



**State of Illinois**  
Illinois Department of Public Health

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# Lead Testing and Case Follow-up Guidelines for Local Health Departments

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# Table of Contents

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<b>Definition of Terms</b> .....	1
<b>Introduction</b> .....	3
<b>CDC Recommendations Determining Blood Lead Action</b> .....	3
<b>Illinois Laws for Blood Lead Evaluation and Testing</b> .....	3
<b>Delegate Agency Responsibilities</b> .....	4
<i>Parental Consent Forms and Counseling</i> .....	5
<i>Consent for photograph</i> .....	5
<i>Evaluation and Testing</i> .....	5
<i>Children Eligible for Assistance Provided by Illinois Healthcare and Family Services</i> .....	5
<i>Case Management and Social Service Referrals</i> .....	6
Trace the Case .....	6
Educate the Parent or Guardian of the Case.....	6
Provide Case Management Appropriate for the Blood Lead Level .....	6
<i>Confirmatory Testing Schedule</i> .....	7
<i>Follow-up Venous Blood Lead Testing</i> .....	8
<i>Schedule for Follow-up Venous Blood Lead Testing</i> .....	8
<i>Opening Case with Capillary Tests</i> .....	8
<i>Home Visit and Referral for Environmental Investigation for Lead Assessment</i> .....	8
<i>Environmental Investigation</i> .....	9
<i>Time Frames for Case Management and Environmental Investigation of Children</i> .....	10
<i>Medical Management</i> .....	11
<b>Pregnant Women</b> .....	12
<i>Administer Prenatal-Risk Evaluation for Lead Exposure to Pregnant Persons</i> .....	12
<i>Pregnant Women With Elevated Blood Lead Levels</i> .....	12
<i>Medical Evaluation for Children and Pregnant Persons</i> .....	12
<i>Time Frames for Case Management and Environmental Investigation For Pregnant Persons</i> .....	13
<i>Nutritional Recommendations for Pregnant and Lactating Women</i> .....	14
Key Points for Nutrition and Lead .....	14
General Nutritional Recommendations for Pregnant and Lactating Women.....	14
Recommendations for Pregnant and Lactating Women with Elevated Blood Lead Levels from the CDC.....	14
<i>Newborn of a Lead-Bearing Mother</i> .....	14
<i>Breastfeeding Women With Elevated Blood Lead Levels</i> .....	15
<i>Health Education and Outreach</i> .....	15
Public Education .....	16
Family Education .....	16
Professional Education.....	16
Lead Poisoning Prevention Educational Materials .....	16

**Record Keeping** ..... 17  
    *Medical Records* ..... 17  
    *Retention of Records* ..... 17  
    *Transferring Cases* ..... 17  
    *Closing Cases* ..... 18  
    *Sample Policy for Closing a Case Lost to Follow-up or Non-Compliance of Blood Lead Testing* ..... 18  
**Illinois Department of Public Health Monitoring** ..... 18  
    *Quarterly Narrative* ..... 18  
    *Program Evaluation Review* ..... 18  
**Reimbursement of Lead Poisoning Services by Illinois Department of Public Health Department** ..... 19  
    *Laboratory Services Reimbursement* ..... 19  
    *Laboratory Services* ..... 19  
    *Private Pay Clients* ..... 19  
**Integration of Services and Care Coordination in the Local Health** ..... 19  
    *School Districts* ..... 19  
    *Illinois Department of Children and Family Services (DCFS)* ..... 20  
**Refugee Children** ..... 21  
    *Identification of Refugee Children With Elevated Blood Lead Levels* ..... 21  
    *Early Post-arrival Evaluation and Therapy* ..... 22  
    *International Adoptee* ..... 22  
    *Health Education/Outreach for Refugee Populations* ..... 22  
**Appendix A** ..... 23  
**Appendix B** ..... 25  
**Appendix C** ..... 26  
**Appendix D** ..... 27  
**Appendix E** ..... 28  
**Appendix F** ..... 29  
**Appendix G** ..... 30  
**Appendix H** ..... 31  
**Appendix I** ..... 32  
**Appendix J** ..... 33  
**Appendix K** ..... 37  
**Appendix L** ..... 38  
**Appendix M** ..... 42  
**Appendix N** ..... 43  
**Appendix O** ..... 44

# Definition of Terms

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In this document, the following terminology is used:

Abatement	Any approved work practices that will permanently eliminate lead exposure or remove the lead-bearing substances in a regulated facility
Act	Illinois Lead Poisoning Prevention Act
BLL	Blood lead level
Blood lead test	Blood lead testing by venous or capillary methodology
Case Management/ Case Follow-up	Involves coordinating, providing and overseeing the services required to reduce BLLs <10 µg/dL
CDC	U.S. Centers for Disease Control and Prevention
Child	A person under the age of 16
Childhood Lead Risk Questionnaire	The questionnaire developed by the IDPH for use by physicians and other health care providers to determine risk factors for children 6 years of age or younger residing in areas designated as low risk for lead exposure
Code	Illinois Lead Poisoning Prevention Code
Confirmatory	Refers to a venous blood test. This is required to open a case in the Illinois Lead Program data system and subsequently to schedule all case management activities
DCFS	Illinois Department of Children and Family Services
Delegate Agency	A unit of local government or health department approved by the IDPH in accordance with Section 845.50 of this Part to carry out the provisions of the Act
IDPH	Illinois Department of Public Health
EBLL	Elevated blood lead level; a blood lead level $\geq 10$ µg/dL
EI	Environmental investigation
EPSDT	Early periodic screening, diagnosis and treatment
Evaluation	Administration of the Childhood Lead Risk Questionnaire to the parent <b>by a health care provider</b>
HFS	Illinois Department of Healthcare and Family Services (formerly known as Public Aid)
High-risk ZIP Code	Designated area of the state where children 6 years of age and younger are considered at high risk for lead exposure
International Adoptee	A foreign born minor entering the United States under the provisions of the Immigration and Nationality Act (INA) under authorized international adoption procedures
Lead hazard	A lead-bearing substance that poses an immediate health hazard to humans

Lead investigation	A surface-by-surface investigation to determine the presence of lead-based paint
Lead poisoning	The condition of having blood lead levels in excess of those considered safe under the Illinois Lead Poisoning Prevention Act
LHD	Local health department or board of health, as recognized by the IDPH that has jurisdiction over the particular geographical area in which the person lives
Low-risk ZIP Code	Designated area of the state where children through 6 years of age and younger are considered at low risk for lead exposure
Medical evaluation	An assessment of a patient for the purpose of forming a diagnosis and plan of treatment
Medical management	A collaborative process that facilitates recommended treatment plans to assure the appropriate medical care is provided to children and pregnant women with EBLL
Mitigate	The remediation of a lead hazard so that the lead-bearing substance does not pose an immediate health hazard to humans
Oral Behavior	The behavior of putting items in the mouth such as toys
Program	Illinois Lead Program
PCP	Primary care provider
PHN	Public health nurse
Pica	Eating non-food substances
Refugee	Any person who is outside any country of such person's nationality or, in the case of a person having no nationality, is outside any country in which such person last habitually resided, and who is unable or unwilling to return to, and is unable or unwilling to avail himself or herself of the protection of, that country because of persecution or a well-founded fear of persecution on account of race, religion, nationality, membership in a particular social group, or political opinion. (Section 101 (a) (42) of the Immigration and Nationality Act as amended by the Refugee Act of 1980)
Remediation	Correction of a lead hazard so that any lead-bearing substance does not pose an immediate health risk to humans
Testing	A blood lead draw
WIC	Women, Infants and Children Nutrition Program offered by most local health departments

## Introduction

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Many children throughout the United States are exposed to lead. Lead is a toxic chemical; researchers have not yet found any level of lead in the body to be safe. Childhood lead poisoning is a preventable pediatric health problem. Children are particularly susceptible to lead's toxic effects.

This revised document was developed by the Illinois Department of Public Health (IDPH) with assistance from the Illinois Childhood Lead Poisoning Elimination Advisory Council for the Illinois Lead Program (Program). The revised guidelines provide the following information:

- Current U.S. Centers for Disease Control (CDC) recommendations
- State laws on testing and reporting
- Case management and follow-up of children and pregnant persons with elevated blood lead levels (EBLLS)
- Medical management of children and pregnant persons with EBLLs
- Health education and outreach

## CDC Recommendations Determining Blood Lead Action

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**Lead poisoning, with its negative impact on young children, continues to be a public health problem.** Current research indicates that adverse outcomes may occur at  $\leq 5$  micrograms per deciliter ( $\mu\text{g}/\text{dL}$ ). As an understanding of the harmful effects of lead continues to evolve, public health advocates have pushed for crucial legislation to reduce lead exposure. Because evidence shows adverse effects at low blood lead levels (BLL), the U.S. Centers for Disease Control and Prevention (CDC) has changed the definition of lead poisoning so that a  $\text{BLL} \geq 10 \mu\text{g}/\text{dL}$  is considered lead poisoning. **CDC recommends that steps be taken to reduce lead exposure in children at  $5 \mu\text{g}/\text{dL}$ .** Legislation has decreased the amount of lead in gasoline, new paint, metal solder, and plumbing components. As a result, fewer children suffer from lead encephalopathy. However, a great deal of leaded paint still exists in older housing. Each year thousands of children continue to be exposed to lower doses of lead that can result in subtle but serious health problems. In fact, 75 percent of all homes built in the United States before 1978 have lead-based paint in them.

