

NEBRASKA CHILDHOOD LEAD POISONING TARGETED SCREENING PLAN

- I. LEAD AS A HEALTH RISK IN NEBRASKA**
 - 1. RISK FACTORS**

- II. NEBRASKA BLOOD LEAD SCREENING PLAN**
 - 1. GOAL**
 - 2. MEDICAID SCREENING**
 - 3. OUTREACH AND EDUCATION**

LEAD AS A HEALTH RISK IN NEBRASKA

Childhood lead poisoning is a leading preventable environmental health disease. Lead is a biochemical poison effecting a number of organ systems, including the central nervous system of a developing child. Elevated blood levels are associated with learning deficits, behavior problems, and growth delays in young children. Young children are more sensitive to the effects from lead exposure than adults. Ingestion of lead occurs primarily among young children through the exposure of lead contaminated household dust. This dust is found primarily in older homes with deteriorated lead-based paint or other lead hazards. While medical treatment, known as chemical chelation, is available and used to reduce high blood lead levels, prevention is the most desired intervention. Developmental disorders that develop from exposure to lead are irreversible. Detection early in a child's life can focus preventative measures that can be implemented and reduce the risk of additional exposures for the child.

Based on guidance from the Center for Disease Control and Prevention (CDC), elevated blood lead (EBL) level is defined as a level greater than or equal to 10 µg/dL. Children from the time they begin to crawl until the time their "hand-to-mouth" activity declines are at greatest risk of lead ingestion. The most critical time to screen young children is during the first 24 months of life. Reviewing State of Nebraska data for the year 2003 it shows that 18,917 children were reported screened. Within that same group of children, 315 were indicated to have EBL. According to Medicaid 416 Report on Annual EPSDT Participation for NE (year 2000), of the 21,909 children ages 1 and 2 who received at least one initial or periodic visit to provider, 3110 (14%) received a blood lead test and of the 10,788 children ages 3-5 who receive at least one initial or periodic visit to a provider, 2,413 (or 22%) received a blood lead test. These rates need to be increased and the public outreach to the families of those children needs to be improved.

Below is a chart of screening results reported to HHSS Disease Surveillance Section during the years of 1997 through 2003.

NEBRASKA CHILDHOOD LEAD POISONING TARGETED SCREENING PLAN

Table 2. Nebraska Childhood Lead Screens

Year	Number Elevated	Number Reported
2003	315	18,917
2002	403	18,931
2001	540	13,984
2000	518	13,294
1999	582	10,944
1998	612	8,391
1997	759	6,324

Source: Nebraska HHS, R&L Childhood Lead Poisoning Prevention Program, 2004

This table shows the number of children screened is increasing and the number of children with elevated blood lead levels is decreasing. Considering this we must better identify the children most likely to have elevated blood lead levels in Nebraska and focus our screening resources on these individuals. Our screening rates can also identify those areas of the State where more public outreach needs to be performed.

Risk Factors

Research concerning risk factors for having EBL has been conducted by the CDC during the National Health and Nutrition Examination Surveys (NHANES) 1991 to 1994. The following is an excerpt from the February 1997 MMWR report by the CDC on the prevalence of elevated blood lead level in the United States population.

For children aged 1–5 years, the prevalence of BLLs >10 mg/dL was higher among those who were non-Hispanic blacks or Mexican Americans, from lower-income families, living in metropolitan areas with a population >1 million, or living in older housing (Table 2). The differences in risk for an elevated BLL by race/ethnicity, income, and urban status generally persisted across age-of-housing categories. Similarly, the higher risk for an elevated BLL associated with older age of housing generally persisted across race/ethnicity, income, and urban status categories. Therefore, the risk for an elevated BLL was higher among non-Hispanic black children living in housing built before 1946 (21.9%) or built during 1946–1973 (13.7%), among children in low-income households who lived in housing built before 1946 (16.4%), and among children in areas with populations >1 million who live in housing built before 1946 (11.5%) when compared with children in other categories. Based on a multivariate logistic regression model, non-Hispanic black race/ethnicity, low income, and living in housing built before 1946 were independent predictors of elevated BLLs in children aged 1–5 years. Living in urban areas was not an independent predictor of elevated BLLs when controlling for race/ethnicity, income, and age of housing.

