



SOUTH DAKOTA
DEPARTMENT OF HEALTH

**South Dakota Childhood Lead Poisoning Prevention Program (SDCLPP)
Lead Advisory Group Quarterly Meeting
December 2, 2022**

Welcome and Introductions



CDC's Strategic Priorities for Lead Testing and Reporting Among State and Local Jurisdictional Partners



Develop and sustain a jurisdictional Lead Advisory Committee



Develop or update and implement an appropriate jurisdictional screening plan based on local data

Emphasis on highly impacted communities per Lead Exposure Risk Index or other data sources



Increase awareness among pediatric healthcare providers and clinical laboratories of state/local BLL testing recommendations and reporting requirements



Enhance secondary prevention of childhood lead poisoning through core public health functions:

- Assurance
 - Ensuring BLL testing and reporting
 - Improving linkages to recommended service
- Assessment
 - Enhancing BLL surveillance



Developing and Maintaining an Advisory Committee

Develop and sustain a jurisdictional advisory committee composed of appropriate stakeholders, examples include the following:

- Pediatricians and others in the healthcare sector
- Community-based organizations serving lead-affected communities
- Representatives of affected communities
- Academia
- Local housing agencies
- Community leaders
- Tribes and tribal organizations
- Non-profit organizations
- Clinical laboratories



Develop and Implement a Jurisdictional Screening Plan Based on Local Data

Collaborate with jurisdictional lead advisory committee to

- Establish a screening and testing plan
- Establish a blood lead test reporting policy to ensure that laboratories and healthcare providers understand and comply with reporting requirements
- Incorporate a sustainability plan to ensure regular review of the data and make updates to statewide screening and testing recommendations, as required



SD CLPPP Lead Advisory Group Activities and Goals

Mission: To promote age-appropriate blood lead screening and testing for South Dakota children.

Activities

1. Assist in creating statewide recommendations for blood lead testing based on local data.
2. Advise on development of an appropriate statewide screening and testing plan based on local data.
3. Advise on development of an appropriate statewide plan to link children with elevated blood lead levels to recommended services.
4. Review educational material needed for care providers on screening, testing, and referrals.
5. Review data and make changes to the screening and testing plan or referral plan as needed.

Goals / Objectives

1. Improve screening and testing for blood lead in South Dakota children.
2. Improve referral process for services for children with elevated blood lead levels.

**Lead Advisory
Group Approval
Requested**

Discussion

Background



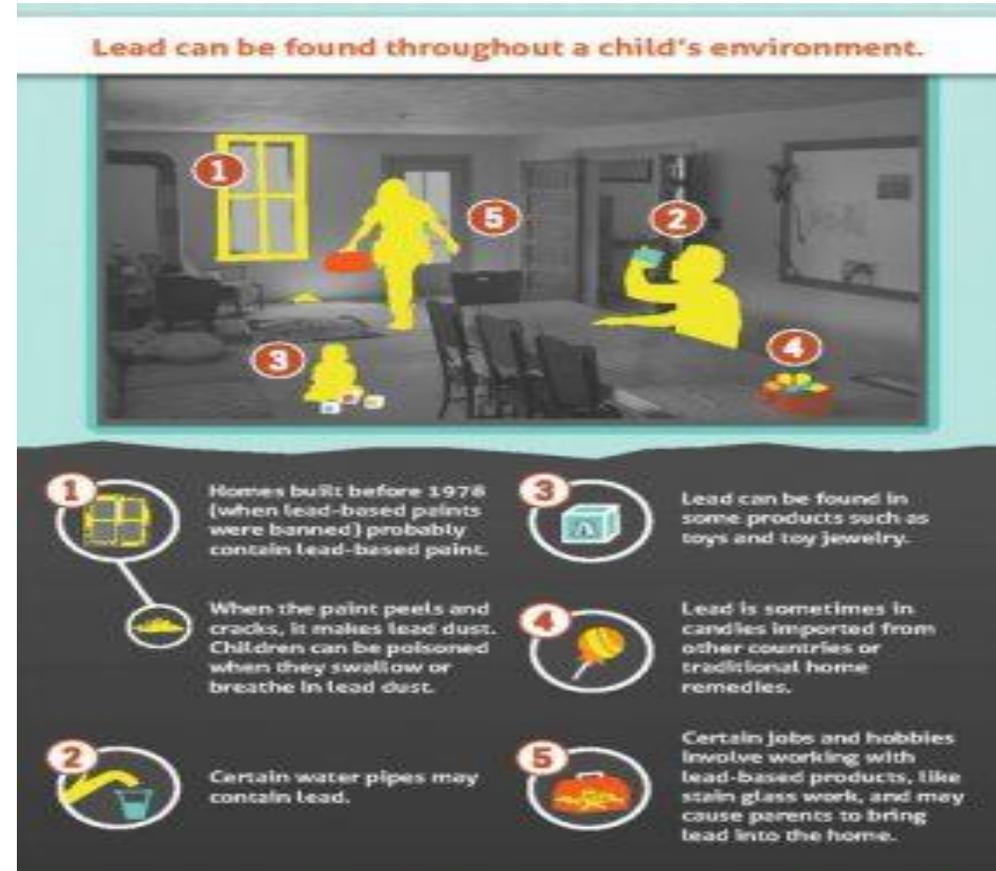
Background

- There is **NO** safe blood lead level in humans has been identified
- Exposure to lead can cause serious adverse health effects, especially to children
- CDC's goal of eliminating childhood lead exposure as a public health concern has yet to be achieved
- A rigorous primary prevention approach of eliminating excess levels of lead from predominant sources in children's environments is required
- Multi-sectorial public-private collaborations will be necessary to accomplish goals and objectives



Primary sources of Lead Exposure to Children

- Lead is a naturally occurring element found in small amounts in the Earth's crust
- Because of its availability and versatility, lead has been used since prehistoric times
- While it has some beneficial uses, it can be toxic to humans and animals, causing health effects
- Lead can be found in the air, soil, and water
- Lead and lead compounds have been used in many products, including:
 - Paint
 - Ceramics
 - Pipes and plumbing materials
 - Solders
 - Gasoline
 - Batteries
 - Ammunition
 - Cosmetics



Human Use of Lead

- Lead poisoning was common in Roman times because of the use of lead in water pipes and earthenware contains, and in wine storage
- Lead poisoning associated with occupational exposure was first reported in 370 BC
- Exposure among industrial workers in the 19th and early 20th centuries occurred in smelting, painting, plumbing, printing, and other industries



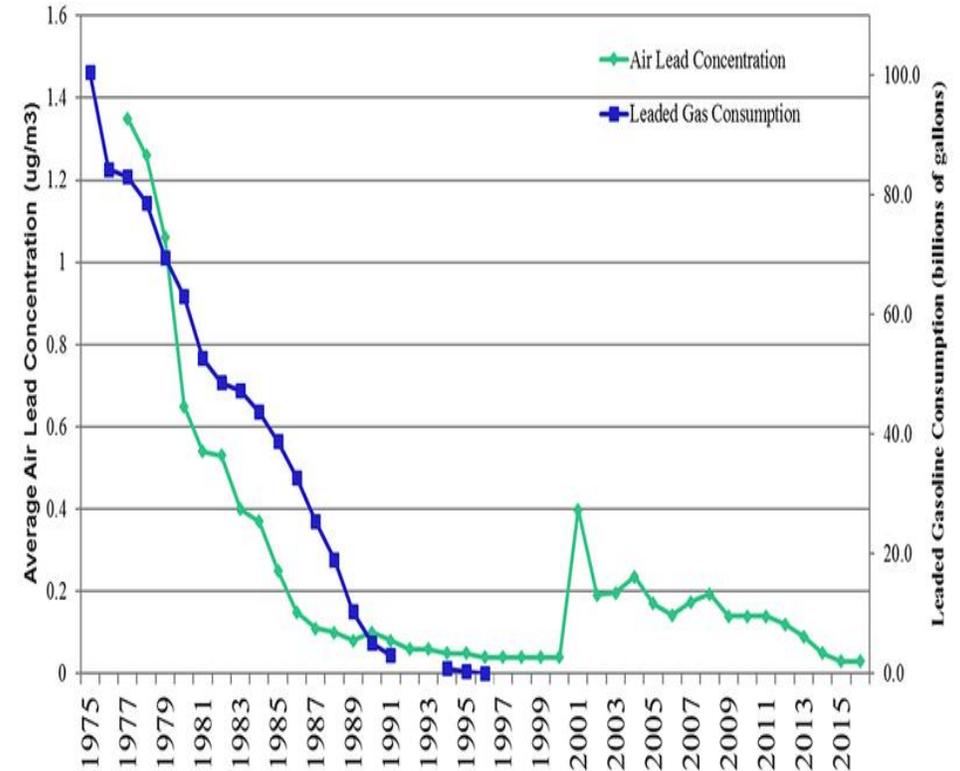
Roman lead water pipes from the House of Livia on Palantine Hill (Outside Rome, Italy)

Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2560844/pdf/11019456.pdf>
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6522252/>

Leaded Gasoline Sources

- Historically, the major source of lead in air was leaded gasoline exhaust
- The figure shows the amount of leaded gasoline used in the United States during 1975 to 1996 and the quarterly average maximum concentrations of lead in air at EPA-monitoring sites during 1977 to 2016.
- The increase in air lead concentration between 2000 and 2001 is likely due to changes at sites near stationary industrial sources.
- The decline in air lead concentrations between 2001 and 2002 is likely due to lower lead concentrations at sites in Herculaneum, Missouri.
- Leaded aviation gasoline is still used by approximately 167 000 piston-powered US aircrafts for engine safety, which accounts for about half of current lead emissions into air

Consumption of Leaded Gasoline and Average Air Lead Concentrations, U.S., 1975-2016



Source: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6522252/>

How is Blood Lead Measured ?

Blood lead is measured in micrograms per deciliter (abbreviated as $\mu\text{g}/\text{dL}$)

- A microgram = one-millionth of a gram. A gram is about 1/30 of an ounce.
- A deciliter measures fluid volume = 1/10 of a liter. A liter is a little bigger than a quart of fluid.