In Illinois, approximately 300,000 blood lead tests are conducted annually by local health departments (LHDs), private physicians and other health service providers. Approximately 2,500 children currently have lead poisoning and are being case managed by the IDPH's delegate agency staff.

Research has determined that **lead poisoning is not equally distributed among children in the United States.** People residing in older homes, children in low-income families, and immigrants are at greater risk for lead exposure. Further sources of lead for children continue to emerge (e.g., children's jewelry, imported herbal substances and food products) and these are not limited to high-risk populations. Community services, such as health fairs and day care screenings, can be used by cities and towns with high-risk populations to identify children with EBLLs. Individuals serving low-risk areas also are encouraged to plan activities to increase public awareness of lead poisoning.

*See Definition of High and Low-risk ZIP Codes Childhood Lead Poisoning in Appendix A.*

## Illinois Laws for Blood Lead Evaluation and Testing

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The *Illinois Lead Poisoning Prevention Act* (Act) was signed into law in Illinois on September 6, 1973. It made lead poisoning and EBLLs reportable, prohibited the use of lead-bearing paint in dwellings, gave the IDPH the authority to inspect dwellings for lead-bearing substances, and required owners of such dwellings to eliminate any hazards.

By January 1, 1993, the Act had been amended requiring:

- every physician licensed to practice medicine in all its branches or health care providers to perform an annual testing of children from 6 months of age through 6 years of age determined to be at high risk for lead exposure.
- every physician licensed to practice medicine in all its branches or health care providers to perform an annual assessment of children from 6 months of age through 6 years of age determined to be residing in areas defined as low risk for lead exposure by the IDPH using the IDPH's Lead Risk Assessment Questionnaire.

- child care facilities to require a parent or guardian of a child 6 months through 6 years to provide a statement from a physician or health care provider as proof that a BLL assessment or blood lead test occurred prior to admission. Child care facilities include day care centers, day care homes, preschools, nursery schools, kindergartens and other child care facilities, licensed or approved by the state, including such programs operated by all public school districts.

The change in the law also allowed physician’s assistants in addition to physicians to make discretionary judgments regarding the testing of children **7 years of age or older**.

Children 7-16 years of age with a history suggestive of past or present lead exposure (developmental delays, excessive mouthing behaviors, learning disabilities or other learning problems) may be considered for evaluation and potential blood lead testing. There is no documented evidence of any benefits of chelating older children.

Effective January 1, 1997, the Act was once again amended to require reports of lead poisoning as follows:

- **Every physician** who diagnoses, or a nurse, hospital administrator or public health officer who has verified information of the existence of any person found or suspected to have a level of lead in the blood in excess of the permissible limits set forth in regulations adopted by the IDPH, **within 48 hours of receipt of verification, shall report to the IDPH the name, address, laboratory results, date of birth, and any other information about the person deemed essential by the IDPH.** (See Appendix B).
- Directors of clinical laboratories must report to the IDPH, within 48 hours of receipt of verification, positive results of all blood lead analyses performed in their facility. The information included in the clinical laboratories report **shall include**, but not be limited to, **the child’s name, address, date of birth, name of physician ordering analysis, and specimen type.**
- **All negative tests must be reported to the IDPH** in accordance with rules adopted by the IDPH. These rules shall not require reporting in less than 30 days after the end of the month in which the negative results are obtained.

Note: This reporting includes all venous and finger stick testing, diagnostic, and follow-up tests.

In 2006, the Act was amended to initiate environmental investigations of homes of lead poisoned children younger than 3 years of age at blood lead levels  $\geq 10$   $\mu\text{g/dL}$ .

A federal law mandates that children receiving Medicaid or All Kids equivalent assistance **must be tested** prior to 12 months and 24 months of age. If a child receiving Medicaid or All Kids assistance is 3 years of age through 6 years of age and has not been tested, a **blood lead test is required**.

The Act was once again amended effective January 1, 2015, and reaffirmed the intervention level, for any child determined to have a venous blood lead level, to be  $\geq 10$   $\mu\text{g/dL}$ .

Additionally, reporting and case management activities are required for any pregnant person determined to have a venous blood level  $\geq 10$   $\mu\text{g/dL}$ .

The amendment also allows for fines to be levied on physicians, laboratories, landlords and licensed lead mitigation workers for non-compliance of any applicable requirements under the law.

## **Delegate Agency Responsibilities**

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LHDs contract with IDPH to serve as delegate agencies. These agencies provide or coordinate the following services:

### **For all children residing in their geographical boundaries:**

- Consent forms and counseling
- Evaluation and testing

### **For children with confirmed EBLs:**

- Case management and social service referrals
- Home visit
- Referral for environmental investigation for lead risk assessment
- Medical management referral

- Education and outreach
- Record keeping

### ***Parental Consent Forms and Counseling***

Prior to lead testing, LHD staff should obtain a signed parental consent form according to their agency policies and protocol. See *Appendix C for a sample of a Lead/Hemoglobin Testing Consent*.

All HIPAA guidelines must be followed when making referrals or releasing information to other agencies or health care providers. See Appendix D for Request for Information.

Each delegate agency is directed, under their contract with the IDPH, to develop a policy for agency procedures for lead poisoning case management protocol to include home visit consent and release of information.

### ***Consent for Photograph***

See Appendix E for Parental Consent for Photographic Use of Children, a sample consent form used to photograph a child or home environment for case management activities and/or for use of photographs for publications.

### ***Evaluation and Testing***

The IDPH has determined high-risk and low-risk ZIP codes in Illinois, based on age of housing stock, prevalence rate of EBLs, and poverty level. ZIP codes identified as high-risk are listed in Appendix F. Please note that all Chicago ZIP codes are high risk. Based on the ZIP code of a child’s residence and participation in public assistance programs, the appropriate evaluation or testing strategy, as discussed below **MUST** be applied. Additionally, all children 6 years of age and younger with a sibling having an EBL, should have a blood lead test. See *Guidelines for Lead Risk Evaluation and Blood Lead Testing*, Appendix G as summarized:

#### **For children:**

- Complete a *Childhood Lead Risk Questionnaire*. See Appendix H.
- Evaluate children 6 years of age and younger, beginning at 6 months.
- If responses to all the questions are “NO,” reevaluate at next scheduled well child visit.
- If any response is “YES” or “DON’T KNOW,” obtain a blood lead test.
- If the child has had two successive blood lead test results that are each <10 µg/dL with one of these tests at age 2 years or older **and** risks of exposure to lead have not changed, further blood lead tests are not necessary.

#### **For children living in Chicago:**

- Lead evaluation and testing guidelines differ for the city of Chicago. For more information you may access the Chicago Department of Public Health’s website at [www.cityofchicago.org/health](http://www.cityofchicago.org/health).

#### **For pregnant persons:**

- Complete a *Prenatal-risk Evaluation for Lead Exposure*. See Appendix I. See *Guidelines for Prenatal-risk Evaluation for Lead Exposure* on Appendix J.
- If the pregnant person answers “yes” to any of the questions, they are at risk for lead exposure and should have a venous blood lead test.

### ***Children Eligible for Assistance Provided by Illinois Healthcare and Family Services***

- In all areas of the state, children eligible for Medicaid or All Kids assistance **ARE REQUIRED** to have a blood lead test prior to 12 months and 24 months of age even if they live in a low-risk ZIP code area. Children over the age of 24 months, up to 72 months of age, for whom no record of a previous screening blood lead test exists, should also receive a screening blood lead test.
- If the child is 3 to 6 years of age and risks of exposures to lead have increased, obtain a blood lead test.
- **Continue to evaluate at well child visits through age 6.**



## ***Case Management and Social Service Referrals***

The following activities should be conducted for children with elevated blood lead levels:

### **Trace the case**

The delegate agency is responsible for:

- Locating the case and interviewing the parent or guardian to obtain the required information and making the appropriate referrals, including but not limited to, nutrition counseling, ferritin and iron deficiency testing, Women, Infants and Children Nutrition Program (WIC) services and developmental screening.
- Making a referral for primary care to a physician or other health care provider if indicated.

The case management must be monitored by a registered or licensed practical nurse. In order to obtain the necessary medical record to adequately trace the case and intervene for the child, lead poisoning prevention services for clients of private practitioners require a process for the coordination of care.

### **Educate the parent or guardian of the case**

The public health nurse or health educator must inform the family of the EBLL result and counsel the parent or guardian on the need for confirmatory and/or subsequent blood lead tests. The public health nurse also should:

- Provide the parent or guardian with information about lead poisoning, including its effects on young children (See *Anticipatory Guidance for the Illinois Lead Program*, Appendix K)
- Conduct a home visit, when a child has a confirmed EBLL
- Discuss nutrition, good hygiene practices and housekeeping tips
- Provide information about lead sources
- Inquire about lead sources in the child's environment
- Develop strategies to decrease both lead exposure and prevent further elevation of the child's lead levels
- Refer to the appropriate environmental person for an environmental investigation and information on appropriate techniques for remodeling or renovating older houses or facilities

### **Provide case management appropriate for the BLL**

#### **At confirmed blood lead levels 5 to 9 µg/dL.**

BLLs in this range would indicate there is a risk of exposure to lead in the child's environment. Inform the parent or guardian of the blood lead result to emphasize the importance of follow-up testing to ensure the levels do not increase. Parents should receive counseling and educational materials regarding nutrition and housekeeping recommendations.

#### **At confirmed blood lead levels 10 to 44 µg/dL.**

Children with venous blood lead levels  $\geq 10$  µg/dL need careful follow-up.