NEBRASKA CHILDHOOD LEAD POISONING TARGETED SCREENING PLAN

This research suggests that the prevailing risk factors for elevated blood lead levels are Race/Ethnicity, Poverty, and Age of Housing. Evaluation of distribution of elevated blood lead levels among children in Nebraska for the past four years indicates that the trend for Race and Ethnicity is also found in the State (Nebraska Epidemiology Report September 2001). The demographic data collected by the Nebraska blood lead surveillance system does not contain information regarding age of housing nor poverty. Considering this, targeting areas of the State possessing risk factors as outlined above is the best means of eliminating childhood lead poisoning in Nebraska.

NEBRASKA BLOOD LEAD SCREENING PLAN

***Goal:* The goal of the Nebraska Blood Lead Screening Plan is to better identify children at risk and those areas in Nebraska that have a higher exposure risk to children who may develop elevated blood lead levels (EBL) and ensure these children are screened.**

A questionnaire (Attachment 1) has been developed and is being used at many screening partners when determining whether to screen the child or not. This questionnaire is the primary tool in the Screening Plan. The risk factors and environmental hazards associated with lead poisoning are listed on the questionnaire. Distribution and recommendation to use the questionnaire is the outreach half of the plan. The distribution of the questionnaire will be to all primary care providers in the State of Nebraska.

Increase outreach, education and lead screening among individuals at greatest risk. The Nebraska Coalition to Eliminate Childhood Lead Poisoning will continue to use ARCVIEW, a Geographic Information System, to map those areas of Nebraska that have older housing, higher rates of poverty, and children under age of six. This data is being categorized by county, ZIP code, the areas of the local health departments and the areas of the community-based organizations. These maps are distributed to all health and housing stakeholders, along with faith-based organizations and public officials.

Medicaid Screening

The Nebraska Medicaid Program requires ALL enrolled children 12 months of age are to receive a blood lead screen and if possible ALL children 24 months of age are to receive a blood lead screen. The Nebraska Blood Lead Screening Plan will maintain the requirement to screen children at 12 and 24 months of age under the Medicaid Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) Program as required by Federal law. And recognize that children remain susceptible to lead exposure from a variety of sources, including the homes of childcare providers, relatives, or friends. The above considerations suggest the following specific recommendations:

NEBRASKA CHILDHOOD LEAD POISONING TARGETED SCREENING PLAN

Screening Objectives

1. Blood lead testing for **ALL** participants of the EPSDT Program as required by law. EPSDT calls for lead testing at 12 and 24 months of age, and children 36 to 73 months of age who have not previously been screened.
2. Testing for Blood lead at 12 and 24 months of age should be conducted for **ALL** children receiving public assistance for the poor, such as Medicaid or Supplemental Food Programs for Women, Infants, and Children (WIC).
3. Blood lead testing for lead at 12 and 24 months of age should be conducted on children residing in a home built prior to 1950.
4. For other children use the pre-screening questionnaire in Attachment 1, to determine if screening is advised. The questionnaire should include at the first four questions in Attachment 1 and the remaining questions as deemed appropriate by the health care provider considering the provider's client base.
5. Additional resources are allocated for promoting general public awareness of the importance of lead poisoning screening, and to support screening to determine the prevalence of elevated blood lead levels.
6. Distribute screening plan and pre-screening questionnaire to all Nebraska child health care providers.
7. Evaluate the influence of screening recommendations after each year and make appropriate adjustments to the tool.

