

Department of Health & Human Services

DHHS

N E B R A S K A

**Annual Report on Elevated Blood Lead Levels for Children 0 – 6 Years Old
as required by Neb. Rev. Stat. §71-2518**

**Presented to Governor Dave Heineman
and the Health and Human Services Committee of the Legislature**

**Department of Health and Human Services
Division of Public Health
Office of Environmental Health Hazards and Indoor Air**

December 31, 2012

In April 2012, Legislative Bill 1038 was passed, which required that the Division of Public Health establish a Lead Poisoning Prevention Program to include the following duties:

- Develop a statewide blood lead risk assessment/blood lead testing plan
- Develop educational materials targeted to health care providers, child care providers, public school personnel, owners and tenants of residential dwellings, and parents of young children
- Initiate contact with the local public health department or the physician when a child has an elevated blood lead level (EBLL) and offer technical assistance
- Report annually to the legislature

This report provides a summary of the progress that has been made in the establishment of the duties prescribed above.

Statewide Plan Development

DHHS developed a statewide Plan with three criteria for testing children for lead poisoning. The first criterion is geography. To isolate important geographic variables, DHHS studied surveillance and demographic data, the percentage of older housing, and locations of known lead sources. The methodology used determined zip codes that historically have had increased risk of lead exposure. These include the Omaha Superfund Site (Baseline Human Health Risk Assessment, Omaha Lead Superfund Site, DHHS, 2004) as well as those zip codes with at least 5 lead poisoning cases between 2009 and 2011 and with more than 27% of the housing stock built before 1950. These zip codes will be re-evaluated annually and updated each July.

The second criterion of the plan states what is currently required by the Medicaid and Women with Infants and Children (WIC) programs. All children insured by Medicaid must be tested, there are currently no exceptions or waivers. WIC requires that upon enrollment of a child, the parent must be asked if the child has had a blood lead test. If the child has not had a test, they must be referred to programs where they can obtain such a test (Federal Policy MPSF-WC-01-05-P).

The third criterion of the plan consists of a questionnaire designed to identify risks not addressed by the other criteria. The child's parents or guardians should be asked specific exposure questions to determine each child's risk. If the response to any of the questions is "yes" or "don't know," the child should be tested. The questions are as follows:

1. Does the child live in or often visit a house, daycare, preschool, home of a relative, etc. built before 1950?
2. Does the child live in or often visit a house built before 1978 that has been remodeled within the last year?
3. Does the child have a brother, sister or playmate with lead poisoning?
4. Does the child live with an adult whose job or hobby involves lead?
5. Does the child's family use any home remedies or cultural practices that may contain or use lead?
6. Is the child included in a special population group, i.e., foreign adoptee, refugee, migrant, immigrant, foster care child?

This Statewide Blood Lead Testing Plan was a part of a report to the Nebraska Medical Association by Dr. Joann Schaefer, DHHS's Chief Medical Officer, as well as sent to all members in their July newsletter. The plan was made available on the DHHS website at: dhhs.ne.gov/lead.

The current plan is summarized on the following chart:

Nebraska DHHS Division of Public Health/Childhood Lead Poisoning Prevention Program
Statewide Blood Lead Risk Assessment/Blood Lead Testing Plan