BLOOD LEAD

=

Mcg/dL

MICROGRAM
=
1 millionth
of a gram



DECILITER
≈
1/2 cup

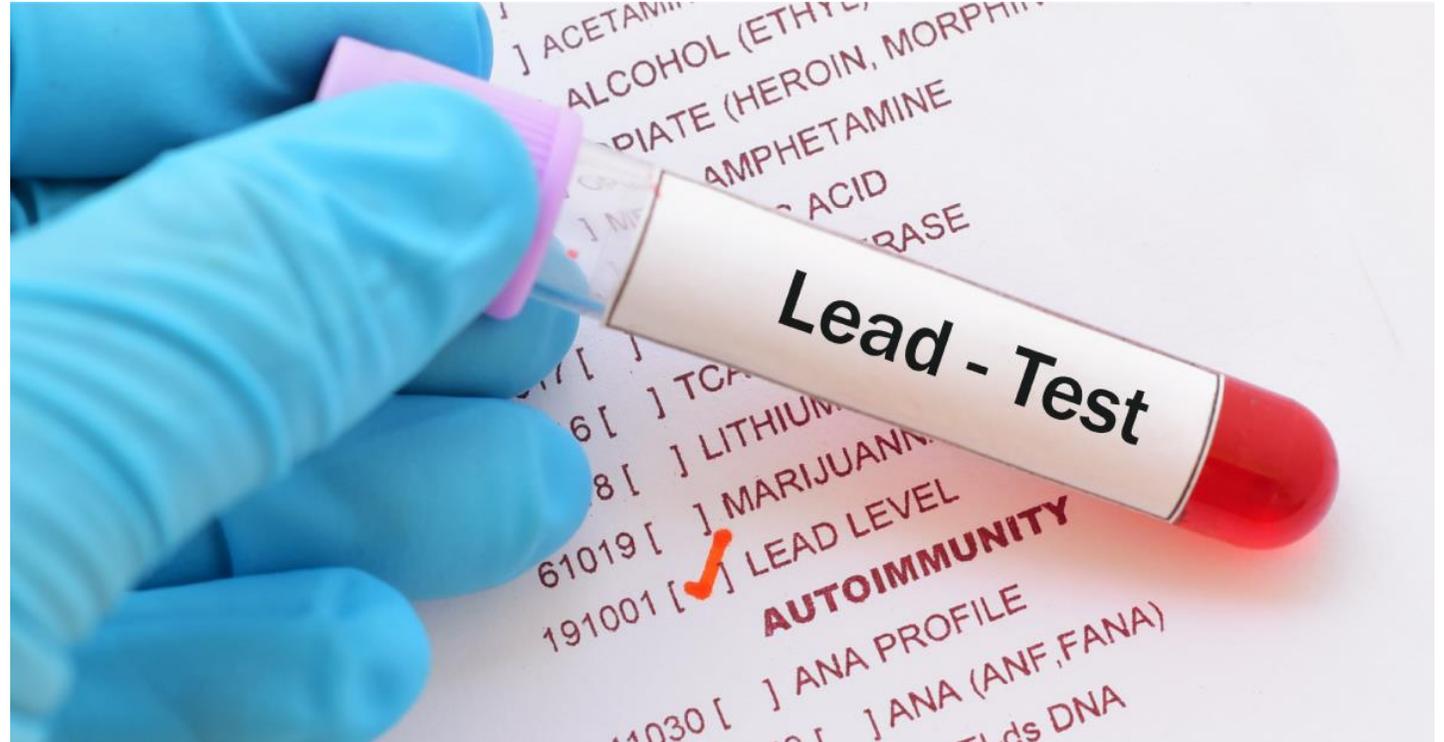


How are Blood Lead Samples Collected?

There are two types of tests used to collect blood lead samples:

Capillary: Also known as a fingerstick, this is often used for a child's first blood lead test.

Venous: Used to confirm elevated capillary results, this test is done by drawing blood from a vein.



What Does CDC Blood Lead Reference Value (BLRV) Mean?

- CDC's BLRV is a screening tool used to identify children who have higher levels of lead in their blood compared with most children.
- The new level is based on data from a sample of U.S. children ages 1-5 years tested for lead in their blood as part of the National Health and Nutrition Examination Survey (NHANES).
- The reference level represents the value of the highest 2.5% of children who were tested.
- The value of 3.5 $\mu\text{g}/\text{dL}$ was derived from NHANES data from the 2015-2016 and 2017-2018 cycles.
- The Federal Advisory Committee, called the Lead Exposure and Prevention Advisory Committee (LEPAC), unanimously voted on May 14, 2021, in favor of recommending that the CDC update the reference value to 3.5 $\mu\text{g}/\text{dL}$ based on these NHANES data.
- The CDC will review the most recent two sets of NHANES data every four years to find the 97.5th percentile. This means that the reference value may change in the future.



Lead is toxic

to multiple body systems, such as our central nervous system and brain; reproductive system; kidneys, cardiovascular system, blood and immune system.

Lead exposure is especially dangerous to children's developing brains and can result in