- Case management begins at 10 µg/dL for all children. Children with BLLs in this range may be at risk for a decrease in IQ and other subtle, but significant effects. Again, health providers must emphasize the importance of follow-up testing to the parent or guardian to ensure the levels do not increase. Parents should receive notification of their child's BLL, and educational materials to prevent further exposure.
- A nurse home visit that includes interviews with the parent or guardian of the case is mandated for purposes of collecting, verifying or completing the required surveillance information.
- A *Public Health Home Visit Form for Environmental Health and Lead Assessment* (See Appendix L) should be completed.
- Referrals for medical management, environmental investigation, developmental screening, hearing screening, nutrition and prevention counseling should be made.
- Refer to a physician within two weeks. The local childhood lead poisoning prevention program will often work as a team with the pediatrician/physician and the child's family to ensure appropriate follow-up. Case follow-up should also ensure that sequential testing for blood lead along with review of the child's clinical status are both done monthly or as indicated.

- Parents should receive education regarding lead poisoning that includes information about:
  - the causes and effects of lead poisoning
  - the need for more routine blood lead testing
  - possible sources of lead intake and means of reducing intake
  - nutrition, emphasizing the need for adequate nutrition, e.g., iron and calcium; and
  - resources for further information.
- An environmental investigation is required to reduce lead hazards and case follow-up should be conducted as quickly as possible.

**At confirmed blood lead levels 45 to 69 µg/dL.**

Children with confirmed venous BLLs of 40 µg/dL to 69 µg/dL require faster action. Case follow-up and referral for environmental investigation should begin within 48 hours and should include the same components as listed for children with levels of 10 µg/dL to 44 µg/dL. The homes of these children must be remediated before they are allowed to return. Children whose BLLs reach this level may be placed on chelation therapy. Some children receiving chelation therapy, with or without hospitalization, need more intense case management to monitor compliance and follow-up blood lead testing. Increased communication with the physician, hospital social worker and, possibly, home health agency will be necessary.

**At confirmed blood lead levels greater than or equal to 70 µg/dL.**

Children with confirmed BLLs ≥70 µg/dL constitute a medical emergency and must be hospitalized immediately. They are at highest risk for severe, permanent neurologic damage due to lead exposure and must be given highest priority for follow-up. Case follow-up and environmental investigation should be started within 24 hours and should include the child’s home and potential sites of exposure, such as a relative’s home or a day care center. The homes of these children must be remediated before they are allowed to return. The case follow-up and environmental investigation should include the same components as listed previously.

***Confirmatory Testing Schedule***

Children with **elevated capillary tests** should have follow-up confirmatory venous testing consistent with the schedule below. The need for additional testing is based on evaluation and follow-up test results.

**Follow-up confirmatory venous testing for capillary blood lead tests**

<b>If capillary result is:</b>	<b>Perform a confirmatory venous test in:</b>
Reference value – 9 µg/dL	1 – 3 months (optional)
10 – 19 µg/dL	1 – 3 months
20 – 44 µg/dL	1 week – 1 month
45 – 59 µg/dL	48 hours
60 – 69 µg/dL	24 hours
≥70 µg/dL	Immediately as an emergency lab test

If there is reason to believe the BLL may be increasing rapidly or if the child is younger than 1 year of age, consideration should be given to repeating the blood lead test sooner than indicated above. Testing more frequently than annually should be considered for children younger than 2 years of age, and thus likely to have a BLL on the rise, and those tested in winter or spring, and thus likely to have lower exposures to outdoor environmental lead hazards.

**If a follow-up blood test is not obtained until six months or more after the initial blood test**, it should be treated as a new test. Subsequent decisions about the need for follow-up testing should be based on the result of the new test and not the original one.

## ***Follow-up Venous Blood Lead Testing***

Medical management includes follow-up blood lead testing. The following table below suggests frequency of follow-up tests. Case managers should consider individual patient characteristics and caregiver capabilities and adjust the frequency of follow-up tests accordingly.

### ***Schedule for Follow-up Venous Blood Lead Testing***

<b>Venous blood lead level</b>	<b>Early follow-up (first 2 – 4 tests after identification)</b>	<b>Late follow-up (after BLL begins to decline)</b>
10-14 µg/dL	3 months	6 – 9 months
15-19 µg/dL	1 – 3 months	3 – 6 months
20-24 µg/dL	1 – 2 months	1 – 3 months
25-44 µg/dL	2 – 4 weeks	1 month
≥45 µg/dL	As soon as possible	Chelation with subsequent follow-up

### ***Opening Case with Capillary Tests***

Local health department will initiate services for a child if attempts to obtain a venous confirmation are unsuccessful when two capillary draws of ≥10 µg/dL are obtained within a 12 week period. Environmental inspections will be determined on a case-by-case basis. Cases that need to be opened with an elevated capillary level need to be discussed the Regional Nurse Consultant to determine the proper action to be taken.

### ***Home Visit and Referral for Environmental Investigation for Lead Assessment***

The specific purposes of the home visit are to:

- Provide the parent(s) or guardian(s) with information regarding the child's status
- Evaluate the condition of the child, as well as the condition of his/her environment
- Evaluate the child's nutritional status and provide counseling
- Instruct the parent(s) or guardians(s) on follow-up procedures and to set up specific appointments as needed
- Conduct or refer for developmental screening
- Initiate appropriate referral to a physician
- Initiate referral for environmental investigation
- Initiate social service referrals
- Provide information on hazard reduction
- Determine if proper action by parent(s) or guardian(s) has been taken

The *Public Health Home Visit Form for Environmental Health and Lead Assessment* should be completed during the home visit. Refer to Appendix L.

IDPH also recommends a Nurse Care Plan is recommended to raise awareness of a healthy homes approach to providing the parent/guardian with assistance in understanding the instructions given regarding prevention actions of home hazards and positive actions regarding needed caregiver support. This will reflect nurse home visit activities and intervention for the children with EBLs and potentially at-risk children. The Nurse Care Plan will help improve documentation of case management services. All DAs are encouraged to use the IDPH's template when possible. Refer to the last page of Appendix L for the Nurse Care Plan.

The home visit evaluation must be performed by or under the supervision of a public health nurse. See a sample of Anticipatory Guidance in Appendix K. Free handouts for parents are available through the IDPH's Web site at <http://www.dph.illinois.gov> or by contacting the IDPH at 217-782-3517.

***Section 845.80 of the Illinois Lead Poisoning Prevention Code (Code) requires delegate agencies to conduct interviews with the parent/guardian of a child with an elevated blood lead level or with attending physicians as needed to assure the accuracy and completeness of reports and to perform the activities of case follow-up activities for confirmed blood lead levels.***

## ***Environmental Investigation***

**Section 845.85 of the Code** requires that after notification that a child who is an occupant or frequent inhabitant of a dwelling, child care facility or residential building has an EBLL, a representative of the IDPH or delegate agency should inspect the dwelling, residential building or child care facility to determine the source of lead poisoning. Delegate agencies that lack environmental staff should refer cases to the nearest IDPH regional office or to the IDPH's Division of Environmental Health at 217-782-3517. Referrals for environmental investigations should be made using the IDPH's data management reporting system. Any instances where test results were not imported via the IDPH's data management reporting system should be referred to the IDPH's Division of Environmental Health.

Environmental investigation and follow-up shall be conducted in the following situations:

- A child or pregnant person with a confirmed BLL  $\geq 10$   $\mu\text{g/dL}$ .
- If a regulated facility is occupied by a child of less than 3 years of age with an EBLL, the IDPH, in addition to all other requirements of the Act, must inspect the dwelling unit and common place area of the child with an EBLL.

Environmental investigations should be prioritized for investigation according to the severity of the BLL, the age of the child (younger children before older children), number of children in the household, previous blood lead history, etc.

***Time Frames for Case Management and Environmental Investigation of Children  
Based on the Follow-up Venous Test***

<b>Blood Lead Level</b>	<b>Actions for children</b>	<b>Time frame for initiation of Case Management Activities</b>
0 – 9 µg/dL	<ol style="list-style-type: none"> <li>1) Inform parent by letter of blood lead result.</li> <li>2) If the BLL is 5-9 µg/dL consider repeating the BLL sooner than annually, depending on age of child and season of testing.</li> <li>3) Education is recommended.</li> </ol>	Once BLL is known
10 – 14 µg/dL	<ol style="list-style-type: none"> <li>1) Take a careful history to determine obvious sources of lead that must be addressed.</li> <li>2) Conduct nurse home visit including developmental screening.</li> <li>3) Provide coordination of care (case management).</li> <li>4) Repeat blood lead test in three to six months, until the child has had at least two BLLs &lt;10 µg/dL, with no change in the status of housing or potential exposure.</li> <li>5) Refer for environmental investigation and control current lead hazards.</li> <li>6) Provide education to parent/guardian.</li> <li>7) Refer to physician.</li> </ol>	Within 30 days
15 – 19 µg/dL	Above actions	Within two weeks
20 – 44 µg/dL	Above actions	Within one week
45 – 69 µg/dL	Above actions	Within 48 hours
≥70 µg/dL	<ol style="list-style-type: none"> <li>1) Above actions, plus:</li> <li>2) Child should be hospitalized for chelation therapy immediately.</li> </ol>	Within 24 hours

## *Medical Management*

Case management of children with EBLs requires a different approach from that used in the past. Prior to the development of programs aimed at testing children for EBLs, lead exposure was generally not detected until a child presented with symptoms of lead toxicity. Neurological findings associated with acute encephalopathy (lethargy, ataxia, seizures, papilledema, and coma) were often the first signs of an EBL, and children presenting with these symptoms required immediate hospitalization and treatment. Encephalopathy can result from a BLL  $\geq 70$   $\mu\text{g/dL}$  and can develop without prior symptoms. Among children with BLLs exceeding 150  $\mu\text{g/dL}$ , laboratory abnormalities often included phosphaturia, proteinuria, aminoaciduria, glucosuria, and hypophosphatemia.