Three Criteria for Testing a Child for Lead Poisoning		Specifics for Each Criterion												
CRITERION 1	<p align="center">GEOGRAPHY</p> <p>All Children Living in One of Nebraska's Targeted Communities for Lead Assessment/Testing</p>	<table border="0"> <tr> <td>Alliance – 69301</td> <td>Harvard – 68944</td> <td>Omaha – 68102, 68104, 68105, 68106, 68107, 68108, 68110, 68111, 68112, 68131, 68132</td> </tr> <tr> <td>Beatrice – 68310</td> <td>Hastings – 68901</td> <td>Scottsbluff – 69361</td> </tr> <tr> <td>Fremont – 68025</td> <td>Lincoln – 68502, 68503</td> <td></td> </tr> <tr> <td>Grand Island – 68801</td> <td>Nebraska City – 68410</td> <td></td> </tr> </table> <p>DHHS strongly recommends that all children living in these communities be tested for lead poisoning at 12 and 24 months of age. Children between 25 and 72 months of age need to be tested as soon as possible, if not previously tested.</p> <p><i>Please note that targeted communities may change as more blood lead data is obtained. Zip codes will be re-evaluated annually and posted each July at www.dhhs.ne.gov/lead.</i></p>	Alliance – 69301	Harvard – 68944	Omaha – 68102, 68104, 68105, 68106, 68107, 68108, 68110, 68111, 68112, 68131, 68132	Beatrice – 68310	Hastings – 68901	Scottsbluff – 69361	Fremont – 68025	Lincoln – 68502, 68503		Grand Island – 68801	Nebraska City – 68410	
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CRITERION 2	<p align="center">MEDICAID AND WIC</p> <p><i>Medicaid:</i> ALL CHILDREN INSURED BY MEDICAID MUST BE TESTED—NO EXCEPTIONS OR WAIVERS EXIST.</p> <p><i>WIC:</i> Federal Policy (MPSF:WC-01-05-P) requires that upon enrollment of a child, the parent must be asked if the child had a blood lead test. If the child has not had a test, they must be referred to programs where they can obtain such a test</p>	<p>Medicaid: CMS (Centers for Medicare and Medicaid Services) requires that all children receive a screening blood lead test at 12 months and 24 months of age. Children between the ages of 36 months and 72 months of age must receive a screening blood lead test if they have not been previously screened for lead poisoning. A blood lead test must be used when screening Medicaid-eligible children” http://www.cms.gov/MedicaidEarlyPeriodicScrn/ http://www.sos.ne.gov/rules-and-regs/regsearch/Rules/Health_and_Human_Services_System/Title-471/Chapter-33.pdf</p> <p>WIC: For every child age 12 months and older, during the Nutrition Risk Assessment, WIC staff will ask the question “Has your child had a blood lead test done in the past 12 months?” Document the Yes or No response. If a child has not had a blood test done, staff make and document a referral for a blood lead test back to their healthcare provider, or to a lead screening program.</p>												
CRITERION 3	<p align="center">QUESTIONNAIRE For Children NOT Enrolled in Medicaid or WIC And Children NOT Residing within a Target Community</p> <p>The child's parents/guardians should be asked specific exposure questions (see questions at right) to determine each child's risk. If the response to any of the exposure questions is “Yes” or “Don't Know”, the child should be tested.</p>	<p align="center">QUESTIONNAIRE</p> <ol style="list-style-type: none"> 1) Does the child live in or often visit a house, daycare, preschool, home of a relative, etc. built before 1950? 2) Does the child live in or often visit a house built before 1978 that has been remodeled within the last year? 3) Does the child have a brother, sister or playmate with lead poisoning? 4) Does the child live with an adult whose job or hobby involves lead? 5) Does the child's family use any home remedies or cultural practices that may contain or use lead? 6) Is the child included in a special population group, i.e., foreign adoptee, refugee, migrant, immigrant, foster care child? <p><i>For additional information, i.e. jobs, hobbies, home remedies, cultural practices that include lead, visit dhhs.ne.gov/lead</i></p>												

Development of Educational Materials

The DHHS Office of Environmental Health Hazards and Indoor Air has been in the process of updating its websites to make them more user-friendly and share information more easily. As was previously stated, the Statewide Blood Lead Testing Plan is available on the DHHS website at dhhs.ne.gov/lead, along with other educational materials and site links for each of the following:

- Parents and Homeowners
- Health Care Professionals
- Contractors

The website will be updated as new brochures, fact sheets, and materials become available.