Reduced intelligence quotient (IQ) and attention span



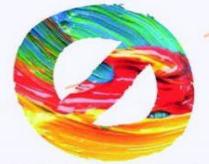
Impaired learning ability



Increased risk of behavioral problems



World Health Organization



BAN LEAD PAINT



SOUTH DAKOTA DEPARTMENT OF HEALTH

Ripple Effects of Lead

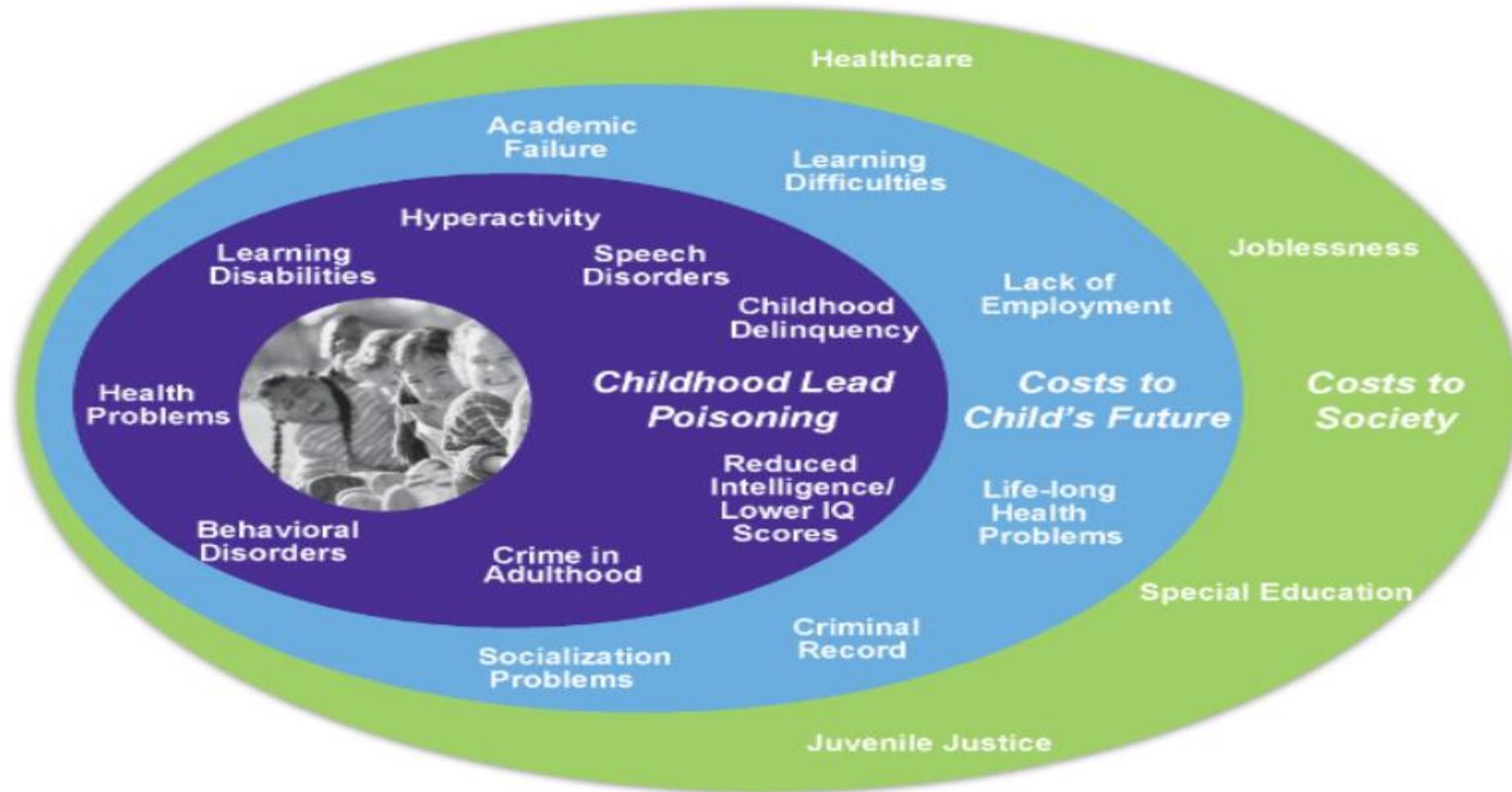


Image from: *Lead Safe Illinois at Loyola University*

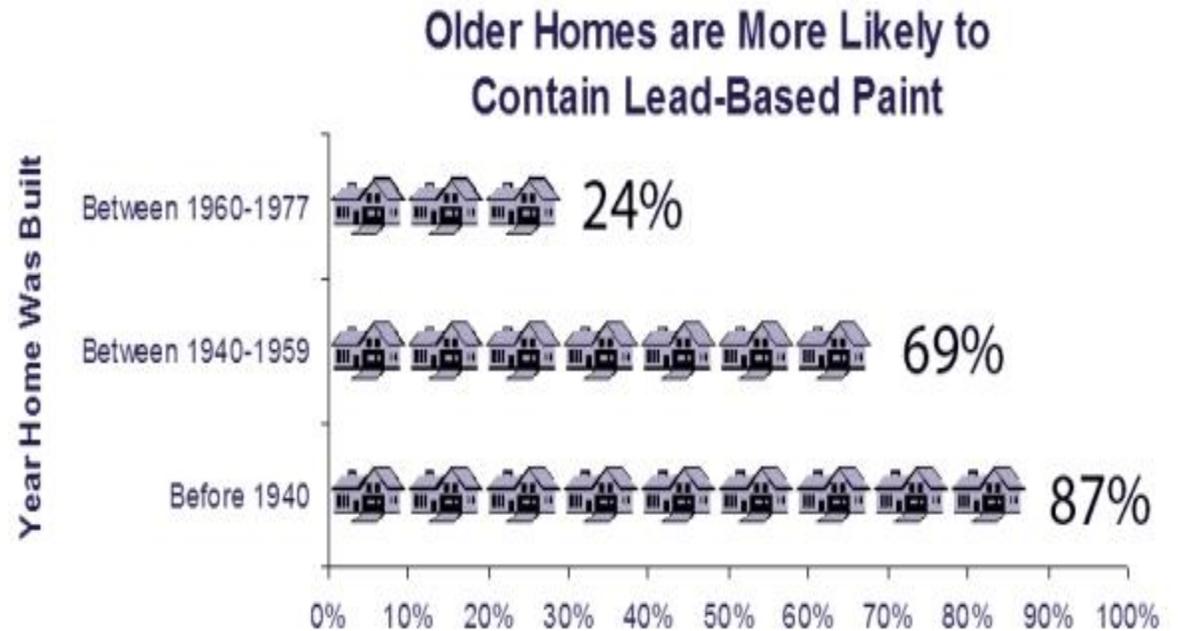
Discussion

Lead Hazards in South Dakota



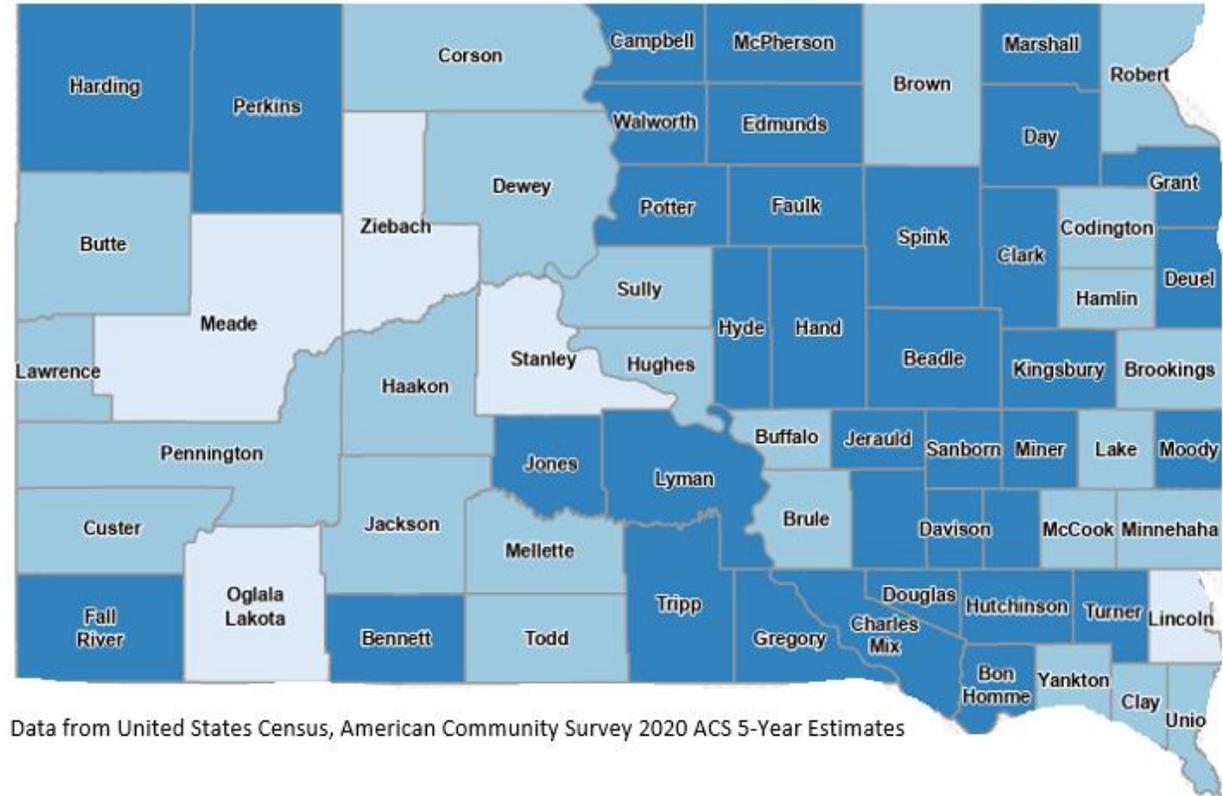
Summary of Lead Hazards in South Dakota

- The most significant source of exposure for small children is lead-based paint (LBP) dust and lead-contaminated soils, particularly in housing constructed prior to 1978
- The American Health Rankings, based on estimates of the age of housing stock in the United States, ranked South Dakota 31st in the nation for elevated lead risk.
- In the data, 19.5% of SD housing contained a lead risk compared to 17.6% of the US.



Housing Age (% Pre-1980) by SD County

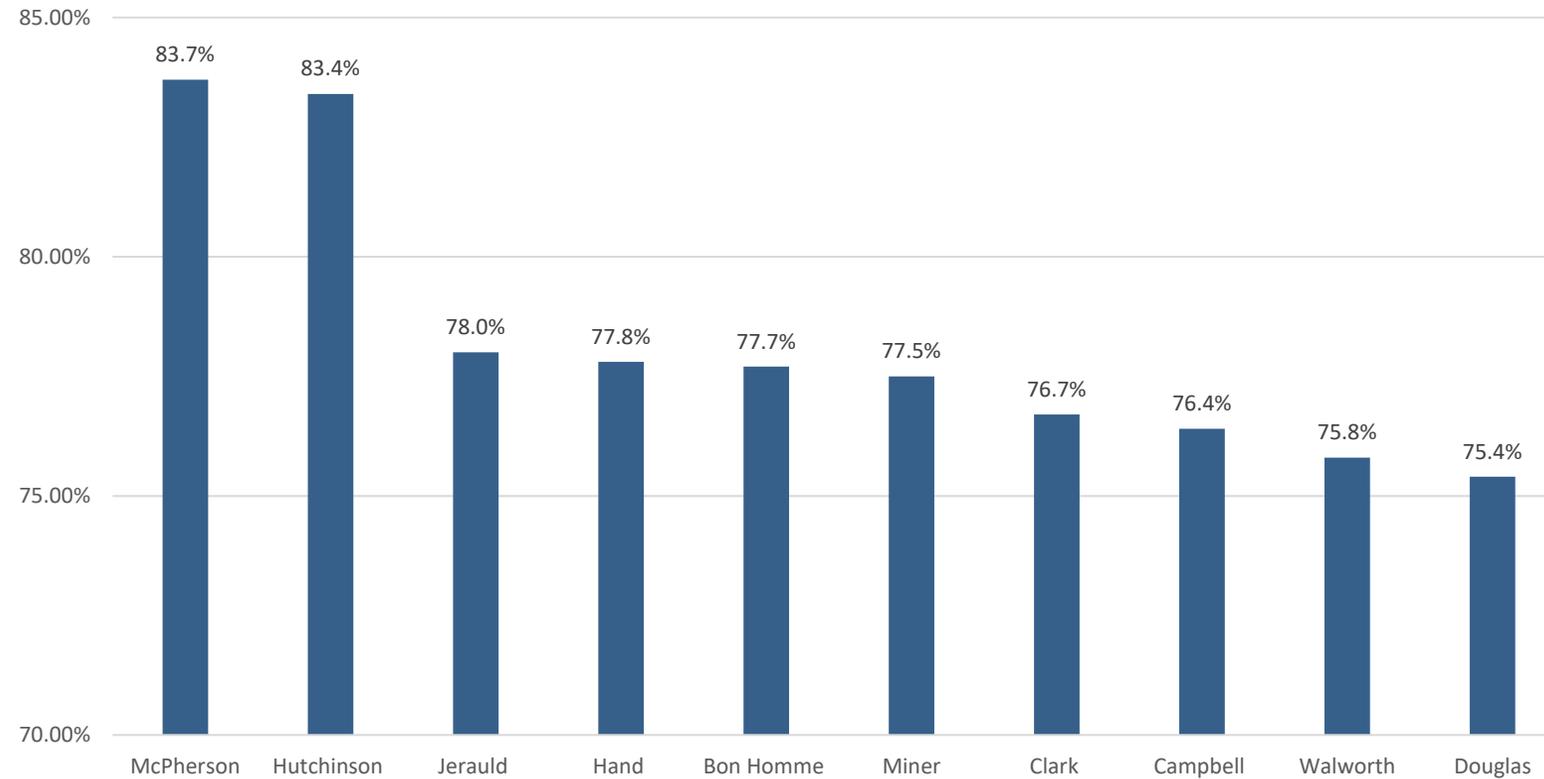
- LBP was phased out of residential use in 1950 and eventually banned in 1978 in the US.
- Pre-1980 housing as a percentage (Pct) of total housing per county ranges from a high of 83.7% in McPherson County to a low of 24% in Lincoln County.
- Only eleven counties contain pre-1980 housing that is less than 50% of the total housing in the county (Brookings, Custer, Lawrence, Meade, Minnehaha, Oglala Lakota, Pennington, Stanley, Todd, Union, and Ziebach County)



Pre_1980_LBP_Pct



Top 10 SD Counties by Percentage of Pre-1980 Housing



Lead-Based Paint Abatement in South Dakota



- Lead-based paint regulations apply to inspection, risk assessment, project design, and abatement activities in pre-1978 housing and child-occupied facilities
- In South Dakota, persons performing those services are required to be trained and certified by EPA
- The federal Lead-Based Paint Disclosure Rule (Section 1018 of Title X) requires that potential buyers and renters of housing built prior to 1978 receive certain information about lead and lead hazards in the residence prior to becoming obligated to buy or rent and provides the opportunity for an independent lead inspection for buyers
- Sellers, landlords, and agents are responsible for compliance
- The sale or lease of housing constructed prior to 1978 that is federally owned or receiving federal assistance must comply with the Lead Safe Housing Rule (24 CFR 35)
- South Dakota does not have state laws that pre-empt existing federal laws



Lead in Water

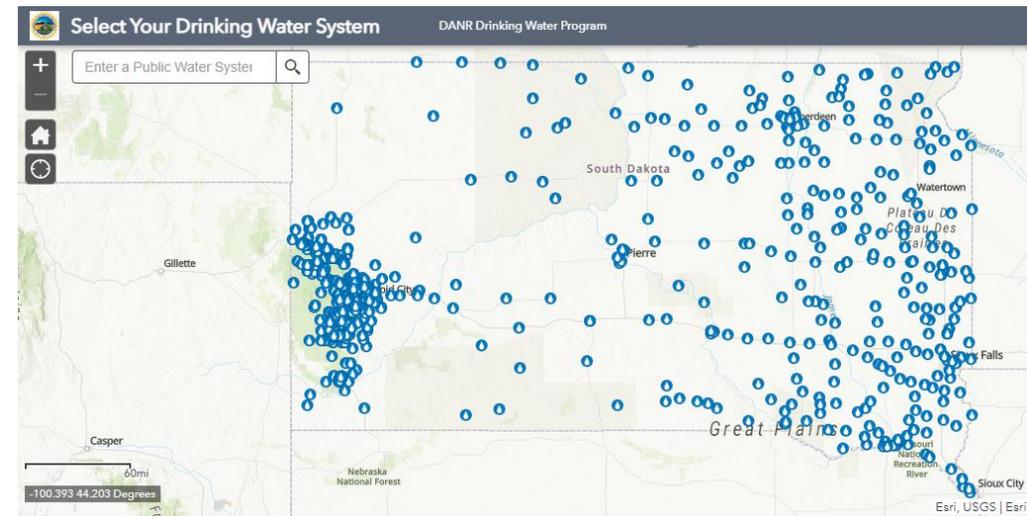
- Lead was historically used for water distribution because it was less expensive and more durable than iron.
- Newer homes are safe from lead, as lead in drinking water systems was banned in 1990.
- The Plumbing Manufacturers International states that nearly all homes built before the 1980s “still have lead solder connecting copper pipes”.
- Over 54.5% of South Dakota’s housing was built before the 1980s.