Today such presentations are rare. Children with EBLs usually have BLLs  $< 30$   $\mu\text{g/dL}$ , and few BLLs  $> 50$   $\mu\text{g/dL}$ . Most children with EBLs have no symptoms. Case management now focuses on reducing children's exposure to lead and decreasing their BLLs, regardless of whether they have symptoms of lead toxicity or not. What follows is a guide to the basic standards and principles of medical case management. It is not intended for use as a complete protocol but rather as a tool for adapting management to local needs and conditions.

Coordination of care is critical to successful case management. For each child, an individualized plan of follow-up must be devised and implemented. Members of the case management team need to maintain open lines of communication and work together. Case managers and primary care providers (PCPs), in particular, must work collaboratively to ensure proper medical management and follow-up.

# Pregnant Women

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## ***Administer Prenatal-risk Evaluation for Lead Exposure to Pregnant Persons***

Perform a blood test if indicated by the results of the Prenatal-risk Evaluation for Lead Exposure, Appendix I and J.

### ***Pregnant Women with EBLLs***

National surveys indicate that 0.3 percent of U.S. women of child-bearing age have a BLL  $\geq 10$   $\mu\text{g/dL}$ . At present, there is insufficient clinical knowledge or experience with any chelating regimen(s) to recommend chelation therapy for pregnant women who have an EBLL. Advice from experts should be sought if a pregnant woman is identified with an EBLL.

Pregnant women who have BLLs  $\geq 10$   $\mu\text{g/dL}$  should receive environmental assessments to identify and eradicate sources of excessive lead exposure. Education on preventing further exposure, housekeeping and good nutrition particularly related to stopping the ingestion of non-food substances that contain lead should be provided.

### ***Medical Evaluation for Children and Pregnant Persons***

A child or a pregnant person with a blood lead level  $\geq 10$   $\mu\text{g/dL}$  should have a pediatric or obstetric evaluation, regardless of whether or not symptoms are present. Special attention should be directed to:

- The child's or pregnant person's detailed history, including the presence or absence of clinical symptoms, child's mouthing activities, the existence of pica, nutritional status (especially iron and calcium intake), dietary habits, family history of lead poisoning, potential sources of lead exposure (including exposure due to home renovation), and previous blood lead measurements.
- Detailed hobbies and occupational histories of adults in the household.
- Detailed environmental histories where the child and/or pregnant person resides or spends a lot of time.
- The physical examination, with particular attention to the neurological examination and psychosocial and language development.
- A neurobehavioral evaluation may be useful in children and/or pregnant persons receiving chelation therapy both at the time of diagnosis and as the child approaches school age. Findings of language delay in children or other problems can prompt referral to appropriate programs.
- Evaluation of iron status using measurement of iron and total iron binding capacity or of ferritin.

The *Preventing and Testing for Childhood Lead Poisoning – A Reference Guide for Physicians and Health Care Providers, Guidelines for the Identification and Management of Lead Exposure In Pregnant and Lactating Women*, and the American Academy of Pediatrics guidelines should be used to determine when it is appropriate to refer a child and/or pregnant person to a physician for medical treatment.

The Illinois Department of Public Health has identified physicians willing to act as medical consultants on any issues relating to testing, evaluation, diagnosis, clinical management or treatment of lead poisoning, or to discuss any unusual cases that pose problems for clinicians. Physicians who would like to confer with a medical consultant should contact the Illinois Lead Program at 217-782-3517. State and regional telephone numbers for contact persons with the Program are identified in Appendix M. They can assist with:

Laboratory results

Home investigation schedules and status

Social service, early intervention and other referrals

Public education programs and pamphlets

Other community contacts

## *Time Frames for Case Management and Environmental Investigation For Pregnant Persons*

<b>Blood Lead Level</b>	<b>Action for Pregnant Persons</b>	<b>Time frame for follow-up blood lead tests</b>
5 – 9 µg/dL	<ol style="list-style-type: none"> <li>1) Provide anticipatory guidance and health education materials Confirm and referrals</li> <li>2) Communicate with parent/guardian to attempt to determine source of lead exposure – If occupational exposure, review proper use of personal protective equipment and consider contacting employer</li> <li>3) Assess nutritional adequacy and provide nutritional management, as needed</li> </ol>	Within 1 month, obtain a maternal BLL or cord BLL at delivery
10 – 14 µg/dL	<ol style="list-style-type: none"> <li>1) Above actions</li> <li>2) Notify health department</li> <li>3) Refer for environmental investigation and control current lead hazards</li> <li>4) Refer occupationally exposed women to occupational medicine specialists</li> <li>5) Recommend removal from occupational exposure</li> </ol>	Within 1 month, obtain a maternal blood lead test or cord BLL at delivery
15 – 24 µg/dL	<ol style="list-style-type: none"> <li>1) Above actions</li> </ol>	<p>Within 1 month and then every 2 - 3 months, obtain a maternal blood lead test or cord BLL at delivery.</p> <p>More frequent testing may be indicated based on risk factor history.</p>
25 – 44 µg/dL	<ol style="list-style-type: none"> <li>1) Above actions</li> </ol>	Within 1 – 4 weeks and then every month, obtain a maternal blood lead test or cord BLL at delivery.
45 – 69 µg/dL	<ol style="list-style-type: none"> <li>1) Above actions</li> <li>2) Treat as high-risk pregnancy</li> <li>3) Consider chelation therapy: Consult with an expert in lead poisoning</li> </ol>	<p>Within 24 hours and then at frequent intervals depending on clinical interventions and trend in BLLs.</p> <p>Consultation with a clinician experienced in the management of pregnant women with BLLs in this range is strongly advised. Obtain a maternal blood lead test or cord BLL at delivery.</p>
≥70 µg/dL	<ol style="list-style-type: none"> <li>1) Medical emergency</li> <li>2) Chelation therapy</li> <li>3) Above actions</li> </ol>	Above actions

*Source: Guidelines for the Identification and Management of Lead Exposure in Pregnant and Lactating Women*



## ***Nutritional Recommendations for Pregnant and Lactating Women***

### **Key Points for Nutrition and Lead**

- The human body's nutritional status affects the absorption, deposition, and excretion of lead and may also affect lead toxicity.
- Lead exposure can also modify the body's ability to utilize nutrients.
- Avoidance of lead exposure remains the primary preventive strategy for reducing adverse health effects. However, the existence of nutrient-lead interactions suggests that optimizing nutritional status during pregnancy and lactation may also assist in preventing the adverse consequences of lead exposure.

### **General Nutritional Recommendations for Pregnant and Lactating Women**

- All pregnant and lactating women should eat a balanced diet in order to maintain adequate amounts of vitamins, nutrients, and minerals.
- All pregnant and lactating women should be evaluated for iron status and be provided with supplementation in order to correct iron deficiency.
- All pregnant and lactating women should be evaluated for adequacy of their diets and be provided with appropriate nutritional advice and prenatal vitamins.
- Refer women in need of assistance to WIC or the Supplemental Nutrition Assistance Program (SNAP).
- All pregnant and lactating women should avoid the use of alcohol, cigarette, herbal medicines, and any other substances, that may adversely affect the developing fetus or infant.

### **Recommendations for Pregnant and Lactating Women with Elevated Blood Lead Levels from the CDC**

- In pregnant and lactating women with BLLs  $\geq 5$   $\mu\text{g}/\text{dL}$  or with a history of lead exposure, a dietary calcium intake of 2,000 mg daily should be maintained, either through diet or in combination with supplementation.
- Because data on the association of lead and Vitamin D are limited, no specific recommendation is made for supplementation of vitamin D in lead poisoned pregnant or lactating women. Adequate levels of Vitamin D should be maintained. Therefore if the mother is Vitamin D deficient supplementation may be necessary.
- Studies of the effects of iron supplementation in lead poisoned women are not available. Thus, iron supplementation in pregnant and lactating women should be consistent with those given for pregnancy and lactation. No additional iron supplementation is recommended for woman with elevated BLLs. However, the iron status of all pregnant women should be evaluated and supplementation should be provided to correct any deficiency.

### ***Newborn of a Lead-bearing Mother***

If a child is born to a woman with a known EBLL, the BLL of the newborn should be monitored closely. An infant's BLL is expected to be equal to that of the mother. If the BLL of the infant is  $\geq 10$   $\mu\text{g}/\text{dL}$ , appropriate case management activities should take place.

While outreach, education and primary prevention are most important in identified high-risk locations, they can be beneficial to all communities, regardless of risk factor.

## ***Breastfeeding Women With EBLs***

Recent studies indicate that there is little transfer of lead to the infant in breast milk. According to a book published in 2005, by Ruth A. Lawrence M.D. and R.M. Lawrence, titled “Breastfeeding; A Guide for the Medical Profession,” Sixth Edition, St. Louis: Elsevier/C.V. Mosby, 2005, if the BLL is <40 µg/dL, it is considered safe to breastfeed.