Initiate Contact with Local Public Health Departments and Physicians

On July 11, 2012, a video conference was held with many of the local health departments through the Nebraska Statewide Telehealth Network. In addition to discussing the development of the Statewide Blood Lead Testing Plan, it provided an opportunity to poll local health departments to determine those interested in receiving technical assistance when a child with an elevated blood lead level is identified in their area. Several local health departments have expressed interest, and some are currently providing information to parents when a child has a confirmed elevated lead level.

It is important to note there has been a change in the level used to determine whether public health action is necessary. Prior to the passing of LB 1038, children having a confirmed blood lead level of 10 micrograms per deciliter received a letter from the Office of Environmental Health Hazards and Indoor Air with information on possible routes of exposure and how to protect their child from lead hazards. The Centers for Disease Control and Prevention have since lowered this level of concern, and now use the level of 5 micrograms per deciliter as their reference level to identify children who have been exposed and need case management.

In addition to updating the DHHS Lead Program website, a PowerPoint presentation was developed to aid staff in health care provider's offices across the state with learning about the new blood lead testing plan.

Medical guidelines were also developed to provide a source for follow-up recommendations. The Medical Management Recommendations for Health Care Professionals are outlined on the following chart:

Medical Management Recommendations for Health Care Professionals



- There is no safe level of lead in the blood
- Any confirmed level of lead in the blood indicates child has been exposed to lead
- Any elevated capillary test should be confirmed with a venous blood sample
- The following are general guidelines and are adapted from the CDC

Childhood Blood Lead Testing & Follow-up Recommendations			
Blood Lead Test Result	Retest using Venous Blood to confirm within:	Recommended Actions based on BLL	Venous Retest Intervals—after recommended actions
< 5 µg/dL	N/A	<ul style="list-style-type: none"> • Provide lead education (dietary & environmental) • Environmental assessment for pre-1978 housing • Provide follow-up blood lead monitoring 	Retest according to Blood Lead Screening Plan
5 - 9 µg/dL	1 – 3 months	<u>Above Actions, plus:</u> <ul style="list-style-type: none"> • Complete history and physical exam • Lab work: iron status, consider hemoglobin or hematocrit • Refer to health department for environmental investigation 	<ul style="list-style-type: none"> • 3 months for first 2-4 tests • 6 - 9 months after BLL are declining
10 - 19 µg/dL	1 week – 1 month*	<ul style="list-style-type: none"> • Recommend lead hazard reduction in home • Neurological, behavioral, and developmental monitoring • Abdominal X-Ray (if particular lead ingestion is suspected with bowel decontamination) 	<ul style="list-style-type: none"> • 1 - 3 months for first 2-4 tests** • 3 - 6 months after BLL are declining
20 - 24 µg/dL	1 week – 1 month*		<ul style="list-style-type: none"> • 1 - 3 months for first 2-4 tests** • 1 - 3 months after BLL are declining
25 - 44 µg/dL	1 week – 1 month*		<ul style="list-style-type: none"> • 2 weeks - 1 month for first 2-4 tests • 1- 3 months after BLL are declining
45 - 59 µg/dL	ASAP no later than 48 hours	<u>Above Actions, plus:</u> <ul style="list-style-type: none"> • Lab work: iron status, hemoglobin or hematocrit, free erythrocyte protoporphyrin • Oral Chelation therapy. Consider hospitalization if lead-safe environment cannot be assured 	Every 24 hours or as medically indicated
60 - 69 µg/dL	ASAP no later than 24 hours	<ul style="list-style-type: none"> • 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 • Proceed according to actions for 45-69 µg/dL 	Every 24 hours or as medically indicated
≥ 70 µg/dL	Urgently as an emergency test		Every 24 hours or as medically indicated

*The higher the BLL on the screening test, the more urgent the need for confirmatory testing
 **Some case managers or PCPs may choose to repeat blood lead tests on all new patients within a month to ensure that BLL level is not rising more quickly than anticipated.