<https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water>

Monitoring for Lead and Copper in South Dakota's Water Systems

- The drinking water in South Dakota comes from a system of rivers, streams, lakes, and reservoirs throughout the state.
- South Dakota Department of Agriculture and Natural Resources (SD DANR) reports that 645 public water systems (PWS) currently exist in South Dakota.
- All public water systems are required to issue a Consumer Confidence Report each year.



<https://danr.sd.gov/OfficeOfWater/DrinkingWater/default.aspx>

Testing for Lead in School Drinking Water

- Lead typically enters school drinking water because of interaction with lead-containing plumbing materials and fixtures within the building
- Water fountains and other fixtures were allowed to have up to 8% lead until 2014.
- Both older and newer school buildings can have lead in drinking water.
- SD DANR was awarded the federal Water Infrastructure Improvements for the Nation (WIIN Act 2017) grant from EPA to develop a voluntary lead in drinking water testing program for eligible schools.
- SD DANR launched a Lead Sampling Program to help public K-12 schools investigate sources of lead within their plumbing systems in Spring 2022.



Discussion

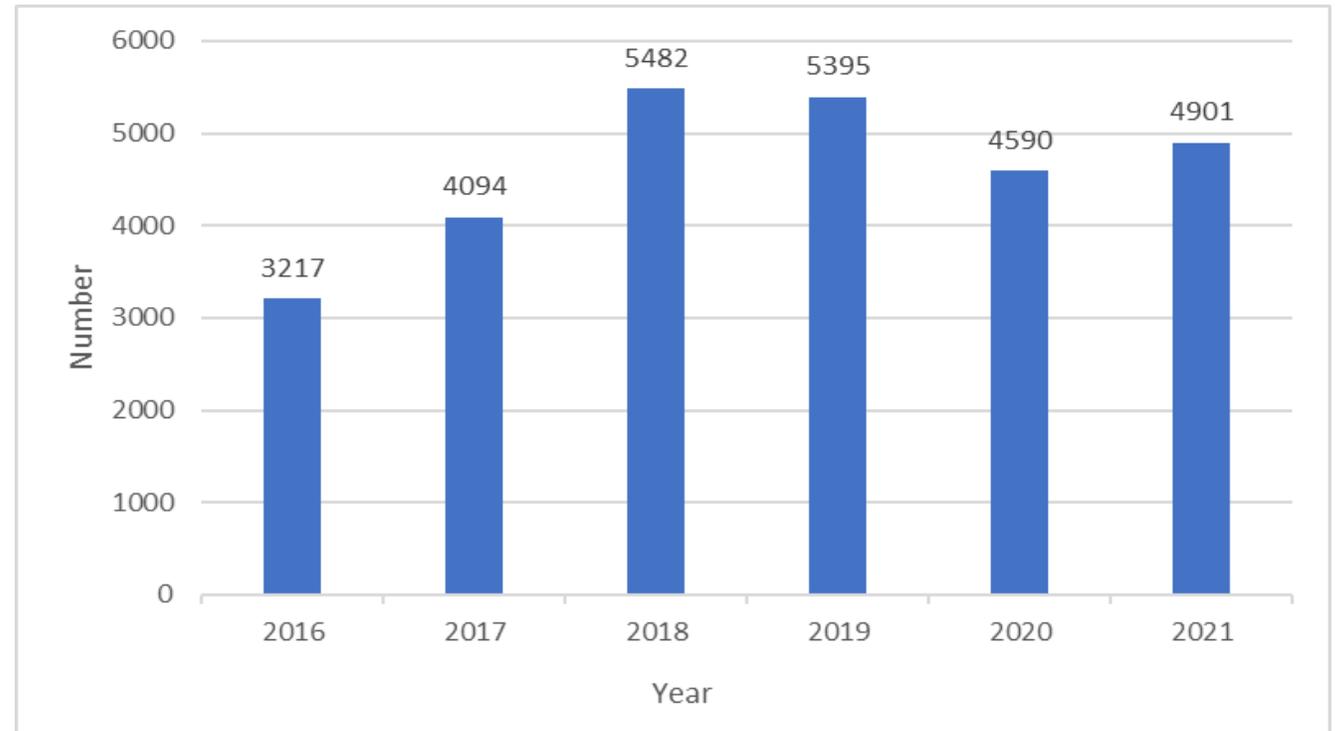


Blood Lead Testing for Children Aged 6 and Younger

Children Aged 6 or Younger Tested for Blood Lead in South Dakota 2016-2021

- Statewide surveillance data are shown for historical context.
- The number of children tested for lead in South Dakota increased steadily from 2016 to 2018.
- Covid 19 had some impact
- Number of tests decreased by from 2020 to 2021.
- Data were calculated using venous and capillary test.
- Results are not representative of all children living in South Dakota
- Please note that there is a potential underestimation of counts presented due to reliance on provider and laboratory reporting of blood lead test results

Table 1. Number of children Aged 6 or Younger Tested for Blood Lead



Updated Slide

*Note: data is provisional

Blood lead Testing Results for South Dakota Children aged 6 or younger 2016-2021

- Evaluation of differing cut-off values for investigation for years 2016-2021 for children aged 6 or younger.
- There were many records that did not have valid data, so those were excluded (missing 38677 for the 3.5 cut-off and 37512 for all others).
- Those with values of <5 were not included in the 3.5 level.

Table 2. Number of values above various cut-offs for blood lead testing

Cut-off	Year					
	2016	2017	2018	2019	2020	2021
3.5 mcg/dL	412	262	424	406	423	374
5 mcg/dL	215	161	274	278	322	276
10 mcg/dL	70	63	87	90	99	77
15 mcg/dL	35	31	36	57	48	34
20 mcg/dL	21	13	22	31	25	19

*Note: data is provisional

Blood Lead Testing Results for South Dakota Children Aged 6 or Younger by Gender 2016-2021

Table 3. Number of values above cut-offs by gender

Sex	Cut-off	Year					
		2016	2017	2018	2019	2020	2021
Male	3.5 mcg/dL	206	144	208	210	244	207
	5 mcg/dL	109	93	138	146	188	152
	10 mcg/dL	38	39	48	46	57	37
	15 mcg/dL	20	19	24	25	23	14
	20 mcg/dL	13	6	16	14	9	8
Female	3.5 mcg/dL	206	110	216	191	179	167
	5 mcg/dL	106	60	136	127	134	124
	10 mcg/dL	32	19	39	40	42	40
	15 mcg/dL	15	9	12	28	25	20
	20 mcg/dL	8	4	6	14	16	11

*Note: data is provisional

South Dakota Counties with Blood Lead Testing Results 15 mcg/dl or Higher 2016-2021

Table 4: South Dakota Counties for those with levels 15 mcg/dL or higher

County	Frequency	Percent	% of the Population of SD age 0-6
Beadle County	37	17.37%	2.65%
Bennett County	1	0.47%	0.49%
Brown County	5	2.35%	4.08%
Charles Mix County	8	3.76%	1.36%
Clay County	11	5.16%	1.24%
Codington County	9	4.23%	2.83%
Davison County	7	3.29%	2.06%
Day County	3	1.41%	0.48%
Grant County	14	6.57%	0.76%
Hughes County	8	3.76%	1.96%
Hyde County	12	5.63%	0.13%
Lake County	4	1.88%	0.98%
Lincoln County	3	1.41%	7.76%
Minnehaha County	50	23.47%	24.00%
Moody County	12	5.63%	0.79%
Oglala Lakota County	6	2.82%	2.23%
Pennington County	10	4.69%	11.44%
Perkins County	10	4.69%	0.28%
Spink County	2	0.94%	0.66%
Yankton County	1	0.47%	2.21%

***Note: data is provisional**

Discussion



Reporting Requirements

Reporting Requirements

- The South Dakota Department of Health is authorized by SDCL 34-22-12 and ARSD 44:20 to collect and process mandatory reports of diseases and conditions by physicians, hospitals, laboratories, and institutions.
- Lead is a Category II reportable disease: Report within 3 days.

Reportable Diseases – South Dakota

+Category I diseases: Report immediately on suspicion of disease **Effective Date:**
Category II diseases: Report within 3 days **1 January 2019**
* Send isolate or specimen to South Dakota Public Health Laboratory

