659$). By sex, 48% of children tested were female ($N = 3,248$), 52% were male ($N = 3,584$), and 5 were listed as unknown. Among children tested, 2.6% ($N = 85$) of females, 2.8% ($N = 102$) of males, and 1 child of unknown sex were identified as confirmed or suspected cases. By race, White children made up the largest proportion of those tested (54.9%), followed by American Indian/Alaska Native (14.2%), Other race (7.6%), Black/African American (4.2%), and Asian (1.5%). Children identifying as American Indian/Alaskan Native (5.8%) and Asian (5.9%) had the highest EBLL prevalence by race. Ethnicity data were missing for 42.2% of tested children. Among children with known ethnicity, confirmed or suspect EBLLs were identified in 1.5% of non-Hispanic children and 0.1% of Hispanic children.

The majority of tests were capillary specimens 6,190 (86%), while 981 (14%) were venous, and 7 (0.1%) had unknown specimen type, which were classified as capillary per the 2023 national surveillance case definition. Of the 161 capillary tests that were $\geq 3.5 \mu\text{g}/\text{dL}$, only 65 children

(40%) received a recommended follow-up venous test while the remaining 83 (60%) did not receive venous testing within the 12-week window. This follow-up testing gap highlights an area for improvement in clinical response and case management.

To better understand the relationship between socioeconomic status and lead exposure, blood lead test results were matched with Medicaid enrollment and claims data. Of the 6,836 children tested, 3,710 (54%) were enrolled in Medicaid. However, only 2,209 of these children had claims indicating use of Medicaid-covered services. Among the 188 children with EBLLs, 147 (78%) were Medicaid recipients, further emphasizing the need for targeted prevention and follow-up in this vulnerable population.

By birth cohort, 3,555 of the 11,304 children born in 2021 (31.4%) received at least one blood lead test by age three, an increase from 29.9% among the 2020 birth cohort. Preliminary data also show that 40% of children born in 2022 and 49% of those born in 2023 have been tested by age three, though reporting for those cohorts may still be incomplete.

REPORTING OF TEST RESULTS

In 2024, South Dakota clinical laboratories are required to report all blood lead test results to the South Dakota Department of Health. Reports were received through electronic laboratory reporting, the disease reporting website, or by fax. It is 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. Maven, the CLPPP surveillance system, is designed to handle duplicate reports from different sources so the results are maintained under a single patient record. The total number of tests was defined as the total number of deduplicated blood lead tests obtained from children during 2024. All tests, including those collected for screening, confirmation, or follow-up purposes, were counted. Since many children had more than one test during the year, the total number of children tested is less than the total number of blood lead tests performed.

CASE DEFINITIONS

The national surveillance case definition, also known as the CDC case definition, was used in this report to identify children with confirmed and suspect elevated blood lead levels. A **confirmed case** was defined as either of the following: (1) a child with one venous blood test ≥ 3.5 $\mu\text{g}/\text{dL}$, or (2) two capillary blood tests ≥ 3.5 $\mu\text{g}/\text{dL}$ drawn within 12 weeks of each other. A **suspect case** was defined as either of the following (1) a single capillary blood lead test ≥ 3.5 $\mu\text{g}/\text{dL}$, or (2) two capillary tests ≥ 3.5 $\mu\text{g}/\text{dL}$ drawn more than 12 weeks apart (CDC, Lead in Blood, 2023 Case Definition).

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

- The maximum BLL was defined as the highest venous BLL obtained from a child in 2024 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. Venous results were ranked over capillary results because capillary test results may be skewed by the presence of lead dust on the skin.

- A child was considered to be a case if they met either the confirmed or suspect case definition above.

CASE MANAGEMENT

The SD CLPPP has dedicated investigators who monitor case management activities. They are responsible for reviewing surveillance data, identifying children with EBLL, and making appropriate referrals. They coordinate care with primary care physicians for children with EBLLs using case management standards that follow CDC guidelines. Case management of children with EBLLs is accomplished through a partnership with the University of South Dakota (USD) Community Action Response Epidemiology (CARE) team that provides support to SD CLPPP whenever a child with an EBLL is identified. The investigator follows up with the child's parents and/or guardians through phone calls, direct mailings of educational materials to the family, and linkage to resources. A confirmatory diagnostic test (e.g., venous specimen, or a second capillary specimen collected within 12 weeks) is recommended once a child is detected as potentially having an EBLL from a capillary specimen. During telephone consultations with the parents/guardians, the investigators review with the family how to reduce lead hazards in the home. The investigator then mails appropriate materials such as additional educational materials and updates medical practices and families on case progress. The program does not offer environmental services due to funding limitations but can link families with community resources that can help with the testing of lead hazards in the home.

Appropriate steps are presented for both capillary and venous test results, as well as information on the case manager's role, sources of lead, referrals, and resources. The CARE team has an accompanying Childhood Blood Lead Case Management Guidelines document for a quick verification of intervention recommendations for each blood lead level. The Maven surveillance system enables investigators to frequently review child blood lead levels to ensure that children with lead in the blood receive confirmatory testing, investigations, and necessary follow-up. A case will close once a test below the CDC reference level of 3.5 µg/dL is received.