Outreach and Education

1. The Nebraska Childhood Lead Poisoning Prevention Program will provide the guidance for the Nebraska Coalition in promoting interagency collaboration to screen children for lead poisoning in Nebraska. Partnering opportunities exist with local housing and environmental organizations, community action agencies, educational organizations, local health departments, schools, and child care providers.
 - a. Coordinate education and outreach events for public officials hosted by each County Health Department District (23) over the next five years.
 - (1) Local health departments maintain the Medicaid nurses for providing case management of Medicaid recipients.
 - (2) Each local health department will be provided GIS maps of children under 6 years of age and housing older than 1978 that cover their respective territories.
 - b. Coordinate one education and outreach event per year on lead poisoning hosted by each UNL County Extension office (93) over the next five years.

NEBRASKA CHILDHOOD LEAD POISONING TARGETED SCREENING PLAN

- c. Coordinate education and outreach events on lead poisoning hosted by local community-based organizations over the next five years.
 - (1) Community-based organizations across the state provide WIC, immunization and other family services for low to moderate income families.
 - (2) Nebraska HHS R&L will utilize cash funding to provide a limited number of screens for children who do not qualify for Medicaid.

- d. Coordinate education and outreach events on lead poisoning hosted by local hospitals and medical care providers over the next five years.
 - (1) Childhood Lead Poisoning Prevention materials will be sent to **ALL** rural hospitals and medical care providers who routinely examine children.

- e. Coordinate education and outreach events to the local housing authorities over the next five years.
 - (1) Quarterly reports of children under the age of seven living in subsidized housing built prior to 1978 will be provided by the local housing authorities to the Nebraska Childhood Lead Poisoning Program
 - (2) The Nebraska Childhood Lead Poisoning Prevention Program will utilize those reports to mail a postcard reminder for the parents/guardians to get their child screened for lead poisoning.

- f. County building commissioners in ALL 93 counties will be provided educational materials on the need for enforcement of USEPA Lead Disclosure Rule 1018. Lead poisoning information will be distributed to all county commissioners on the need to improve building codes to include recognition of lead hazards and require lead hazard control implementation.

- f. Coordinate through the Lead Hazard Control Program education and outreach over the next five years.
 - (1) **ALL** children enrolled into the Lead Hazard Control Program are required to receive a blood lead screening before and after renovation.

LEAD SCREENING QUESTIONNAIRE

Child's Name: _____ Date: _____

Parent's Name: _____ County/Class: _____

- Yes No Is your child enrolled in the Nebraska Medicaid Program?
- Yes No Does your child live in or regularly visit a house built before 1978?
- Yes No Does your child's home have peeling or chipped paint?(inside or outside)
- Yes No Does your child live in a house built before 1978 with recent, ongoing, or planned renovation or remodeling?
- Yes No Does your child regularly visit a home that was built before 1978?
- Yes No Does your child regularly visit a home or outbuildings that have peeling or chipped paint?
- Yes No Has your child had a blood lead test in the last 12 months?
- Yes No Does your child frequently come in contact with an adult who works with lead (e.g. construction, welding, pottery)
- Yes No Does your child live near a lead smelter, battery-recycling plant, or other industry likely to release lead?
- Yes No Do you use any home or folk remedies that may contain lead?
- Yes No Do you serve or store food in the original cans?
- Yes No Does your home's plumbing have lead pipes or copper with lead solder joints?
- Yes No Does your child live near a heavily traveled major highway where soil and dust may be contaminated with lead?
- Yes No Are old batteries stored around your home?
- Yes No Is your child around anyone whose hobbies include stained glass, pottery, brass or copper work, painting, refinishing furniture, or reloading ammunition?
- Yes No Has your child had any of the following symptoms? Poor appetite, stomachaches, vomiting, constipation, crankiness, loss of energy, headaches, trouble sleeping.

***If you answered yes to any of the above questions, please visit with your family health care professional regarding a simple blood test for lead poisoning.**

- Yes No Has a family member or friend been **tested** for lead poisoning?
- Yes No Has a family member or friend been **treated** for lead poisoning?

If you answered yes to the above questions, who was treated and what were the results?

Are you interested in additional information? Yes No

REFERRAL MADE: Yes <input type="checkbox"/> No <input type="checkbox"/>	
If yes, Doctor: _____	Date of appointment: _____
If no, state reason of refusal: _____	

Parent's Signature

Date