<p>+Anthrax (<i>Bacillus anthracis</i> *)</p> <p>Anaplasmosis (<i>Anaplasma phagocytophilum</i>)</p> <p>Arboviral encephalitis, meningitis and infection (West Nile, Zika, St. Louis, Eastern equine, Western equine, Chikungunya, California, Japanese, Powassan, LaCrosse, Colorado tick fever)</p> <p>Babesiosis (<i>Babesia</i> spp)</p> <p>+Botulism (<i>Clostridium botulinum</i>)</p> <p>+Brucellosis (<i>Brucella</i> spp *)</p> <p>Campylobacteriosis (<i>Campylobacter</i> spp)</p> <p>Carbon monoxide poisoning</p> <p>Chancroid (<i>Haemophilus ducreyi</i>)</p> <p>Chlamydia (<i>Chlamydia trachomatis</i>)</p> <p>Cholera (<i>Vibrio cholerae</i>)</p> <p>Coccidioidomycosis (<i>Coccidioides</i> spp)</p> <p>+Coronavirus respiratory syndromes, such as MERS (Middle East respiratory syndrome) and SARS (Severe acute respiratory syndrome)</p> <p>Cryptosporidiosis (<i>Cryptosporidium</i> spp)</p> <p>Cyclosporiasis (<i>Cyclospora cayentensis</i>)</p> <p>Dengue viral infection (<i>Flavivirus</i>)</p> <p>+Diphtheria (<i>Corynebacterium diphtheriae</i> *)</p> <p>Drug resistant organisms:</p> <ul style="list-style-type: none"> - Carbapenem-resistant <i>Enterobacteriaceae</i> (CRE *) - <i>Candida auris</i> * - Methicillin-resistant <i>Staphylococcus aureus</i> (MRSA), invasive - Vancomycin-intermediate & resistant <i>Staphylococcus aureus</i> (VISA, VRSA) * <p>+E. coli, shiga toxin-producing (<i>Escherichia coli</i> *), includes <i>E. coli</i> O157:H7, O26, O111, O103 and others</p> <p>Ehrlichiosis (<i>Ehrlichia</i> spp)</p> <p>Giardiasis (<i>Giardia lamblia</i> / intestinalis)</p> <p>Gonorrhea (<i>Neisseria gonorrhoeae</i>)</p> <p>Haemophilus influenzae *, invasive disease</p> <p>Hantavirus pulmonary syndrome or infection</p> <p>Hemolytic uremic syndrome</p> <p>Hepatitis, viral, acute A, B and C; chronic B and C; and perinatal B & C</p>	<p>Human immunodeficiency virus (HIV) infection, including:</p> <ul style="list-style-type: none"> - Stage II, Acquired Immunodeficiency syndrome, (AIDS) - CD4 counts in HIV infected persons - HIV viral loads, - pregnancy in HIV infected females, - HIV gene sequencing - HIV antiviral resistance, - Confirmatory results, positive or negative, following a reactive HIV screening test <p>+Influenza, novel strains *</p> <p>Influenza: including:</p> <ul style="list-style-type: none"> - hospitalizations, - deaths, - lab confirmed cases (culture, DFA, PCR), - weekly aggregate totals of rapid antigen positive (A and B) and total tested <p>Lead, elevated blood levels</p> <p>Legionellosis (<i>Legionella</i> spp)</p> <p>Leptospirosis (<i>Leptospira</i>)</p> <p>Leprosy / Hansen's disease (<i>Mycobacterium leprae</i>)</p> <p>Lyme disease (<i>Borrelia burgdorferi</i>)</p> <p>Listeriosis (<i>Listeria monocytogenes</i> *)</p> <p>Malaria (<i>Plasmodium</i> spp)</p> <p>+Measles / Rubella (<i>Paramyxovirus</i>)</p> <p>+Meningococcal disease, invasive (<i>Neisseria meningitidis</i> *)</p> <p>Mumps (<i>Paramyxovirus</i>)</p> <p>Paratyphoid fever</p> <p>Pertussis (<i>Bordetella pertussis</i>)</p> <p>Pesticide-related illness and injury, acute</p> <p>+Plague (<i>Yersinia pestis</i> *)</p> <p>+Polio (<i>Poliovirus</i>)</p> <p>+Poliomyelitis, paralytic and nonparalytic (<i>Poliovirus</i>)</p> <p>Psittacosis (<i>Chlamydia psittaci</i>)</p> <p>Q fever (<i>Coxiella burnetii</i>)</p> <p>+Rabies, human and animal (<i>Rhabdovirus</i>)</p> <p>+Rubella and congenital rubella syndrome (<i>Togavirus</i>)</p> <p>Salmonellosis (<i>Salmonella</i> spp *)</p> <p>Shigellosis (<i>Shigella</i> spp *)</p> <p>Silicosis</p> <p>+Smallpox (<i>Variola</i> *)</p>	<p>Spotted fever rickettsiosis (<i>Rickettsia</i>)</p> <p>Streptococcus pneumoniae, invasive</p> <p>Syphilis (<i>Treponema pallidum</i>) including primary, secondary, latent, early latent, late latent, neurosyphilis, late non-neurological, stillbirth, and congenital</p> <p>Tetanus (<i>Clostridium tetani</i>)</p> <p>Toxic shock syndrome (<i>Streptococcal</i> and non-<i>Streptococcal</i>)</p> <p>Transmissible spongiform encephalopathies, such as Creutzfeldt-Jakob disease</p> <p>Trichinosis (<i>Trichinella spiralis</i>)</p> <p>+Tuberculosis, active disease (<i>Mycobacterium tuberculosis</i> * or <i>Mycobacterium bovis</i> *)</p> <p>Tuberculosis, latent infection (only in certain high risk persons: foreign-born <5 yrs in US, close contacts, diabetes, renal dialysis, children <5 yrs, and certain medical conditions)</p> <p>+Tularemia (<i>Francisella tularensis</i> *)</p> <p>Typhoid (<i>Salmonella typhi</i> *)</p> <p>Vaccine Adverse Events</p> <p>Varicella / Chickenpox (<i>Herpesvirus</i>)</p> <p>+Viral Hemorrhagic Fevers (Crimson-Congo Hemorrhagic Fever virus, Ebola virus, Lassa virus, Lugo virus, Marburg virus, New World Arenavirus – Guanarito virus, Junin virus, Machupo virus, Sabia virus)</p> <p>Vibriosis (<i>Vibrionaceae</i>)</p> <p>+Yellow fever (<i>Flavivirus</i>)</p>
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+Outbreaks of:

- +Acute upper respiratory illness
- +Diarrheal disease
- +Foodborne disease
- +Healthcare-associated infections
- +Illnesses in child care setting
- +Rash illness
- +Waterborne disease

+Syndromes suggestive of bioterrorism and other public health threats

+Unexplained illnesses or deaths in human or animal

The South Dakota Department of Health is authorized by SDCL 34-22-12 and ARSD 44:20 to collect and process mandatory reports of diseases and conditions by physicians, hospitals, laboratories, and other institutions.

How to report:

Secure website: sd.gov/diseasereport

Telephone: 605-773-3737 or 800-592-1861 during business hours (or **After Hours** for emergency reporting of Category I diseases)

Fax: 605-773-5509

Mail or courier: Infectious Disease Surveillance, SD Department of Health, 615 East 4th Street, Pierre, SD 57501; mark "Confidential"

What to report: Reports must include as much of the following as known:

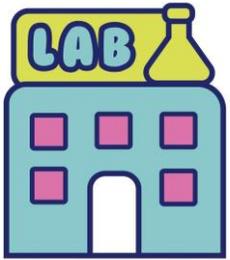
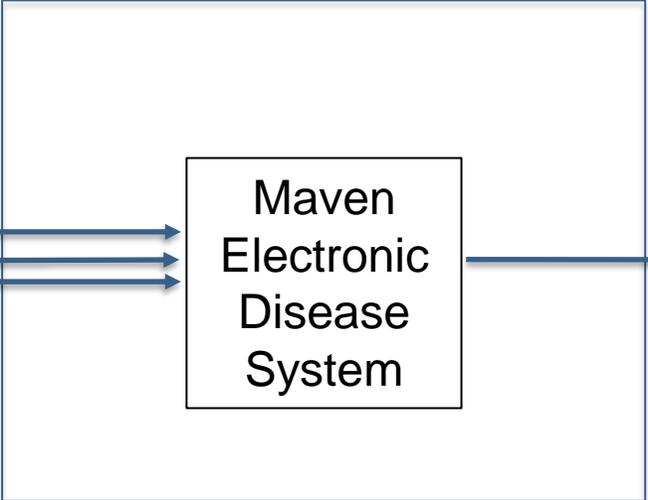
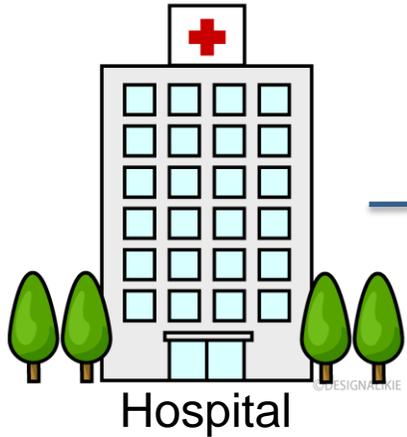
- Disease or condition
- Date of disease onset
- Relevant lab results and specimen collect date
- Case name, age, birth date, sex, race, address, occupation
- Attending physician's name, address, phone number
- Name and phone number of person making report

CANCER (SDCL 1-43-14) Report to SD Cancer Registry, call 800-592-1861

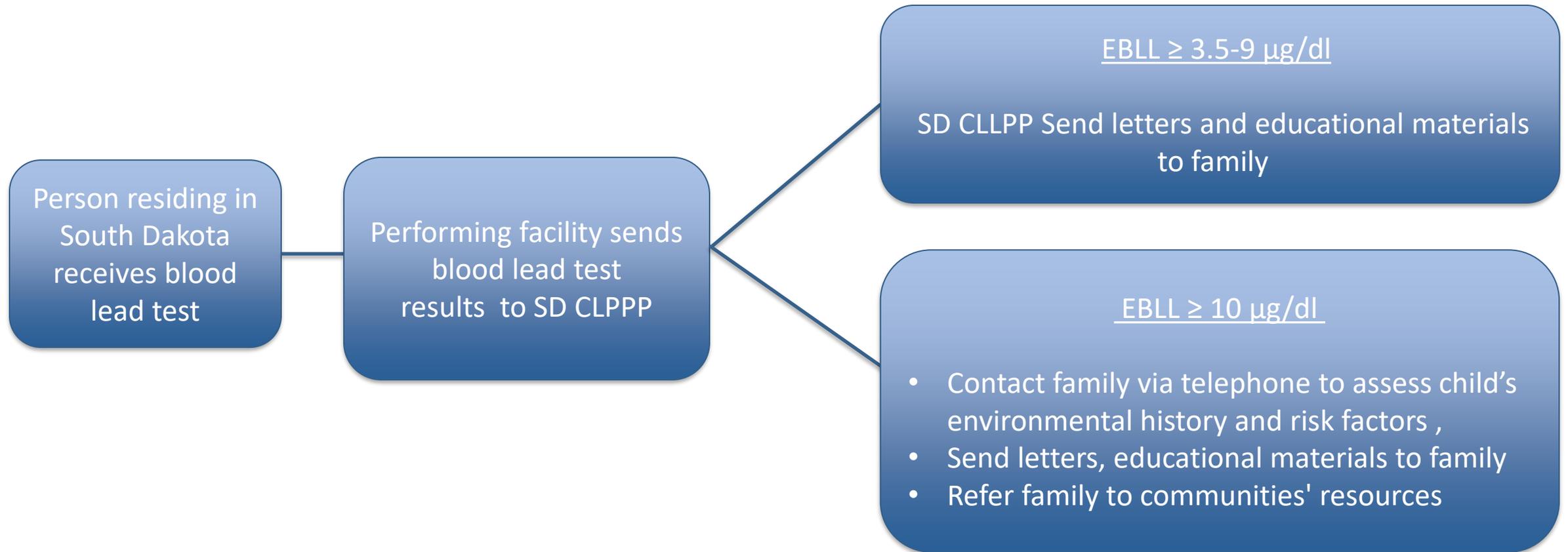


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DOH Reporting



Electronic Surveillance Systems, Case interviews or a child < 72 months



Workflows

Cases are worked by level of priority

Blood Lead Priority 1 Critical	$\geq 45 \mu\text{g/dL}$
Blood Lead Priority 2	20-44 $\mu\text{g/dL}$
Blood Lead Priority 3	10- 19 $\mu\text{g/dL}$
Blood Lead Priority 4	3.5 -9 $\mu\text{g/dL}$



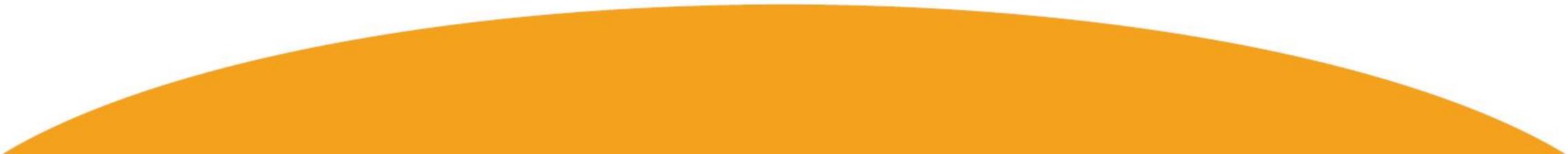
Follow-up Process

- Cases are assigned to “Lead Cases in need of a Follow- up Test” workflow queues