Blood lead testing data have been collected by the South Dakota Department of Health (SD-DOH) since January 1, 2016. Data for 2016–2023 are shown for historical context. The number of children younger than 6 years of age tested in South Dakota increased steadily from 2016 through 2019, declined in 2020 during the COVID-19 pandemic, and gradually rose from 2021 through 2023. Testing reached 4,694 young children in 2023, surpassing pre-pandemic levels. In 2024, blood lead testing among children younger than 6 years of age increased substantially to 6,836. This increase likely reflects sustained provider engagement, changes in law that all lead levels to be reported, increased routine screening, and expanded statewide outreach and education efforts.

Blood lead testing among older children (aged 6–17 years) and adults remains far less common than for young children. Older children are not recommended for routine screening and are typically tested only when screening recommendations apply (e.g., post-arrival screening of refugee children) or when a medical provider suspects possible lead exposure. Adults are generally tested due to potential occupational or environmental exposure.

Of the 7,679 individuals tested in 2024, 6,836 (89%) were children younger than 6 years of age, 297 (4%) were aged 6–17 years, and 545 (7%) were adults. Adult testing continued to show gradual increases compared to previous years.

Figure 1. Number of Persons Tested for Blood Lead by Year & Age Group, South Dakota, 2016-2024

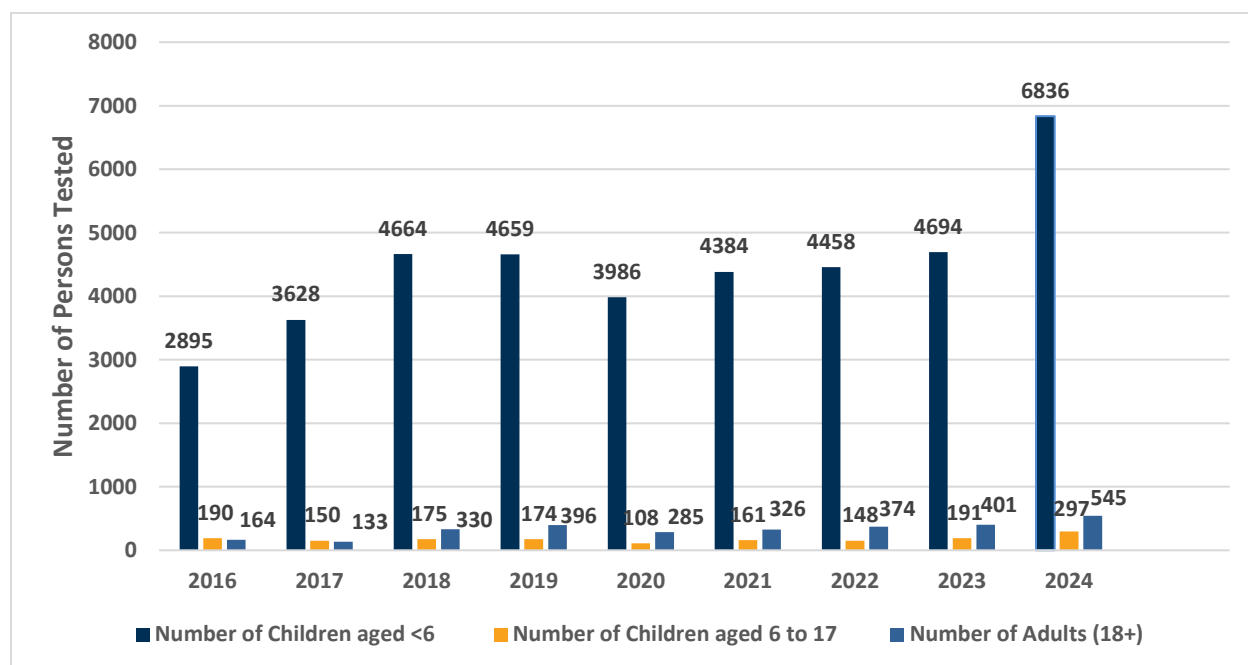
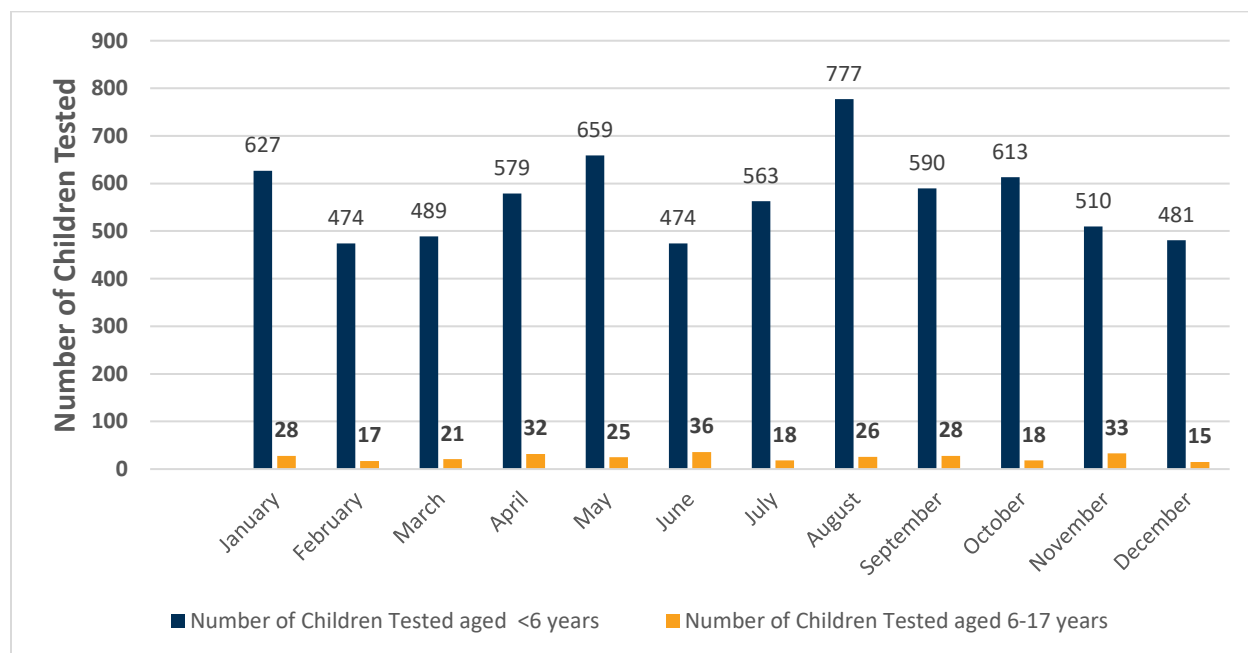