<b>Action for Lactating Women</b>	
0 –39 µg/dL	Breastfeeding should be encouraged
5 – 39 µg/dL	Breastfeeding may be continued if infants’ BLL is monitored
≥40 µg/dL	Lactation should be continued, but breast milk should be pumped and discarded until BLL’s <40 µg/dL

*Source: Guidelines for the Identification and management of Lead Exposure in Pregnant and Lactating Women*

## ***Health Education and Outreach***

Local health officials have traditionally carried out all or most of the lead poisoning prevention activities in communities. They should collaborate with physicians, educators, and social service and housing agencies that have a role in community-wide primary prevention efforts. Lead poisoning prevention strategies work best as part of an integrated program that creates safe and affordable housing and provides people with the full range of needed social services. Local, state and federal agencies dealing with health, housing, environmental and children’s issues should be identified and contacted. Optimally, regular communication should be established among agencies to adopt and carry out joint prevention strategies. The most important targets for outreach and educational programs are the following within high-risk ZIP codes:

- parents
- health care providers
- local public officials
- property owners/landlords
- day care providers

Early childhood and parental education should include information on the effects of lead on children and the need for evaluation and testing. Parents should be informed about preventive measures, including risks for lead paint in their home, ways to identify other possible sources of lead in their home, nutrition, housekeeping and hygiene measures. Inform the parents about risk factors for childhood lead poisoning. Such outreach efforts can target individual parents or certain parent groups.

Outreach and education for health care providers can be accomplished through pamphlets, grand rounds, and continuing education programs and physician awareness activities targeted to pediatricians, family practitioners, pediatric and community health nurses, obstetricians and midwives. These efforts are focused on the need for evaluation and testing and case follow-up procedures.

On a local level, the agency can coordinate efforts with local news media; school programs; and community service organizations.

Property owners, realtors and other real estate professionals must need to learn how to maintain the property in a safe condition. Banks, mortgage companies, and insurance companies can play an important role in conveying this information at critical times, such as when an individual is buying a property or seeking financing for major renovations. In addition, prospective buyers should be given written material that explains safe lead removal. A prospective buyer can arrange for a lead investigation (at their own expense).

Federal law requires landlords to disclose known information on lead-based paint and lead-based paint hazards before a lease can take effect and to distribute the U.S. EPA brochure, *Protect Your Family from Lead in Your Home*, about lead to the renter. Leases must include a disclosure form about lead-based paint.

Renters can ask for information at any time to learn if there is lead in the home they plan to lease or rent. Before signing a lease, they should ask the landlord about any lead hazards in the home.

By Illinois law, day care providers must distribute information annually about lead poisoning and its effects. Parents can help by informing teachers about their children’s history, so teachers can be aware of potential educational needs.

Targeting in the high-risk areas may mean physically being present in the identified ZIP code. Direct contact is important for reaching high-risk groups, especially for intervention with younger children. Educational visits and evaluations in preschools, day care facilities and Head Start programs are successful and recommended. This includes church and school-based day care facilities. Schedule the educational visit to occur when parents are delivering or picking up their children. Door-to-door campaigns have proven to be helpful in some neighborhoods. Mobile screening programs located at grocery stores or shopping centers may be successful. Off-site clinics, freestanding clinics and emergency care centers are other options for distributing information and encouraging testing.

Environmental stimulation, though not a cure, benefits all children and may help compensate for some of the effects of lead.

**To be successful, community-level intervention requires four types of activities:**

- Surveillance and risk evaluation - Determining populations at risk and areas where the most exposures are occurring.
- Outreach and education - Informing health care providers, parents, day care providers, early childhood educators, property owners and other key audiences about lead poisoning prevention.
- Infrastructure building - Creating the resources needed for a successful program of risk abatement.
- Hazard abatement - Abating the hazards of lead paint, dust and soil, particularly in high-risk buildings and neighborhoods.

Delegate agencies are required to make education an important part of their lead poisoning prevention programs. There are three primary components:

- Public Education
- Family Education
- Professional Education

**Public Education**

Outreach programs are one way to meet the education requirements. Participation in health fairs, and presenting at church functions, businesses, and civic organizations are just a few examples on ways to educate the public.

**Family Education**

Education is required for the families of children identified with EBLLs. This can be provided in the home setting during the public health nurse home visit. The education should include information regarding basic prevention activities of lead poisoning. Hygiene, housekeeping, nutrition and good parenting skills are the four key components of education programs in the home. See Appendix K for Anticipatory Guidance.

**Professional Education**

The LHD lead nurse should introduce himself/herself by phone, letter or personal contact to the area physicians. He/She should explain his/her role in the case management of children with EBLLs. The LHD lead nurse may follow-up with a visit to provide educational materials for the physicians, staff and clients. The nurse can also provide education to the physicians by presenting to physician groups during such instances as grand rounds and other such opportunities.

**Lead Poisoning Prevention Educational Materials**

The Program educational materials consist of brochures and posters for use in client and community education. Some materials are available in both English and Spanish. Topics include prevention, intervention and renovation. Additionally, other lead-related booklets are available for landlords, renters and prospective home owners. Public health nurses and LHDs have numerous handout materials to hand out that are used during home visits and home demonstrations regarding nutrition and good housekeeping techniques. Information can be ordered by using the publications order form and can be viewed on the Illinois Lead Program Website.

The IDPH's central office staff and regional staff participate in a variety of educational programs at day care centers, schools and medical and other professional conferences by invitation. IDPH also conducts annual lead safe community conference programs to provide information to professional and non-professional individuals who have an interest in lead poisoning.

Trainings on the blood lead database and lead case management are offered by IDPH staff throughout the year for personnel in LHDs. The lead case management training includes segments on blood lead testing and analysis, nursing case follow-up, environmental investigations, and medical management.

## **Record Keeping**

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### ***Medical Records***

It is expected that information on each child or pregnant person, with an EBLL, be documented in the recordkeeping system and on a separate medical lead chart. All such information will assure proper case follow-up and provide information for legal purposes, if needed. This medical chart should include:

- a copy of the child's or pregnant person's lead level from the laboratory
- the Public Health Home Visit Form for Environmental Health and Lead Assessment
- all consent forms
- documentation and/or progress report regarding:
  - the causes and effects of lead poisoning
  - evaluation
  - nutritional and educational materials
- a current full case report from the IDPH's data system
- copies of all communication sent to the parent/guardian and physician, including environmental investigation correspondence
- developmental screening and
- all referrals

### ***Retention of Records***

The local health department grantee will maintain closed case records for a period of 2 years following the close of a successful audit. Medical records shall be maintained for the life of the client.

Information about test results that has been reported to the Program is sent to each delegate agency at least weekly. Reports listing newly confirmed cases ( $\geq 10$   $\mu\text{g/dL}$ ) are forwarded to the delegate agencies on a weekly basis. These reports are only as accurate as the data provided.

A recordkeeping system is necessary to facilitate communication among health department case management, environmental management, and medical management components.

### ***Transferring Cases***

When a county health department or local health district establishes itself as a new delegate agency with the IDPH's Program, the regional nurse consultant (who has been following the child(ren) or the pregnant person) will transfer all information to the appropriate individual within the newly established delegate agency.

When a child(ren) or a pregnant person moves from one county to another the case manager is to notify the new county of residence and send a copy of the client's lead file. This should include:

- Home visit form
- Environmental reports
- Complete Child/Pregnant person's report
- Narrative notes

## ***Closing Cases***

A policy for closing cases include the following reasons:

- the child moves to a different county
- the child has reached age 7 and has a venous BLL <10 µg/dL
- the child, younger than 7 years of age, has two consecutive venous BLLs <10 µg/dL or three consecutive venous BLLs <15 µg/dL not including the test which opened the case
- lost to follow-up, the LHD is unable to contact the child and his/her family after numerous attempts have been made

## ***Sample Policy for Closing a Case Lost to Follow-up or Non-Compliance of Blood Lead Testing***

- The nurse will contact the child's physician to ascertain if the child is continuing to receive services and if any testing or treatment not previously reported has been given for the EBLL.
- Letters will be sent as follows:
  - A letter will be sent to the parent/guardian reminding them to have their child retested and also includes the next test date
  - Subsequent letters will either provide the next scheduled test date or will be an overdue letter
- Documentation of letters sent will be noted in the child's file. A documented attempt at a home visit can be substituted for letter number one or two.
- If the parent/guardian has not responded to the letters, the nurse will send a final letter by certified mail to the parent/guardian.
- If the certified letter is returned as "undeliverable" or "no forwarding address," the case can be closed. Retention of the returned letter or envelope in the medical record is necessary.
- If the certified letter is received, but there is no response from the parent/guardian and the venous BLL is <20 µg/dL, the case can be closed with complete documentation of events leading up to closing the case.
- If the case manager feels further follow-up may be necessary (e.g. venous BLL >20 µg/dL and child is 6 years of age and younger), the case can be discussed with the regional nurse consultant. The review will determine if further action, such as referral to the Department of Children and Family Services (DCFS), is necessary.

If the child is tested later, the BLL will be added to the file and the case will reopen as necessary.

The IDPH recommends making three attempts to contact the family by telephone or letters. At least one contact (usually the last one) should be in the form of a certified letter. A letter returned by the U.S. Postal Service marked as undeliverable can be the final contact. Documentation of these attempts, including the certified letter, should be kept in the medical record as the agency's proof of attempt to provide service.

## **Illinois Department of Public Health Monitoring**

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### ***Quarterly Narrative***

Each delegate agency is required to submit a quarterly report per Program/Delegate Agency Grant Agreement on case management activities as requested by the Program.