Discussion



Screening Guidelines



Populations at Risk for Lead Exposure

- Pregnant persons (fetal exposure)
- Children living in:
 - Households at or below the federal poverty level
 - Dwellings built before 1978
 - ZIP codes with high prevalence of lead exposure
- Children living with housing inequity
- Immigrants and refugees
- Children adopted from locales outside of the U.S.
- Children with developmental disabilities and increased pica habits
- Adults participating in lead-related occupations ('take home lead') or hobbies and their children

CDC Advisory Committee on Childhood Lead Poisoning Prevention Recommends Screening and Testing Children for Lead

The 2012 ACCLP report makes the following recommendations for testing criteria in children ages 1 & 2 and children 36–72 months old who have not previously been tested:

- Child receives services from public assistance programs such as Medicaid or WIC
- The Centers for Medicare & Medicaid Services (CMS) recommends for Medicaid enrolled children:
 - BLL testing (either capillary or venous) should be performed at 12 and 24 months of age.
 - Children ≤ 72 months who missed recommended testing at a younger age should be tested at presentation.
- Universal lead screening for children living in a community where $>27\%$ pre-1950 housing
- $\geq 12\%$ prevalence of $\geq 10 \mu\text{g}/\text{dL}$ blood lead in children 12–36 months old
- Priority screening for specific groups with higher risk factors in communities with lower prevalence of elevated BLLs
- State and local agencies formulate their own lead screening recommendations based on local data

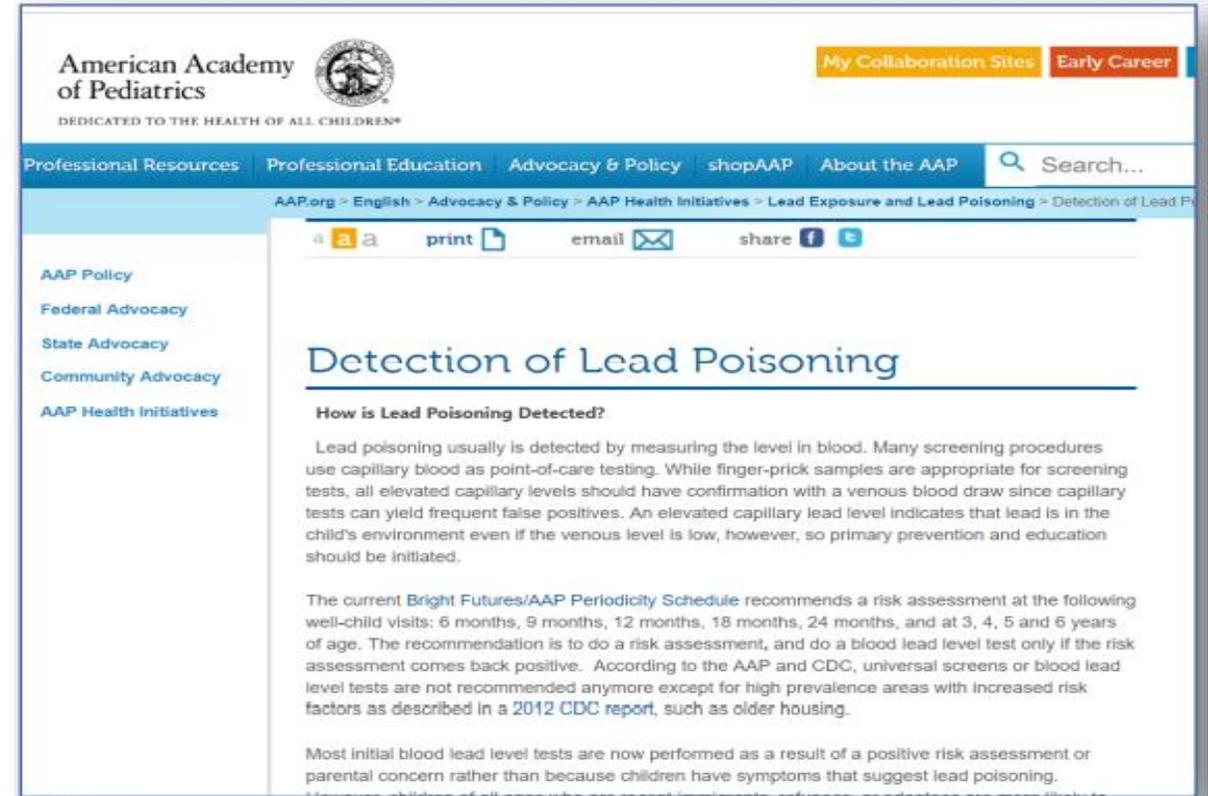
CDC Recommendations Screening for all newly arrived refugee infants, children, adolescents, and pregnant and lactating women and girls

- All refugee infants and children ≤ 16 years of age
- Refugee adolescents > 16 years of age if there is a high index of suspicion, or clinical signs/symptoms of lead exposure
- All pregnant and lactating women and girls*
- Follow-up testing with blood test, 3-6 months after initial testing:
- All refugee infants and children ≤ 6 years of age, regardless of initial screening result
- Refugee children and adolescents 7–16 years of age who had BLLs at or above $3.5 \mu\text{g}/\text{dL}$, and for any child older than 7 years of age who has a risk factor (e.g., sibling with BLL at or above $3.5 \mu\text{g}/\text{dL}$, environmental exposure risk factors) regardless of initial test result.
- Pregnant or lactating adolescents (<18 years of age) who had BLLs at or above $3.5 \mu\text{g}/\text{dL}$ at initial screening.

AAP Bright Futures Recommendations Lead Screening/Testing

The American Academy of Pediatrics recommends the following:

- Risk assessment at well-child visits: 6, 9, 12, 18, & 24 months, and at 3, 4, 5, and 6 years
- Obtain BLL only if the risk assessment is positive
- Universal testing of Medicaid recipients
- Immigrant, refugee, and internationally adopted children also should be tested for blood lead concentrations when they arrive in the United States. Blood lead tests do not need to be duplicated, but the pediatrician or other primary care provider should attempt to verify that screening was performed elsewhere and determine the result before testing is deferred during the office visit.



The screenshot shows the American Academy of Pediatrics website. The header includes the AAP logo and the tagline "DEDICATED TO THE HEALTH OF ALL CHILDREN®". Navigation links include "Professional Resources", "Professional Education", "Advocacy & Policy", "shopAAP", and "About the AAP". A search bar is visible on the right. The main content area is titled "Detection of Lead Poisoning" and includes a sub-heading "How is Lead Poisoning Detected?". The text explains that lead poisoning is usually detected by measuring the level in blood and that many screening procedures use capillary blood as point-of-care testing. It also mentions that the current Bright Futures/AAP Periodicity Schedule recommends a risk assessment at well-child visits: 6 months, 9 months, 12 months, 18 months, 24 months, and at 3, 4, 5 and 6 years of age. The recommendation is to do a risk assessment, and do a blood lead level test only if the risk assessment comes back positive. According to the AAP and CDC, universal screens or blood lead level tests are not recommended anymore except for high prevalence areas with increased risk factors as described in a 2012 CDC report, such as older housing. Most initial blood lead level tests are now performed as a result of a positive risk assessment or parental concern rather than because children have symptoms that suggest lead poisoning.

South Dakota Recommendations Lead Screening/Testing

- Assess all children for the risk of lead exposure at 6, 9, 12, 18, & 24 months, and at 3, 4, 5, and 6 years at well child visit.
- Recommends for Medicaid enrolled children:
 - Blood lead level testing (either capillary or venous) should be performed at 12 and 24 months of age.
 - Children 36–72 months who missed recommended testing at a younger age should be tested.
- Immigrants, refugees, and foreign adoptees.
 - All infants and children ≤ 16 years of age.
 - Adolescents >16 years of age if there is a high index of suspicion, or clinical signs/symptoms of lead exposure.
 - All pregnant and lactating women and girls.
- Follow-up testing with blood test, 3-6 months after initial testing:
 - All infants and children ≤ 6 years of age, regardless of initial screening result.
 - Children, adolescents, and pregnant or lactating women who had a blood lead result $\geq 3.5\mu\text{g}/\text{dL}$

	CDC Recommendations	AAP Bright Futures Recommendations	SD CLLP Recommendations
Risk assessment/factors	<ul style="list-style-type: none"> • Universal lead screening for children living in a community where >27% pre-1950 housing • ≥12% prevalence of ≥10 µg/dL blood lead in children 12–36 months old • Priority screening for specific groups with higher risk factors in communities with lower prevalence of elevated BLLs • State and local agencies formulate their own lead screening recommendations based on local data 	<ul style="list-style-type: none"> • Risk assessment at well-child visits: 6, 9, 12, 18, & 24 months, and at 3, 4, 5, and 6 years • Obtain BLL only if the risk assessment is positive 	<ul style="list-style-type: none"> • Assess all children for the risk of lead exposure at 6, 9, 12, 18, & 24 months, and at 3, 4, 5, and 6 years at well child visit
Public assistance Medicaid/WIC	<ul style="list-style-type: none"> • BLL testing (either capillary or venous) should be performed at 12 and 24 months of age. • Children ≤72 months who missed recommended testing at a younger age should be tested at presentation 	<ul style="list-style-type: none"> • Universal testing of Medicaid recipients 	<ul style="list-style-type: none"> • Blood lead level testing (either capillary or venous) should be performed at 12 and 24 months of age. • Children 36–72 months who missed recommended testing at a younger age should be tested.
Immigrants, Refugees, and Foreign Adoptees	<ul style="list-style-type: none"> • All refugee infants and children ≤ 16 years of age • Refugee adolescents > 16 years of age if there is a high index of suspicion, or clinical signs/symptoms of lead exposure • All pregnant and lactating women and girls* • Follow-up testing with blood test, 3-6 months after initial testing: • All refugee infants and children ≤ 6 years of age, regardless of initial screening result • Refugee children and adolescents 7–16 years of age who had BLLs at or above 3.5 µg/dL, and for any child older than 7 years of age who has a risk factor (e.g., sibling with BLL at or above 3.5 µg/dL, environmental exposure risk factors) regardless of initial test result. • Pregnant or lactating adolescents (<18 years of age) who had BLLs at or above 3.5 µg/dL at initial screening. 	<ul style="list-style-type: none"> • Immigrant, refugee, and internationally adopted children also should be tested for blood lead concentrations when they arrive in the United States. Blood lead tests do not need to be duplicated, but the pediatrician or other primary care provider should <u>attempt to verify</u> that screening was performed elsewhere and determine the result before testing is deferred during the office visit. 	<ul style="list-style-type: none"> — All infants and children ≤16 years of age — Adolescents >16 years of age if there is a high index of suspicion, or clinical signs/symptoms of lead exposure — All pregnant and lactating women and girls <p>Follow-up testing with blood test, 3-6 months after initial testing:</p> <ul style="list-style-type: none"> — All infants and children ≤6 years of age, regardless of initial screening result — Children, adolescents, and pregnant or lactating women who had a blood lead result ≥3.5µg/dL

**Lead Advisory
Group Approval
Requested**

South Dakota Provider Verbal Risk Assessment Questionnaire

Does this child Live in a high-risk ZIP code area for lead exposure?	Yes	No	I don't know
Does this child live or spend time in a house built before 1978?			
Does this child live or spend time in house built before 1978 with recent or ongoing remodeling within the past year?			
Is this child eligible for or enrolled in Medicaid, Head Start, or the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC)?			
Is this child a recent immigrant, refugee, or foreign adoptee?			
Does this child live with parent or caregiver who has a job that causes them to have frequent contact with lead? (e.g., plumbers, construction, auto repair, metal/battery recycling, welders)?			
Does this child live with parent or caregiver who has a hobby that causes them to have frequent contact with lead? (e.g., hunt, fish, reload bullets, refinish furniture, work with stained glass, jewelry making)?			
Does this child have developmental disabilities and persistent pica habits?			
Does this child have a sibling or playmate with a blood lead level (≥ 3.5 $\mu\text{g}/\text{dL}$), or parent expresses a concern about or asks for their child to be tested for lead?			