Sources of Lead	Occupations Involving Lead	Hobbies Involving Lead	Cultural Practices & Folk Medicines
<ul style="list-style-type: none"> • Lead-based paint in poor condition • Lead dust from deteriorated lead paint • Contaminated soil from paint or pollution • Some toys, imported candy, and cosmetics • Some folk medicines • Bringing lead home from work 	<ul style="list-style-type: none"> • Contractors who renovate or repair buildings • Workers who sand, scrape or blast lead paint • Recyclers of metal, electronics, batteries • Manufacturers of bullets, ceramics & electronics • Steel workers • Firing range workers, gunsmiths, police officers • Construction and demolition workers • Foundries and scrap metal operations • Bridge construction and repair • Automobile repair 	<ul style="list-style-type: none"> • Stained glass • Fishing sinkers • Computer electronics • Automotive repair • Reloading bullets • Soldering • Artistic painting, jewelry making, and pottery glazing 	<ul style="list-style-type: none"> • Ayurvedic medicines • Azarcon • Daw Tway • Bhasma • Smrti • Ba-baw-san • Ghasard • Greta

Definitions:

BLL: Blood lead level
Testing: A blood test
Screening: Applying criteria in the Blood Lead Testing Plan to determine risk
Lead Hazard Reduction: Lead abatement and interim controls like paint stabilization, lead dust, control, cleaning, and addressing bare soil.

Lead Prevention Tips for Parents:

- 1) **Keep it Clean:** Wash children's hands often and wet wipe/wet dust surfaces to remove lead contamination
- 2) **Make your home lead safe:** Find and properly take care of sources of lead in the home
- 3) **Healthy Diets:** Provide regular meals and foods rich in iron, calcium, and Vitamin C
- 4) **Medical Check-ups:** Have child see PCP. If a BLL over 5 µg/dL, make sure child is tested to ensure levels decline.

Contact Information:

Lead Poisoning Prevention Program
 Nebraska Dept of Health & Human Services
 301 Centennial Mall South
 PO Box 95026
 Lincoln, NE 68509
 Phone: 402-471-0386 or 1-888-242-1100
 Fax: 402-471-8833
 Email: dhhs.hhia@nebraska.gov
 Website: <http://www.dhhs.ne.gov/lead>

Numbers of Children Tested

Title 173 of the Nebraska Administrative Code regarding Communicable Diseases lists all blood lead tests as reportable to the Department. This data is submitted to the Department either electronically from health care providers through the Nebraska Electronic Disease Surveillance System (NEDSS), or is sent via mail or facsimile to be manually entered by program staff into the Systematic Tracking of Elevated Lead Levels and Remediation (STELLAR) database. These two datasets are then combined, rid of duplicate entries, and reviewed for missing information before data analysis. Since Neb. Rev. Stat. §71-2518 became effective July 19, 2012, a decision was made that for this first report, the program would provide a snapshot of the lead levels six months prior to the bill becoming effective and to include as many of the levels available thereafter.

The first set is the number of children tested from January 1, 2012, to June 30, 2012, and the number of children with a level of 10 micrograms per deciliter or higher.

Number of children age 0-6 tested January 1, 2012, through June 30, 2012:

14,157

Number of children tested with a confirmed blood lead level of 10 micrograms per deciliter or higher:

39

This second set is the number of children tested from July 1, 2012, to September 30, 2012, and the number of children with a level of 5 micrograms per deciliter or higher.

Number of children age 0-6 tested July 1, 2012, through September 30, 2012:

9,847

Number of children tested with a confirmed blood lead level of 5 micrograms per deciliter or higher:

150

Conclusion

Three months of data (July 1 and September 30, 2012) is insufficient to draw final conclusions as to an increase in the number of children with elevated blood lead levels. However, it appears that the new recommendations are identifying more children with elevated blood lead levels.