### ***Program Evaluation Review***

Program evaluation reviews are conducted at least every three years. These visits involve an on-site review of medical and environmental records, policies and procedures by the IDPH's regional nurse consultant. Commendations and recommendations are communicated verbally to the agency at the end of the visit. A written report will be sent within 60 days. A written response is required from the delegate agency within 30 days of receipt of the letter, regarding corrective actions to be taken as recommended by the Program.

# Reimbursement of Lead Poisoning Services by IDPH

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Two primary sources of reimbursement for childhood lead testing and case management services are the Illinois Department of Healthcare and Family Services (HFS) and the IDPH. Department of Children and Family Services (DCFS) wards involved in the Health Works Illinois (HWIL) program are eligible for services through HFS.

For a provider number, billing questions, or for assistance in filling out reimbursement forms, contact the HFS Bureau of Comprehensive Health Services Switchboard at 877-782-5565.

## ***Laboratory Services Reimbursement***

Delegate agencies receive payment for each blood sample analyzed by the state laboratory for any child living in an agency's region. This payment is irrespective of the number of previous samples drawn from the child, which provider draws the blood, the blood test result or the Medicaid or indigent status of the child. The only requirement is that the IDPH laboratory analyzes the sample. The monies received are meant to provide nursing case management services to the children in each delegate agency's region. In addition, the family case management contract allows flexibility for reimbursement.

Health departments, rural health clinics and federally qualified health centers (FQHCs) that indicate that children are indigent (family income less than 185 percent poverty level and who are not eligible for Medicaid) are not charged for blood lead analysis done by the IDPH's laboratory.

A fee is assessed for each blood lead analysis for all clients not Medicaid-eligible or not indigent (less than 185 percent federal poverty level). For information on signing up as a provider and using the scan forms, call 217-782-3517.

## ***Laboratory Services***

For delegate agencies that use the IDPH's laboratory, the laboratory also provides:

- supplies for the collection and mailing of blood lead samples,
- optional faxing of results to the provider, and
- direct reporting of results to the Program, thus relieving providers of this responsibility.

Delegate agencies that perform environmental investigations also receive free analysis of paint, dust and water samples through the IDPH's laboratory. For information on signing up as a provider and using the scan forms, call 217-782-3517.

## ***Private Pay Clients***

A LHD may charge for the services it provides to non-Medicaid clients, if that service is not reimbursed from another source or if the reimbursement does not cover costs. Each LHD should determine fees.

# Integration of Services and Care Coordination in the LHD

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Integration of lead evaluation and testing within a comprehensive primary pediatric care program is highly encouraged. Many agencies have incorporated lead management into WIC programs, immunization programs, pediatric primary care and family case management. Health Works, the health program for DCFS wards, also encourages lead evaluation and testing.

## ***School Districts***

School nurses, school health staff, and other school personnel collaborate frequently. These individuals may be the initial contact for parents about the need for lead evaluation and testing. It is important to develop and maintain open lines of communication with school health personnel.

The school nurse should check that the Childhood Lead Risk Questionnaire section of the Certificate of Child Health Examination form has been completed. If not completed, the nurse should refer the parent to a health care provider or LHD for evaluation or testing or administer the questionnaire herself to determine if testing is required. This is an opportune time to educate parents about the importance of lead testing. LHDs in some counties send clinic staff to school to assist with registration. A component of back-to-school services should include lead evaluation.

## ***Illinois Department of Children and Family Services (DCFS)***

Lead program staff may interact with DCFS in three situations: day care licensing, reporting of suspected medical neglect or the Health Works (HWIL) program. As stated in Section 845.55 Lead Testing of Title 77: Public Health, Part 845 Lead Poisoning Prevention Code:

By January 1, 1993, each day care center, day care home, preschool, nursery school, kindergarten, or other child care facility, licensed or approved by the state, including such programs operated by a public school district, shall include a requirement that each parent or legal guardian of a child age 6 months through 6 years provide a statement from a physician or health care provider that the child has been evaluated or tested for lead poisoning. This statement shall be provided prior to admission and subsequently in conjunction with required physical examinations required by Section 665.140 of the Department's rule entitled Child Health Examination Code (77 Ill. Adm. Code 665). (Section 7.1 of the Act).

Title 89, Chapter 3 of the DCFS requirements for licensure contains the following language under the subheading "Health and Medical Care".

The initial examination shall show that children 6 years of age or younger have been tested for lead poisoning for children residing in an area defined as high risk by the Illinois Department of Public Health in its Code (77 Ill. Adm. Code 845) or that a lead risk evaluation has been completed for children residing in an area defined as low risk by the Illinois Department of Public Health.

LHDs are encouraged to work with DCFS personnel to clarify legal concerns and to promote assessment and testing. Outreach activities in the form of education programs for DCFS personnel, day care providers and parents can enhance communication.

When there is suspected medical neglect, LHD personnel, physicians or other health care providers, may initiate contact with the DCFS. The DCFS Hotline receives calls and then forwards the information to the appropriate caseworker. It is important to give all pertinent information to the hotline personnel and the caseworker. This includes the BLL, condition of child and home environment, number of missed appointments and any other contributing information. In cases of known non-compliance with other programs (WIC, immunizations, other missed appointments), it may be helpful to consult with those programs before placing the report. This information also should be included.

Very few situations related to lead poisoning would result in the child being removed from the home. However, for some children, a report may be necessary to gain parental compliance. Consequently, adequate care and follow-up services are provided for the child.

Another interaction with DCFS may take place with Health Works clients. HWIL is a collaborative effort of the IDPH, IDHS and DCFS. HWIL's purpose is to ensure that state wards (birth to age 21) in the custody of DCFS receive comprehensive, quality health care services.

New wards taken into custody should receive a comprehensive health evaluation based on Early Periodic Screening, Diagnosis and Treatment (EPSDT) standards developed by the American Academy of Pediatrics. Blood lead testing is one of the laboratory tests recommended by these standards. DCFS wards often fall in a high-risk group for several reasons:

- Wards tend to live in numerous locations
- The environmental status of wards before custody is often unknown; and
- Wards may live in high-risk areas of the state.

HWIL program staff is encouraged to work with the DCFS ward's primary care physician, substitute care giver, and DCFS caseworker so that children aged 6 years or younger receive a lead poisoning evaluation and testing. HWIL staff should assist with lead poisoning education efforts for DCFS caseworkers and the substitute caregiver if needed.

# Refugee Children

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Illinois is experiencing an increase in the number of lead poisoned refugee children. The main issue is rapidly rising BLLs after resettlement into housing built prior to 1978.

A case manager works to decrease the child's BLL and to identify and eliminate lead hazards in the child's environment. Ninety percent of case management activities are conducted by a nurse or social worker. The case manager is usually a member of the LHD staff. A refugee health coordinator should work with the assigned case manager to help facilitate and assure case management activities are being conducted.

Assuring that a child has an initial blood lead test within the 90 days of arrival into the United States is essential to begin providing treatment for that child if necessary. This will require working closely with the Regional Resettlement Agency.

A repeat blood lead test should be performed three to six months after refugee children are placed in their permanent residence. The repeat blood lead test should be considered a "medical necessity" regardless of the result from the first test.

The repeat blood lead test is extremely important in identifying EBLs in newly resettled refugee children. Scientific evidence demonstrated that although some children had EBLs when they arrived in the United States, the majority of the children did not. Thus, the lead exposure occurred in the United States.

The final strategy to reduce the risk of lead exposure in refugee children consists of providing lead poisoning prevention education to refugee families.

Lead poisoning prevention education is directed at helping parents prevent and/or reduce residential lead exposure in children and other sources of lead. Lead poisoning prevention education should be provided to families educating them on routine medical care, proper nutrition, and house cleaning strategies.

Medical Management Assurance of refugee children as prescribed by CDC includes: Nutritional evaluation

- Initial blood lead test
- Repeat blood lead test
- Education

## *Identification of Refugee Children With EBLs*

BLL testing of all refugee children 6 months to 16 years of age at entry to the United States is recommended.

- Federal standards stipulate that a refugee medical screening take place within 90 days after a refugee's arrival in the United States. The content of the screenings vary from state to state. Childhood lead poisoning prevention programs report that most states do not have BLL screening protocol for refugee children and that lead program surveillance data cannot identify which children are refugees.
- Studies indicate that age is not a significant risk factor for EBLs among refugee children. Although the risk for lead exposure among children older than 6 years may be the result of exposure in their country of origin, many of the prevailing health, social and economic burdens accompany the children to the United States, thus suggesting the value of testing **all** refugee children at time of arrival.

Repeat BLL testing of all refugee children 6 months through 6 years three to six months after refugee children are placed in permanent residences is recommended and older children, if warranted, regardless of initial test results.

- Children who mouth or eat non-food items, especially soil, which is common among certain refugee populations, are at risk for lead poisoning, regardless of the age of their housing.
- The New Hampshire cases study demonstrates that although some children had elevated BLLs when they arrived in the United States, the majority of the children did not. The follow-up testing, which was conducted on average 60 to 180 days after the placement of the children in the state and in their permanent residence, revealed elevated BLLs that ranged from 11 to 72 µg/dL.
- The refugee status for most of the children entitles them to Medicaid, WIC, and other social services for at least eight months after their resettlement, regardless of family financial status.



## ***Early Post-arrival Evaluation and Therapy***

Upon U.S. arrival, all refugee children should have nutritional evaluations performed, and should be provided with appropriate nutritional and vitamin supplements as indicated.