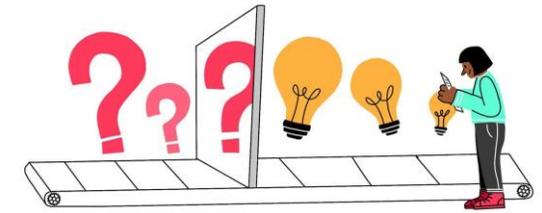


Discussion



Laboratory and Provider Survey Findings

Laboratory Capacity Survey Analysis



Survey Title: Blood Lead Lab Survey

Start of Survey: August 15th, 2022

End of Survey: September 12th, 2022

Platform: Survey was developed through Qualtrics survey software and distributed via email and through phone interviews with hospital system labs and known facilities with Magellan Diagnostic LeadCare Testing Systems.

Survey Objective

The survey was created to better understand where blood lead lab testing was being done and what methods were currently used.

Summary of Survey

- A total of 22 responses were collected.
- The larger health systems in the state (i.e. Avera, Sanford, and Monument Health) do not process samples internally in their own labs but send them out for testing
- South Dakota Urban Indian Health in Pierre and Community Health Center of the Black Hills also send out samples
- Magellan Diagnostic LeadCare Testing System were used at Family Health Care of Siouxland, Black Hills Pediatrics, Horizon Health Care, and Mission Community Health Care
- Follow-up venous testing samples were sent either directly to the South Dakota Public Health Laboratory or a third-party service such as LabCorp

Current Provider Practices Survey Analysis

Survey Title: Blood Lead Level Provider Survey

Start of Survey: August 10th, 2022

End of Survey: November 7th, 2022

Platform: Survey was developed through Qualtrics survey software and distributed via email.

Survey Objective

The survey was created to better understand when and how medical providers discuss lead screening with parents of children with and without known risk factors as well as referrals available.

Summary of Survey

Out of 73 responses, 22 respondents (30.1%) reported that they test children at a certain age, with all written responses being for children < 5 years old. 10 respondents (13.7%) reported they test children on Medicaid. 10 respondents (13.7%) reported to test children with other risk factors.

Out of 60 total responses, 68.3% of respondents reported to provide verbal education to a parent or guardian about lead hazards. 13.3% of respondents refer parents or guardians to the CDC website; 8.3% of respondents refer parents and guardians to the Department of Health website.

Current Provider Practices Survey Analysis

Summary of Survey

Out of 60 responses, 33 providers (55%) reported to send out to outside laboratories for blood lead testing (25% and 30% for capillary and venous blood draw, respectively). Written responses for the name of the outside lab include Avera, Stanford, Mayo, and State labs.

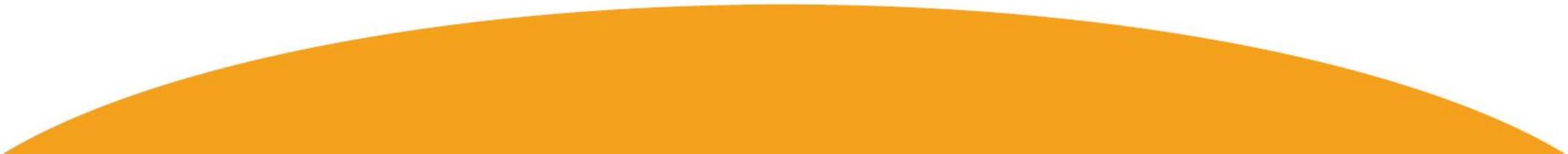
Out of 35 responses, 40% were able to refer patients for chelation therapy, 66% were able to refer for development screening services, 51% were able to refer for early educational services, 49% were able to refer for nutrition services and 23% were able to refer for environmental assessment.

Referral partners identified included SD DOH, Birth to 3, in house dietician/nutritionist, South Central Cooperative, Sanford/Avera for chelation, educational services through ICAP, and WIC

Out of 38 responses, 82% wanted SDDOH to provide educational material for patients/families, 47% wanted SDDOH to conduct educational seminars for health care providers, 68% wanted SDDOH to provide material about screening recommendations, 47% wanted SD DOH to provide educational material about reporting requirements, 71% wanted SD OH to provide referral listings and 34% wanted SDDOH to send out the latest updates via a listserv.

Providers also noted that they would like assistance with environmental screening access, additional information on referrals for services for families, home evaluations, and educational material in different languages.

Discussion



Break



Case Management and Follow up Testing



CDC Recommended Schedule if Capillary Blood Lead Level is ≥ 3.5 $\mu\text{g}/\text{dL}$ for Obtaining a Confirmatory Venous Sample

Capillary Blood Lead Level ($\mu\text{g}/\text{dL}$)	Time to Confirmation Testing
≥ 3.5 –9	Within 3 months
10–19	Within 1 month
20–44	Within 2 weeks
≥ 45	Within 48 hours



The Agency for Toxic Substances and Disease Registry (ATSDR) Recommended Schedule if Capillary Blood Lead Level is $\geq 3.5 \mu\text{g/dL}$ for Obtaining a Confirmatory Venous Sample

Capillary Blood Lead Level ($\mu\text{g/dL}$)	Time to Confirmation Testing
\leq Reference value of 5*	1- 3 months
6-44**	1 week- 1 month
45-59	48 hours
60-69	24 hours
≥ 70	Urgently as emergency test



SD CLPPP Recommended Schedule if Capillary Blood Lead Level is $\geq 3.5 \mu\text{g/dL}$ for Obtaining a Confirmatory Venous Sample

Capillary Blood Lead Level ($\mu\text{g/dL}$)	Time to Confirmation Testing
$\geq 3.5-9$	3 months
10-44	1 month
45-59	48 hours
60-69	24 hours
≥ 70	Immediately as an emergency test

CDC Recommendations

Capillary Blood Lead Level (µg/dL)	Time to Confirmation Testing
≥3.5–9	Within 3 months
10–19	Within 1 month
20–44	Within 2 weeks
≥45	Within 48 hours

ATSDR Recommendations

Capillary Blood Lead Level (µg/dL)	Time to Confirmation Testing
≤ Reference value of 5*	1- 3 months
6-44**	1 week- 1 month
45-59	48 hours
60-69	24 hours
≥70	Urgently as emergency test

SD CLPPP Recommendations

Capillary Blood Lead Level (µg/dL)	Time to Confirmation Testing
≥3.5–9	3 months
10–44	1 month
45–59	48 hours
60–69	24 hours
≥70	Immediately as an emergency test

- For discussion with Lead Advisory Group, do we split this into 10-19ug/dL for confirmatory testing within 1 month and 20-44ug/dL for testing within 2 weeks?
- For discussion with Lead Advisory Group, do we condense this to the CDC recommendation of >45ug/dL testing within 48 hours, or leave as is based on ATSDR.

Lead Advisory Group Approval Requested

CDC Schedule for Follow-Up if Venous Blood Lead Level is $\geq 3.5 \mu\text{g/dL}$

Venous blood lead levels ($\mu\text{g/dL}$)	Early follow up testing (2–4 tests after initial test above specific venous BLLs)	Later follow up testing after BLL declining
≥ 3.5 –9	3 months	6–9 months
10–19	1–3 months	3–6 months
20–44	2 weeks–1 month	1–3 months
≥ 45	As soon as possible	As soon as possible



SD CLPPP Schedule for Follow-Up if Venous Blood Lead Level is $\geq 3.5 \mu\text{g/dL}$

Venous blood lead levels ($\mu\text{g/dL}$)	Follow-up Venous Test Schedule	Long-Term Follow-Up
$\geq 3.5\text{--}9 \mu\text{g/dL}$	3 months	6–9 months
10–19 $\mu\text{g/dL}$	Within 3 months	3–6 months
20–44 $\mu\text{g/dL}$	2 weeks- 1 month	1–3 months
$\geq 45 \mu\text{g/dL}$	Repeat venous blood test immediately	Based on chelation protocol

Discussion

**Venous
Follow-up**

CDC Schedule for Follow-Up

Venous blood lead levels (µg/dL)	Early follow up testing (2–4 tests after initial test above specific venous BLLs)	Later follow up testing after BLL declining
≥3.5–9	3 months*	6–9 months
10–19	1–3 months*	3–6 months
20–44	2 weeks–1 month	1–3 months
≥45	As soon as possible	As soon as possible

SD CLPPP Schedule for Follow-Up

Venous blood lead levels (µg/dL)	Follow-up Venous Test Schedule	Long-Term Follow-Up
≥3.5–9	3 months	6–9 months
10–19	Within 3 months	3–6 months
20–44	2 weeks- 1 month	1–3 months
≥45 µg/dL	Repeat venous blood test immediately	Based on chelation protocol

**Lead Advisory
Group Approval
Requested**



Discussion



Case Management Plan



SD CLPPP Case Management for Venous or Confirm Test

Confirmed BLL	INITIAL VENOUS OR CONFIRMED TEST
3.5 – 9 µg/dL	<p>Notify the caregiver: Send 3.5 to 9 µg/dL letters and educational materials to family about sources of lead and methods of prevention.</p> <p>Retesting within 6-9 months</p>
10 – 19 µg/dL	<p>Notify the caregiver: Send ≥ 10 µg/dL letters and educational materials to family about sources of lead and methods of prevention, plus:</p> <p>Interview the caregiver to assess the child’s environmental history and risk factors. Recommend ways to prevent further lead exposure. If feasible, Contact the health care provider and discuss follow-up testing.</p> <p style="text-align: center;">Case management</p> <ul style="list-style-type: none"> • Ensure follow-up test scheduled within 3 months: Contact health care provider and/or family if follow-up test not completed within 3 months. • Refer family to community resources. • Retesting within 3-6 months
20 – 44 µg/dL	<p><u>Same actions as above for 10-19 µg/dL, plus</u></p> <p style="text-align: center;">Case management</p> <ul style="list-style-type: none"> • Ensure follow-up test scheduled within 2 weeks- 1 month: Contact health care provider and/or family if follow-up test not completed within 2 weeks to 1 month • Refer family to community resources. • Retesting within 1-3 months
≥45 µg/dL	<p><u>Same actions as above for 20-44 µg/dL, plus</u></p> <p style="text-align: center;">Case management</p> <ul style="list-style-type: none"> • Ensure follow-up confirmatory venous test Repeat venous blood test immediately: Contact parent and or healthcare provider if confirmatory test is not completed within the recommended time frame. • Refer family to community resources. • Chelation treatment: Chelation therapy is recommended child will need more frequent BLL monitoring. • Retesting based on chelation therapy protocol.