Figure 2 illustrates the number of children tested by month during 2024. The highest volume of testing occurs for children aged less than 6 years old during August and May, with 777 (11%) and 659 (10%), respectively.

Figure 2. Number of Children Tested by Age Group & Month, 2024

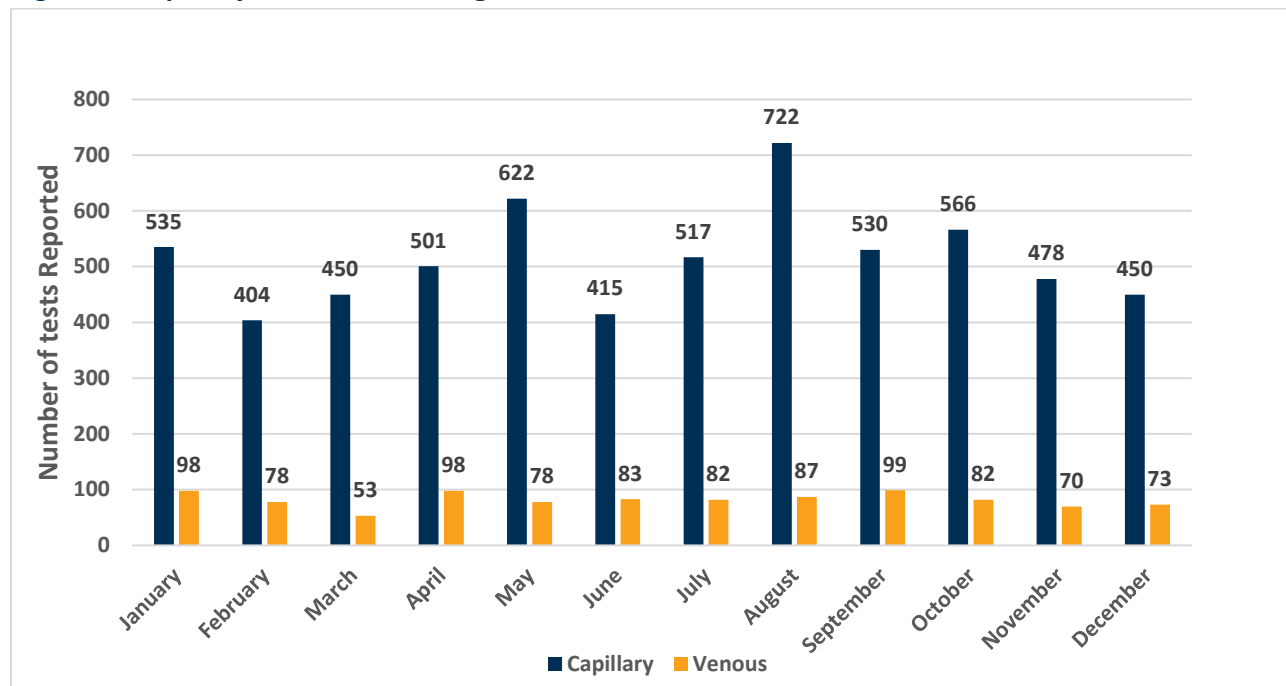


**Number of children who had at least one blood lead test done with a specimen collection date in 2024.*

**This table was analyzed on a per-child basis rather than per test*

Figure 3 shows the distribution of capillary and venous blood lead test results received by month for SD children aged <6 years during 2024. Of the 7,171 tests received, 6,190 (86%) were capillary specimens and 981 (14%) were venous specimens.