- Pre-existing health burdens such as chronic malnutrition, along with cultural, language and economic barriers compound refugee children's risk for lead poisoning. For example, iron deficiency, prevalent among refugee children, increases lead absorption through the gastrointestinal (GI) tract.
- At a minimum, the nutritional evaluation should include an evaluation of the children's iron status including a hemoglobin/hematocrit and one or more of the following: an evaluation of the mean corpuscular volume (MCV) combined with red cell distribution width (RDW); ferritin; transferrin saturation; or reticulocyte hemoglobin content.

Evaluate the value of iron supplementation among refugee children.

- Study of iron supplementation in refugee children will provide needed data on its efficacy to reduce nutritional deficiencies and, thus, reduce lead absorption through the GI tract.

## ***International Adoptee***

Physicians and/or LHDs should ensure that children age 6 and younger, who have been adopted from a foreign country, have received an initial blood lead test upon entering the United States and again three months later. Follow local guidelines for case follow-up as indicated above for refugee children.

## ***Health Education/Outreach for Refugee Populations***

CDC and its state and local partners should develop health education and outreach activities that are culturally appropriate and sensitive to the target population. CDC and its state and local partners should develop training and education modules for health care providers, refugee and resettlement case workers, and partner agencies (e.g., WIC) on the following:

- Effects of lead poisoning among children
- Lead sources in children's environments and ways to reduce the risk of exposure
- Nutritional and developmental interventions that can mitigate the effects of lead exposure
- Ways to provide comprehensive services to children with EBLLs

The race and ethnicity of refugee populations will vary based on locality and world events. CDC has developed a health education resource database that links users to health education materials from across the nation. For example, users may search the database for lead poisoning prevention materials in a specific language. Please visit <http://tinyurl.com/m9hj89q> to view the latest version of the health education database.

# Appendix A

## *Definition of High - and Low-risk ZIP Codes for Childhood Lead Poisoning*

The BLL in Illinois children is steadily decreasing as more children are tested. Healthy People 2020 established a national goal to eliminate lead poisoning by the year 2020. The state of Illinois adopted a targeted approach to achieve this goal.

An amendment to the Act was signed into law in August 1995. This required the IDPH to designate areas of the state where children through 6 years of age are considered to be at high risk for lead exposure and areas where children are considered to be at low risk for such lead exposure. The first risk index for childhood lead was developed in 1996 and modified in 2003.

The 2003 revision of the high-risk ZIP codes was based on housing data and family economic status (200 percent poverty and below) obtained from the 2000 Census. The proportion of housing units estimated to have a lead hazard by ZIP code was determined based on the following classification:

- Pre-1940 = 68 percent with lead hazards
- 1940 to 1959 = 43 percent with lead hazards
- 1960 to 1977 = 8 percent with lead hazards
- 1978 to 1998 = 3 percent with lead hazards

*Source: Table 3.4. National Survey of Lead and Allergens in Housing, 2001.*

The RANK procedure with a double weight on the housing data was used to make determination for each ZIP code in the state. Each variable was assigned scores between 1 and 9 (1 = lowest and 9 = highest). The scores were summed up by ZIP codes: 3 to 27. The ranking procedure was performed with and without Chicago. Based on current and previous analysis, all of Chicago was considered high risk. The ranking procedure to determine high- and low-risk ZIP codes highly correlated with actual EBLL prevalence data ( $R^2=0.92$ ) obtained from January 2000 to December 2002 (see graph).

Compared to 1996 analyses, 29.5 percent of the ZIP codes remained persistently high risk and 45 percent have maintained low-risk status. It is worth noting that 14.6 percent previously high-risk ZIP codes are now low risk. Unfortunately, 10.9 percent of previously low-risk ZIP codes became high risk. The new 2000 census shows migration of low-income families, a trend that significantly increases risk for blood lead poisoning.

We use high risk specific testing and evaluating purposes especially to increase testing for childhood lead poisoning among physicians for the following reasons:

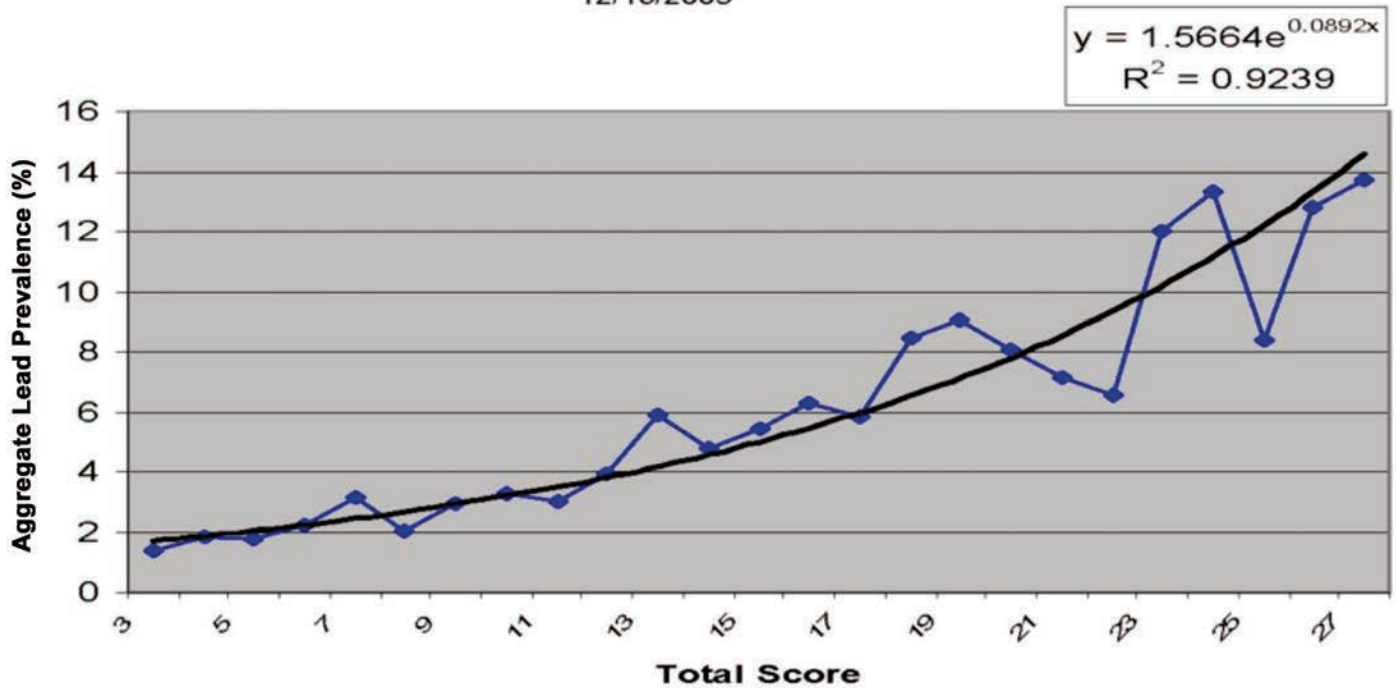
- ZIP codes are the smallest geographic entity, and are readily available
- Physicians and patients can relate an address to a ZIP code better than relating an address to a census tract or census block

We are aware that ZIP codes constantly change for efficient mail delivery by the postal service. We also are aware that census tract and census blocks may change only after a census is conducted (usually after every 10 years) making them better indicators of high-risk areas.

- Our short-term goal is to use our most available resource (ZIP codes) to determine high-risk areas for lead in Illinois.
- Our long-term goal is to establish an efficient data cleaning procedure for addresses before developing high-risk ZIP codes by census tract or census block.

However, ZIP codes are used in conjunction with the Childhood Lead Risk Questionnaire (CLRQ). The CLRQ was designed by the Illinois Childhood Lead Poisoning Elimination Advisory Council in 2006 as a two-part assessment of the child's potential exposure to lead hazards. The child is most likely to be exposed to risk hazards if he or she resides in a high-risk ZIP code. If the child resides in a low-risk area, the health care provider asks the parent/guardian a series of questions. Any single "yes" or "don't know" response requires a blood lead test. The CLRQ has been updated routinely and has been found to be a useful assessment tool.

**Total Score vs Aggregate Lead Prevalence in Illinois**  
12/16/2003



*Note: the blue line represents actual data and the dark line represents line of best fit*

Figure 1. Relationship between total score and aggregate EBLL prevalence rate. Total score based on ranked ZIP codes was determined from the sum of the double weight of proportion of housing units with lead and number of families living at less than or equal to 200 percent poverty level. Lead prevalence was based on lead tests from 2000 to 2002.  $y = 1.5664e^{0.0892x}$   $R^2 = 0.92$  where  $y$ =aggregate lead prevalence by score and  $x$ = total score (3 to 27).  $R^2$  (R squared) is the relative predictive power of the model. R squared is a descriptive measure between 0 and 1. The closer it is to one, the better the model. Total scores of  $\geq 18$  were considered high-risk ZIP codes. Scores  $< 18$  with prevalence  $\geq 8$  percent were considered high-risk if 30 percent of children were tested for lead poisoning (45 ZIP codes).