SD CLPPP Case Management for Initial Capillary Test

Capillary BLL	INITIAL CAPILLARY TEST
3.5 – 9 µg/dL	<p>Notify the caregiver: Send 3.5 to 9 µg/dL letters and educational materials to family about sources of lead and methods of prevention.</p> <p>follow VENOUS or CAPILLARY test within 3 months</p>
10 – 19 µg/dL	<p>Notify the caregiver: Send ≥ 10 µg/dL letters and educational materials to family about sources of lead and methods of prevention, plus:</p> <p>Interview the caregiver to assess the child’s environmental history and risk factors. Recommend ways to prevent further lead exposure. If feasible, contact the medical care provider regarding confirmatory venous testing</p> <p style="text-align: center;">Case management</p> <ul style="list-style-type: none"> • Ensure follow-up VENOUS or CAPILLARY confirm test scheduled within 1 month : Contact health care provider and/or family if follow-up test not completed within the recommended time frame. • Refer family to community resources.
20 – 44 µg/dL	<p><u>Same actions as above for 10-19 µg/dL, plus:</u></p> <p style="text-align: center;">Case management</p> <ul style="list-style-type: none"> • Ensure follow-up VENOUS or CAPILLARY confirm test scheduled within 2 weeks: Contact health care provider and/or family if follow-up test not completed within the recommended time frame. • Refer family to community resources.
≥ 45 µg/dL	<p><u>Same actions as above for 20-44 µg/dL, plus:</u></p> <p style="text-align: center;">Case management</p> <ul style="list-style-type: none"> • Ensure follow-up test scheduled: Contact health care provider and/or family if follow-up test not completed within 48 hours if BLL 45-59 µg/dL. 24 hours if BLL is 60-60 µg/dL. Immediately as an emergency test if BLL is ≥70 • Refer family to community resources.

Discussion



Medical Management of Children



CDC Medical Management Guidelines

<3.5 µg/dL	≥3.5 µg/dL to ≤45 µg/dL	≥45 µg/dL to ≤69 µg/dL	≥70 µg/dL
<p>Lead education -Dietary -Environmental</p> <p>Environmental assessment* for pre-1978 housing</p> <p>Follow-up blood lead monitoring</p>	<p>Lead education -Dietary -Environmental Follow-up blood lead monitoring</p> <p>Complete history and physical exam Lab work: - Iron status Consider Hemoglobin or hematocrit Environmental investigation Lead hazard reduction</p> <p>Neurodevelopmental monitoring - Abdominal X-ray (if particulate lead ingestion is suspected) with bowel decontamination if indicated</p>	<p>Lead education -Dietary - Environmental Follow-up blood lead monitoring Complete history and physical exam Lab work: -Hemoglobin or hematocrit -Iron status -Free erythrocyte protoporphyrin</p> <p>Environmental investigation Lead hazard reduction Neurodevelopmental monitoring</p> <p>Abdominal X-ray with bowel decontamination if indicated</p> <p>Oral Chelation therapy Consider hospitalization if lead-safe environment cannot be assured</p>	<p>Hospitalize and commence chelation therapy (following confirmatory venous blood lead test) in conjunction with consultation from a medical toxicologist or a pediatric environmental health specialty unit</p> <p>Proceed according to actions for 45-69 µg/dL</p>

* The scope of an "environmental assessment" will vary based on local resources and site conditions. However, this would include at a 4 minimum a visual assessment of paint and housing conditions, but may also include testing of paint, soil, dust, and water and other 5 lead sources discussed previously, e.g., [56]. This may also include looking for exposure from imported cosmetics, folk remedies, 6 pottery, food, toys, etc. which may be more important with low level lead exposure.

Source:https://www.cdc.gov/nceh/lead/docs/final_document_030712.pdf

Discussion

Referral Recommendations



Referral Network

- Connect children with blood levels at or above the BLRV to appropriate medical, environmental, social and behavioral services:
- Establish a sustainable referral system.
- Establish and maintain relationships with medical service providers.
- Establish and maintain relationships with social/behavioral service providers.
- Identify providers of environmental remediation services.
- Identify state and local resources for provision of services.



Nutritional and Community Referrals

- Special Supplemental Nutrition Program for Women, Infants and Children (WIC)
- Inter-Lakes Community Action Partnership (ICAP)
- South Dakota Community Information Exchange (CIE)
 - South Dakota's Community Information Exchange (CIE) is a statewide collaboration of health care, human and social service providers sharing information using an integrated technology platform and referral system to coordinate whole-person care
 - To streamline connection between health care, human and social service providers to address social needs and advance health improvement among populations at higher risk and that are underserved.



Environmental Referrals

Lead Remediation/Abatement in South Dakota

- EPA Certified
 - Prairie Environmental Consulting in Sioux Falls, SD
- SD DANR List of Hazardous Waste Management Firms:
 - <https://danr.sd.gov/Environment/WasteManagement/HazardousWaste/Contractors.aspx>



Discussion



Communication and Dissemination Plan



Communication and Dissemination Plan Objectives

The Communication and Dissemination Plan (C&D Plan) plays a key role in supporting the South Dakota Childhood Lead Poisoning Prevention Program (SD CLPPP) in achieving its objectives. The plan sets forth the following communication objectives (**COs**)

- CO1: Raise awareness about the importance of childhood lead poisoning prevention
- CO2: Engage with relevant stakeholders
- CO3: Influence policy making
- CO4: Exchange ideas for case management, referrals, and linkage to care
- CO5: Increase the visibility of the program and its activities
- CO6: Highlight the program's positive impact in the state
- CO7: Disseminate blood lead surveillance reports
- CO8: Encourage data sharing, such as referrals to programs and linkage of data to improve health awareness and outcomes
- CO9: Engage laboratory facilities to submit all lead test results to the state and monitor data quality

Communication and Dissemination Plan Key Messages

- Lead screening and testing recommendations for children
- Screening, Testing, and Follow-up guidelines for children with lead in blood
- Impact of lead exposure
- Populations at risk for having lead in blood
- Ways to mitigate lead hazards in homes and the community
- Traditional sources of lead exposure such as household paint
- Non-traditional exposure sources, such as toys, spices, folk medicines, cookware, and occupational exposures
- Advancing laboratory methods for analyzing blood lead sample
- Laboratory and medical provider reporting requirement
- Findings from surveillance reports



Communication and Dissemination Plan Table

Target audience (WHO?)	Communication objectives (CO) (WHY?)	Communication Key messages (KMs) (WHAT?)	Dissemination channels (WHERE?)
Families with children under 6, pregnant or lactating women, and immigrants/refugees	CO1: Raise awareness about the importance of childhood lead poisoning prevention CO2: Engage with relevant stakeholders CO5: to increase the visibility of the program and its activities	<ul style="list-style-type: none"> Lead screening and testing recommendations for children Impact of lead exposure Populations at risk for having lead in blood Ways to mitigate lead hazards in homes and the community Traditional sources of lead exposure such as household paint Non-traditional sources such as toys, spices, folk medicines, cookware, and occupational exposures. 	<ul style="list-style-type: none"> Direct mailing Health Fairs Public Service Announcements (PSA) Social media Newsletters (e.g., SD Public Health Bulletin) Websites (e.g., doh.sd.gov or those of community partners)
Medical and Service Providers	CO1: Raise awareness about the importance of childhood lead poisoning prevention CO2: Engage with relevant stakeholders CO3: Influence policy making CO4: Exchange ideas for case management, referrals, and linkage to care CO5: Increase the visibility of the program and its activities CO7: Disseminate blood lead surveillance reports CO8: Encourage data sharing, such as referrals to programs and linkage of data to improve health awareness and outcomes	<ul style="list-style-type: none"> Lead screening and testing recommendations for children Impact of lead exposure Populations at risk for having lead in blood Medical providers reporting requirements Screening, Testing, and Follow-up guidelines for children with lead in blood Findings from surveillance reports 	<ul style="list-style-type: none"> Direct mailing Direct distribution (brochures, posters, infographics, etc.) DOH Listserv Newsletters (e.g., SD Public Health Bulletin) Websites (e.g., doh.sd.gov or those of community partners) Advertisements (e.g., South Dakota Medicine Journal, Dakota Nurse Connection)
Laboratory Facilities	CO9: Engage laboratory facilities to submit all lead test results to the state and monitor data quality	Laboratory and medical provider reporting requirement	<ul style="list-style-type: none"> DOH Listserv Meetings, conferences, trainings, and presentations
Elected officials, Federal and state agencies, and Community-based Organizations (CBO)	CO1: Raise awareness about the importance of childhood lead poisoning prevention CO2: Engage with relevant stakeholders CO3: Influence policy making CO4: Exchange ideas for case management, referrals, and linkage to care CO5: Increase the visibility of the program and its activities CO6: highlight the program's positive impact in the state CO7: Disseminate blood lead surveillance reports CO8: Encourage data sharing	<ul style="list-style-type: none"> Lead screening and testing recommendations for children Impact of lead exposure Populations at risk for having lead in blood Ways to mitigate lead hazards in homes and the community Traditional sources of lead exposure such as household paint Non-traditional sources such as toys, spices, folk medicines, cookware, and occupational exposures. Screening, Testing, and Follow-up guidelines for children with lead in blood Laboratory and medical provider reporting requirement Findings surveillance reports 	<ul style="list-style-type: none"> Direct mailing Health Fairs Direct distribution (brochures, posters, infographics, etc.) DOH Listserv Newsletters (e.g., SD Public Health Bulletin) Websites (e.g., doh.sd.gov or those of community partners) Public Service Announcements (PSA) Social media
Media	CO1: Raise awareness about the importance of childhood lead poisoning prevention CO5: Increase the visibility of the program and its activities, CO6: Highlight the program positive impact in the state CO7: Disseminate blood lead surveillance reports	<ul style="list-style-type: none"> Lead screening and testing recommendations for children Impact of lead exposure Populations at risk for having lead in blood Ways to mitigate lead hazards in homes and the community Traditional sources of lead exposure such as household paint Non-traditional sources such as toys, spices, folk medicines, cookware, and occupational exposures. Findings surveillance reports 	<ul style="list-style-type: none"> Social media Newsletters (e.g., SD Public Health Bulletin) Websites (e.g., doh.sd.gov or those of community partners)

**Lead Advisory
Group Approval
Requested**

Next Steps

- Recommendations for additional Lead Advisory Group members
- Next Meeting
- Closing



SOUTH DAKOTA
DEPARTMENT OF HEALTH