Figure 3. Capillary & Venous Testing Volume for Children Less Than 6 Years Old, 2024



**Per CDC 2023 case definition, unknown specimen types are classified as capillary if the individual is <16 years of age and venous if ≥16 years of age*

**Total number of deduplicated blood tests obtained on children under 6. A blood lead test may be collected for screening, confirmation, or follow-up. Many children had more than one test in any given year.*

Table 1 summarizes the number of children and blood lead testing results in total, distribution by age, and the number of children that tested at or above the BLRV of 3.5 µg/dL. Most testing occurred at ages 0-24 months (75%). This likely reflects Medicaid's required blood lead screening at 12 and 24 months of age for children utilizing the Medicaid program. The second largest percentage occurred at the 25-48 months age range (17%).

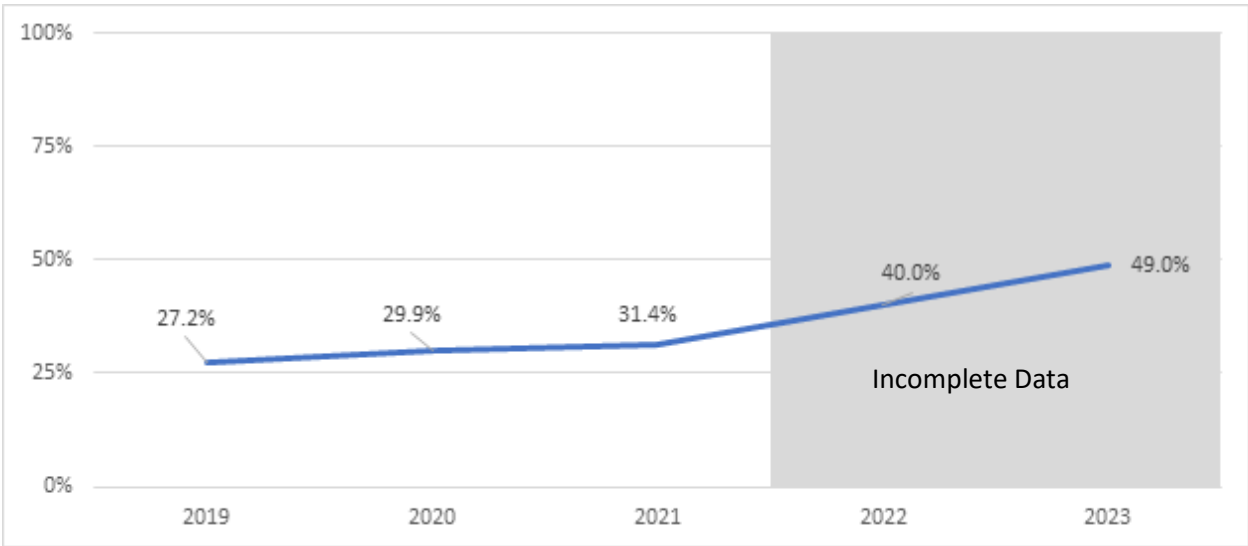
Table 1. Age Distribution of Children Receiving an Initial Blood Lead Test, 2024

Number of Children Tested	# Children	%	# Children with Lead Result $\geq 3.5 - <10$ µg/dL	# Children with Lead Result ≥ 10 µg/dL
0-24 months	5147	75%	89	11
25-48 months	1152	17%	53	6
49 -<72 months	537	8%	25	4
Total	6836	100.00%	167	21

**Age at time of specimen collection.*

Among the 11,304 SD children born in 2021, 3,555 (31%) were tested for blood lead at least once by age three as shown in figure 4. The percentage of children tested by age 3 increased from 27.2% for the 2019 birth cohort to 31.4% for the 2021 birth cohort. Preliminary data indicate that 40.0% of children born in 2022 and 49.0% of those born in 2023 have received at least one blood lead test to date; however, these cohorts have not yet reached age 3, and testing data may still be incomplete.

Figure 4. Percent of Children Tested at Least Once by Age 3 Years, by Birth Cohort



In 2024, 227 South Dakota children were found to have a blood lead level ≥ 3.5 µg/dL through an initial venous or capillary test. Of these, 188 children (83%) met the surveillance case definition; 105 (46%) were confirmed cases and 83 (37%) were suspect cases. The remaining 39 children (17%) were excluded from the case count because they had a follow-up venous or capillary test within 12 weeks that was <3.5 µg/dL. The breakdown of these confirmed, suspect, and excluded cases includes:

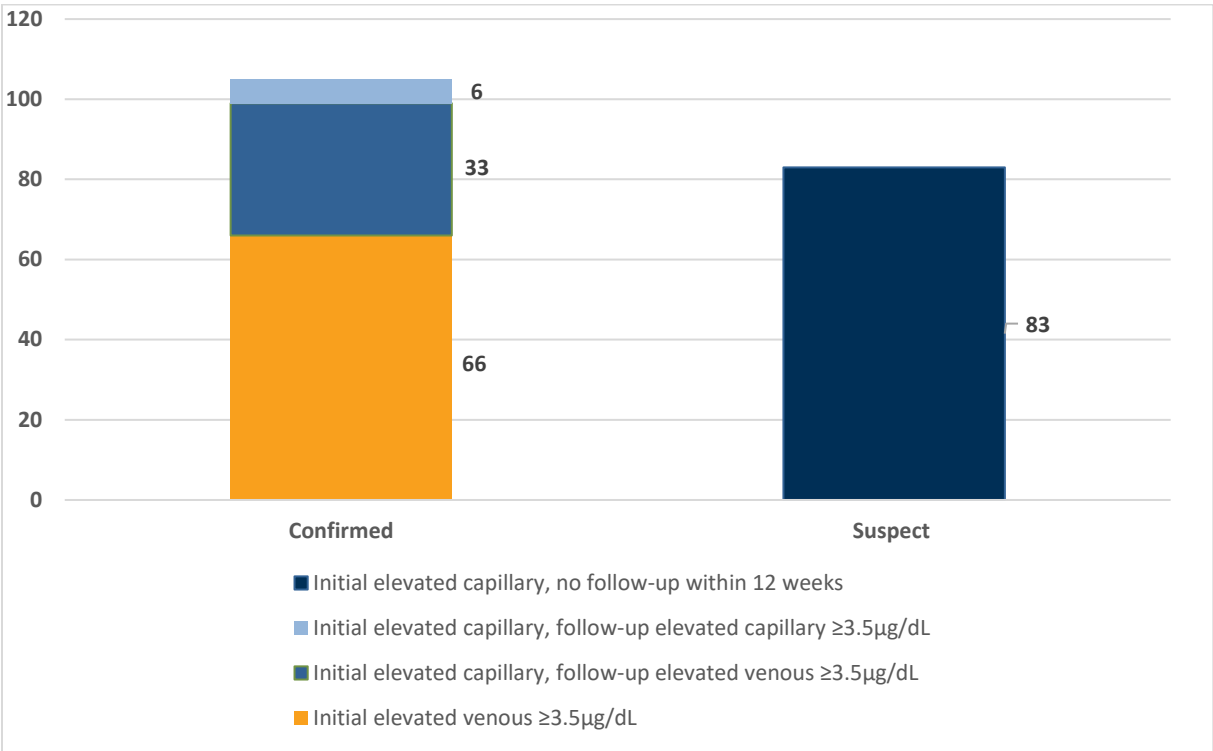
- Confirmed cases
 - 6 (6%) children had an initial capillary test ≥ 3.5 $\mu\text{g}/\text{dL}$ followed by a second capillary test ≥ 3.5 $\mu\text{g}/\text{dL}$ within 12 weeks.
 - 33 (31%) children had an initial capillary test ≥ 3.5 $\mu\text{g}/\text{dL}$ followed by a venous test ≥ 3.5 $\mu\text{g}/\text{dL}$ within 12 weeks.
 - 66 (63%) children had an initial venous test ≥ 3.5 $\mu\text{g}/\text{dL}$.
- Suspect cases
 - 83 children had an initial capillary test ≥ 3.5 $\mu\text{g}/\text{dL}$ but did not have a follow-up venous or capillary test within 12 weeks
- Excluded children
 - 7 (18%) children had an initial capillary test ≥ 3.5 $\mu\text{g}/\text{dL}$ and had a follow-up capillary test < 3.5 $\mu\text{g}/\text{dL}$ within 12 weeks
 - 32 (82%) children had an initial capillary test ≥ 3.5 $\mu\text{g}/\text{dL}$ and had a follow-up venous test < 3.5 $\mu\text{g}/\text{dL}$ within 12 weeks

South Dakota blood lead testing guidelines recommend follow-up confirmatory venous testing within 12 weeks for children with an initial capillary test ≥ 3.5 $\mu\text{g}/\text{dL}$. Follow-up capillary testing within 12 weeks may also be used to confirm the initial elevated capillary results. In 2024, a total of 161 children had an initial capillary test ≥ 3.5 $\mu\text{g}/\text{dL}$; 78 (48%) underwent follow-up testing while 83 (52%) did not. Of the 161 children with an initial capillary test ≥ 3.5 $\mu\text{g}/\text{dL}$:

- 13 (8%) received a follow-up capillary test within 12 weeks
 - 6 children ≥ 3.5 $\mu\text{g}/\text{dL}$ (confirmed cases)
 - 7 children < 3.5 $\mu\text{g}/\text{dL}$ (excluded)
- 65 (40%) received a follow-up venous test within 12 weeks (as recommended)
 - 33 children ≥ 3.5 $\mu\text{g}/\text{dL}$ (confirmed cases)
 - 32 children < 3.5 $\mu\text{g}/\text{dL}$ (excluded)
- 83 (52%) did not receive a follow-up capillary or venous test within 12 weeks (suspect cases)

Follow-up testing after an initial elevated capillary test is an area for future improvement.

Figure 5. Number of Children Less Than 6 Years Old with Confirmed & Suspect Blood Lead Levels $\geq 3.5\mu\text{g/dL}$, 2024



**Capillary tests $\geq 3.5\mu\text{g/dL}$ with a follow-up test within 12 weeks that was $< 3.5\mu\text{g/dL}$ were excluded*
**If a child had multiple venous tests, the highest venous result was used*

Table 2 summarizes the demographic distribution of children tested for blood lead and the prevalence of confirmed or suspected elevated blood lead levels ($\geq 3.5\mu\text{g/dL}$) by sex, race, and ethnicity. A total of 6,836 children under 6 years of age were tested in South Dakota. Of those tested, 52.4% were male, and 47.5% were female. Among children tested, 1.5% of males (102 children) and 1.2% of females (85 children) had confirmed or suspected elevated blood lead levels.

By race, White children accounted for the largest proportion of those tested (54.9%), followed by American Indian/Alaska Native children (14.2%), children identified as Other race (7.6%), and Black/African American children (4.2%). Race information was missing or unknown for 17.5% of children tested. Among children with confirmed or suspected elevated blood lead levels, White children accounted for 79 cases, and American Indian/Alaska Native children accounted for 56 cases.

By ethnicity, 6.5% of children tested were identified as Hispanic and 51.4% as non-Hispanic, while ethnicity information was unknown for 42.2% of children tested. Overall, 188 children (2.8%) were identified with confirmed or suspected elevated blood lead levels in 2024.

Table 2. Demographic Characteristics of Children Less Than 6 Years Old Tested, 2024

Characteristic	Category	# Tested	% Tested	# Confirmed* And Suspect†	% of Total All Children Tested
Sex	Female	3248	48%	85	1.2%
Sex	Male	3583	52%	102	1.5 %
Sex	Unknown	5	0.1%	1	0.0%
Race	American Indian/Alaskan Native	969	14.2%	56	0.8%
Race	Asian	101	1.5%	6	0.1%
Race	Black/African American	290	4.2%	11	0.2%
Race	Other	518	7.6%	8	0.1%
Race	Pacific Islander	5	0.1%	1	0.0%
Race	Refused to answer	2	0.0%	0	0.0%
Race	White	3756	54.9%	79	1.2%
Race	Unknown	1195	17.5%	27	0.4%
Ethnicity	Hispanic	442	6.5%	8	0.1%
Ethnicity	Non-Hispanic	3513	51.4%	101	1.5%
Ethnicity	Unknown	2881	42.2%	79	1.2%
Total	All children tested	6836	100%	188	2.8%

* Confirmed case: Child with an elevated venous blood lead level (≥ 3.5 $\mu\text{g}/\text{dL}$) or two elevated capillary blood lead tests (≥ 3.5 $\mu\text{g}/\text{dL}$) collected within 12 weeks.

† Suspect case: Child with a single elevated capillary blood lead test (≥ 3.5 $\mu\text{g}/\text{dL}$) without confirmatory testing

Figure 6 summarizes Medicaid enrollment among South Dakota children younger than 6 years of age who received blood lead testing in 2024. Of the 6,836 children tested for lead, 3,710 (54%) were enrolled in Medicaid and 3,126 (46 %) were not enrolled in Medicaid. Among the 188 children identified with elevated blood lead levels (BLL ≥ 3.5 $\mu\text{g}/\text{dL}$), including both confirmed and suspected cases, 147 (78%) were enrolled in Medicaid, while 41 (22%) were not enrolled in Medicaid.

Figure 6. Percentage of Children Tested & with Elevated Blood Lead Levels among Medicaid-enrolled children, South Dakota, 2024

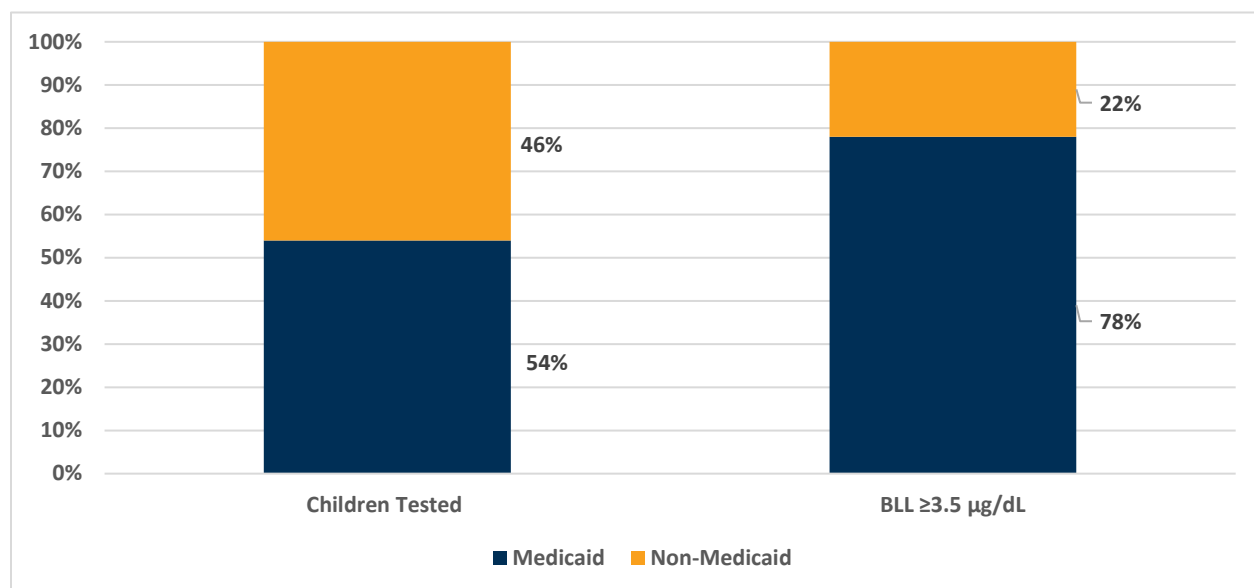


Table 3 illustrates the geographic distribution of children who received a blood lead test during 2024 and the elevated blood lead levels by county. Blood lead testing was reported from 65 of South Dakota's 66 counties in 2024, with Harding County reporting no blood lead testing among children younger than 6 years of age. The largest numbers of children tested were from the state's populous counties, including Minnehaha (1,511), Pennington (1,457), Lincoln (362), Beadle (282), Brown (278), Hughes (252), Codington (218), Meade (216), and Davison (214). Together, these counties accounted for the majority of blood lead testing conducted statewide. Elevated blood lead levels (confirmed and suspect cases ≥ 3.5 $\mu\text{g}/\text{dL}$) were identified in counties across the state. Counties with the highest number of children with elevated blood lead levels included Minnehaha (32), Pennington (18), Beadle (16), Brown (12), Charles Mix (11), and Davison (10). Although several counties had relatively high percentages of children with elevated blood lead levels, these percentages should be interpreted with caution because they were based on very small numbers of children tested.

Table 3. Blood Lead Levels in South Dakota Children Less Than 6 Years Old by County, 2024

County	# of Children Tested	% Tested	# Children with Confirmed and Suspect Blood Lead ≥ 3.5 $\mu\text{g}/\text{dL}$	% of Children with Confirmed and Suspect Blood Lead	% of Children with Confirmed and Suspect Blood Lead by County
Aurora	33	0.48%	0	0.00%	0.00%
Beadle	282	4.13%	16	5.67%	8.51%
Bennett	11	0.16%	1	9.09%	0.53%
Bon Homme	23	0.34%	0	0.00%	0.00%
Brookings	166	2.43%	3	1.81%	1.60%
Brown	278	4.07%	12	4.32%	6.38%
Brule	42	0.61%	3	7.14%	1.60%
Buffalo	28	0.41%	0	0.00%	0.00%
Butte	15	0.22%	4	26.67%	2.13%
Campbell	4	0.06%	0	0.00%	0.00%
Charles Mix	98	1.43%	11	11.22%	5.85%
Clark	20	0.29%	1	5.00%	0.53%
Clay	59	0.86%	8	13.56%	4.26%
Codington	218	3.19%	5	2.29%	2.66%
Corson	15	0.22%	2	13.33%	1.06%
Custer	30	0.44%	0	0.00%	0.00%
Davison	214	3.13%	10	4.67%	5.32%
Day	44	0.64%	1	2.27%	0.53%
Deuel	40	0.59%	2	5.00%	1.06%
Dewey	63	0.92%	1	1.59%	0.53%
Douglas	24	0.35%	1	4.17%	0.53%
Edmunds	13	0.19%	0	0.00%	0.00%
Fall River	29	0.42%	0	0.00%	0.00%
Faulk	9	0.13%	0	0.00%	0.00%
Grant	36	0.53%	1	2.78%	0.53%
Gregory	16	0.23%	0	0.00%	0.00%
Haakon	5	0.07%	0	0.00%	0.00%
Hamlin	76	1.11%	2	2.63%	1.06%
Hand	22	0.32%	0	0.00%	0.00%
Hanson	28	0.41%	1	3.57%	0.53%
Harding	0	0.00%	0	0.00%	0.00%
Hughes	252	3.69%	3	1.19%	1.60%
Hutchinson	51	0.75%	1	1.96%	0.53%
Hyde	16	0.23%	1	6.25%	0.53%
Jackson	14	0.20%	0	0.00%	0.00%
Jerauld	9	0.13%	0	0.00%	0.00%
Jones	5	0.07%	0	0.00%	0.00%
Kingsbury	30	0.44%	2	6.67%	1.06%
Lake	71	1.04%	3	4.23%	1.60%

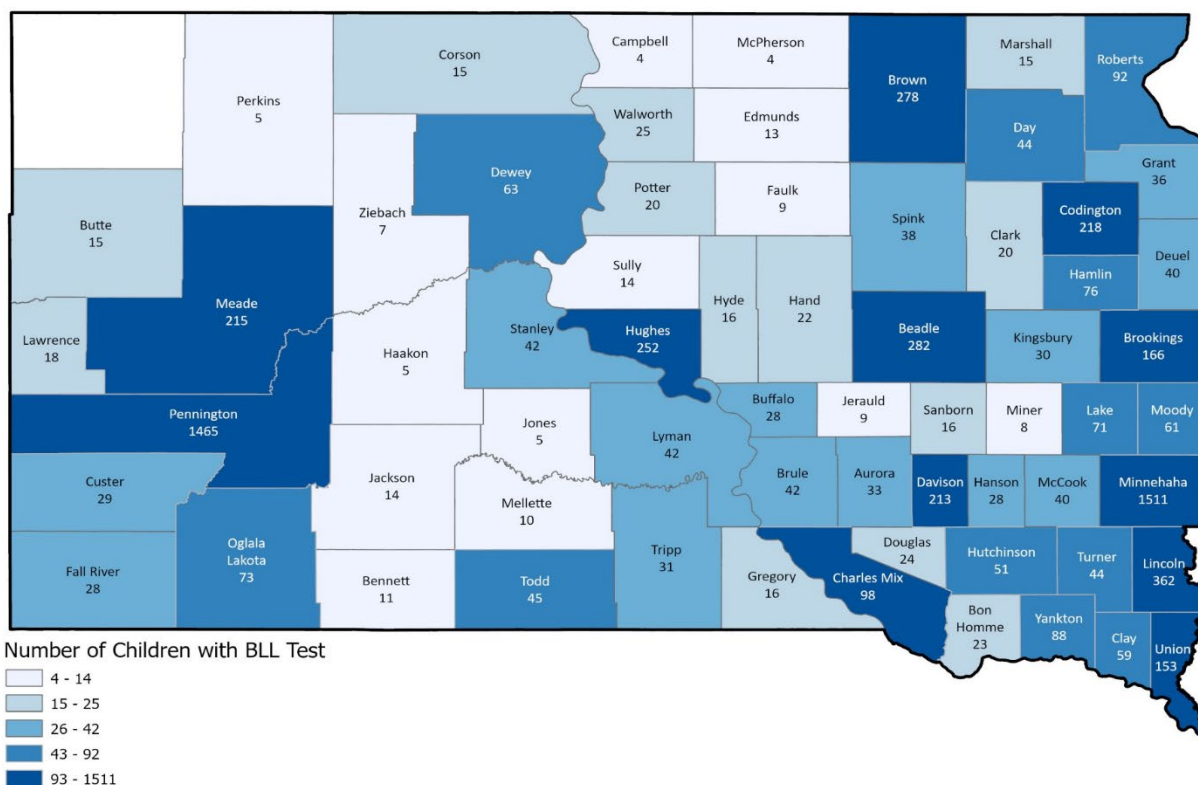
County	# of Children Tested	% Tested	# Children with Confirmed and Suspect Blood Lead ≥ 3.5 $\mu\text{g/dL}$	% of Children with Confirmed and Suspect Blood Lead	% of Children with Confirmed and Suspect Blood Lead by County
Lawrence	19	0.28%	6	31.58%	3.19%
Lincoln	362	5.30%	6	1.66%	3.19%
Lyman	42	0.61%	1	2.38%	0.53%
Marshall	15	0.22%	0	0.00%	0.00%
McCook	40	0.59%	0	0.00%	0.00%
McPherson	4	0.06%	0	0.00%	0.00%
Meade	216	3.16%	3	1.39%	1.60%
Mellette	10	0.15%	0	0.00%	0.00%
Miner	8	0.12%	0	0.00%	0.00%
Minnehaha	1511	22.10%	32	2.12%	17.02%
Moody	62	0.91%	2	3.23%	1.06%
Oglala Lakota	81	1.18%	2	2.47%	1.06%
Pennington	1457	21.31%	18	1.24%	9.57%
Perkins	5	0.07%	2	40.00%	1.06%
Potter	20	0.29%	0	0.00%	0.00%
Roberts	93	1.36%	1	1.08%	0.53%
Sanborn	16	0.23%	0	0.00%	0.00%
Spink	38	0.56%	2	5.26%	1.06%
Stanley	42	0.61%	0	0.00%	0.00%
Sully	14	0.20%	0	0.00%	0.00%
Todd	45	0.66%	6	13.33%	3.19%
Tripp	31	0.45%	2	6.45%	1.06%
Turner	44	0.64%	3	6.82%	1.60%
Union	152	2.22%	1	0.66%	0.53%
Walworth	25	0.37%	1	4.00%	0.53%
Yankton	88	1.29%	5	5.68%	2.66%
Ziebach	7	0.10%	0	0.00%	0.00%

* Children were assigned a county based on the address of residence at the time of the blood test as reported.

*All counts were deduplicated.

Figure 7 demonstrates that blood lead testing occurred throughout South Dakota in 2024, with the highest testing volumes concentrated in the state's more populated counties. This pattern generally reflects population distribution and the location of healthcare providers offering routine childhood blood lead screening.

Figure 7. Number of South Dakota Children Less Than 6 Years Old Tested by County, 2024



SUMMARY

In 2024, South Dakota continued to increase childhood blood lead testing among children younger than 6 years of age. A total of 6,836 unique children were tested, representing an increase compared with previous years following implementation of the state's universal blood lead testing recommendations. Overall, 188 children were identified with confirmed or suspect blood lead levels of 3.5 µg/dL or greater. While elevated blood lead levels were identified across multiple counties, most testing and identified cases occurred in the state's more populous counties.

Although blood lead testing has increased, opportunities remain to improve adherence to recommended follow-up testing. Only 40% of children with an initial elevated capillary blood lead test received a recommended confirmatory venous test within 12 weeks. Improving timely follow-up testing remains an important priority to ensure accurate diagnosis and prompt case management.

The South Dakota Childhood Lead Poisoning Prevention Program will continue working with healthcare providers, WIC clinics, public health partners, and community organizations to improve testing, increase confirmatory follow-up, identify environmental sources of lead exposure, and reduce childhood lead poisoning throughout the state.

ACKNOWLEDGMENTS

The South Dakota Childhood Lead Poisoning Prevention Program (SD CLPPP) gratefully acknowledges the healthcare providers, Nurse educators, clinical laboratories, South Dakota Department of Health staff, University of South Dakota Community Action Response Epidemiology (CARE) team, South Dakota Department of Social Services, tribal health partners, and community organizations whose collaboration made statewide blood lead testing, surveillance, reporting, case management, and prevention activities possible.

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