# Appendix B



State of Illinois  
Illinois Department of Public Health

## Report of Blood Lead Test Result

Patient's Name \_\_\_\_\_  
Last First Middle Initial

Parent/Guardian's Name \_\_\_\_\_  
Last First

Phone \_\_\_\_\_ Date of Birth \_\_\_\_\_ Is Patient Pregnant?  Yes  No

Patient's Address \_\_\_\_\_ County \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ ZIP Code \_\_\_\_\_

Medicaid Number \_\_\_\_\_ Sex (check appropriate box)  Male  Female  
(if applicable)

Race (check appropriate box)  
 White  Hispanic or Latino  American Indian/Native Alaskan  Unknown  
 Black/African American  Asian  Native Hawaiian or other Pacific Islander

Date of Test \_\_\_\_\_ Type  Venous  Capillary Test Result \_\_\_\_\_ mcg/dL

Testing Facility Name \_\_\_\_\_ Lab ID # \_\_\_\_\_ Phone \_\_\_\_\_  
(Laboratory)

Provider Name \_\_\_\_\_ Provider ID # \_\_\_\_\_ Phone \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ ZIP Code \_\_\_\_\_

(If information has changed, please update below)

Clinic/Hospital \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ ZIP Code \_\_\_\_\_

Signature of Person Completing Form \_\_\_\_\_

Date Reported \_\_\_\_\_

**Illinois Lead Program**  
525 West Jefferson Street, Third Floor  
Springfield, Illinois 62761-0001  
Phone: 217-782-3517 Fax: 217-557-1188  
TTY (hearing impaired use only) 800-547-0466

Printed by Authority of the State of Illinois  
P.O.#5515610 250 2/15

IOCI 15-529

# Appendix C

## Sample Lead/Hemoglobin Testing Consent

Child's Name \_\_\_\_\_ DOB \_\_\_\_/\_\_\_\_/\_\_\_\_  
Last First Middle Initial

Pregnant Person's Name \_\_\_\_\_ DOB \_\_\_\_/\_\_\_\_/\_\_\_\_  
Last First Middle Initial

Has this child/pregnant person been to Lead Clinic before? \_\_\_\_ Yes \_\_\_\_ No

Does the child/pregnant person have a Medicaid Card? \_\_\_\_ No \_\_\_\_ Yes # \_\_/\_\_/\_\_\_\_/\_\_\_\_/\_\_\_\_/\_\_\_\_/\_\_\_\_/\_\_\_\_/

**Sex:** \_\_\_\_\_ Male \_\_\_\_\_ Female  
**Race:** check all that apply  
\_\_\_\_\_ White \_\_\_\_\_ Black/African American  
\_\_\_\_\_ Native American Indian \_\_\_\_\_ Asian  
\_\_\_\_\_ Native Alaskan \_\_\_\_\_ Native Hawaiian or Other Pacific Islander  
\_\_\_\_\_ Unknown

**Method:**  
\_\_\_\_\_ Capillary Pb \_\_\_\_\_ Venous Pb

Child's/Pregnant Person's Physician \_\_\_\_\_

Parent/Guardian \_\_\_\_\_  
Name Phone Number

Street Address - Not P.O. Box \_\_\_\_\_ City \_\_\_\_\_ ZIP Code \_\_\_\_\_

\_\_\_\_\_ I consent to being tested or having my child tested for lead poisoning and/or a hemoglobin test by finger stick. If I/she/he has a positive test for lead, I will allow the **XXXXX County Department of Public Health** to collect another blood sample from a vein (venipuncture) for a confirmation.

\_\_\_\_\_ If my test or my child's test shows an elevated level of lead in the blood, I will allow the lead program nurse or environmental investigator in my home to check for the source of the lead and cooperate with them in finding ways to prevent further exposure to lead.

\_\_\_\_\_ I have read the previous information and had my questions answered. I give consent to the **XXXXX County Department of Public Health** to perform a lead and/or hemoglobin testing on me or my child.

\_\_\_\_\_ I authorize the **XXXXX County Department of Public Health** to release my blood lead level (BLL) or my child's BLL and/or follow-up services information to the following entities for the purpose of providing follow-up services.

\_\_\_\_\_ I understand that this consent is good for one year and may be revoked at any time. I further agree that a photocopy of facsimile of this consent is as valid as the original, even though such copy does not bear my original signature.

Parent/Guardian Signature/Pregnant Person \_\_\_\_\_ Date \_\_\_\_\_

Signature of **XXXXX County Dept. of Public Health** Employee Collecting Blood Sample \_\_\_\_\_ Date \_\_\_\_\_

Witness \_\_\_\_\_ Date \_\_\_\_\_

# Appendix D

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## *Sample of Request for Information*

**Illinois Department of Public Health  
Division of Environmental Health  
Illinois Lead Program**

***Request for Information***

I, \_\_\_\_\_, parent or guardian of \_\_\_\_\_,  
a minor child, hereby authorize

NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY STATE ZIP \_\_\_\_\_

To provide

- the Illinois Department of Public Health's Illinois Lead Program with diagnostic and treatment information related to lead poisoning for the above name child.
- the County Health Department

I understand that this consent is for a one-year period of time and may be revoked at any time. I further agree that a photocopy of facsimile of this consent is as valid as the original, even though such copy does not bear my original signature.

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

Witness: \_\_\_\_\_

Date: \_\_\_\_\_

# Appendix E

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## *Parental Consent for Photographic Use of Children*

I, (adult's name) \_\_\_\_\_

of (address) \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

being the child/children's parent or legal guardian, hereby give permission for the Illinois Department of Public Health to take and use photographs of (child/children's name/s) \_\_\_\_\_

\_\_\_\_\_ age(s) \_\_\_\_\_

(of child/children) for publication in the \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

Witness: \_\_\_\_\_

Date: \_\_\_\_\_

Signature

# Appendix F

## High-Risk ZIP Codes for Pediatric Blood Lead Poisoning

Adams	Christian	61942	62078	Jasper	61042	61424	Moultrie	61259	61865
62301	62083	DuPage	62081	62432	61310	61537	61937	61265	61870
62320	62510	60519	62082	62434	61318	61541	Ogle	61279	61876
62324	62517	Edgar	62092	62459	61324	Mason	61007	St. Clair	61883
62339	62540	61917	Grundy	62475	61331	62617	61030	62201	Wabash
62346	62546	61924	60437	62480	61353	62633	61047	62203	62410
62348	62555	61932	60474	Jefferson	61378	62644	61049	62204	62852
62349	62556	61933	Hamilton	62883	Livingston	62655	61054	62205	62863
62365	62557	61940	62817	Jersey	60420	62664	61064	62220	Warren
Alexander	62567	61944	62828	2030	60460	62682	61091	62289	61412
62914	62570	61949	62829	62063	60920	Massac	Peoria	Saline	61417
62988	Clark	Edwards	62859	Jo Daviess	60921	62953	61451	62930	61423
Bond	62420	62476	Hancock	61028	60929	McDonough	61529	62946	61435
62273	62442	62806	61450	61075	60934	61411	61539	Sangamon	61447
Boone	62474	62815	62311	61085	61311	61416	61552	62625	61453
61038	62477	62818	62313	61087	61313	61420	61602	62689	61462
Brown	62478	Effingham	62316	Johnson	61333	61422	61603	62703	61473
62353	Clay	None	62318	62908	61740	61438	61604	Schuyler	61478
62375	62824	Fayette	62321	62923	61741	61440	61605	61452	Washington
62378	62879	62458	62330	Kane	61743	61470	61606	62319	62214
Bureau	Clinton	62880	62334	60120	61769	61475	Perry	62344	62803
61312	62219	62885	62336	60505	61775	62374	62832	62624	Wayne
61314	Coles	Ford	62354	Kankakee	Logan	McHenry	62997	62639	62446
61315	61931	60919	62367	60901	60901	62512	Piatt	62639	62823
61322	61938	60933	62373	60910	62518	McLean	61813	62621	62843
61323	61943	60936	62379	60917	62519	61701	61830	62663	62886
61328	62469	60946	62380	60954	62548	61720	61839	62694	White
61329	Cook	60952	Hardin	60969	62543	61722	61855	Shelby	62820
61330	All Chicago	60957	62919	Kendall	62635	61724	61929	62438	62821
61337	ZIP Codes	60959	62982	None	62643	61728	61936	62534	62835
61338	60043	60962	Henderson	Knox	62666	61730	Pike	62553	62844
61344	60104	61773	61418	61401	62671	61731	62312	Stark	62887
61345	60153	Franklin	61425	61410	Macon	61737	62314	61421	Whiteside
61346	60201	62812	61454	61414	62514	61770	62323	61426	61037
61349	60202	62819	61460	61436	62521	Menard	62340	61449	61243
61359	60301	62822	61469	61439	62522	62642	62343	61479	61251
61361	60302	62825	61471	61458	62523	62673	62345	61483	61261
61362	60304	62874	61480	61467	62526	62688	62352	61491	61270
61368	60305	62884	Henry	61474	62537	Mercer	62355	Stephenson	61277
61374	60402	62891	61234	61485	62551	61231	62356	61018	61283
61376	60406	62896	61235	61489	Macoupin	61260	62357	61032	Will
61379	60456	62983	61238	61572	62009	61263	62361	61039	60432
Calhoun	60501	62999	61274	Lake	62033	61276	62362	61044	60433
62006	60513	Fulton	61413	60040	62069	61465	62363	61050	60436
62013	60534	61415	61419	LaSalle	62085	61466	62366	61060	Williamson
62036	60546	61427	61434	60470	62088	61476	62370	61062	62921
62070	60804	61431	61443	60518	62093	61486	Pope	61067	62948
Carroll	Crawford	61432	61468	60531	62626	Monroe	None	61089	62949
61014	62433	61441	61490	61301	62630	None	Pulaski	Tazewell	62951
61051	62449	61477	Iroquois	61316	62640	Montgomery	62956	61564	Winnebago
61053	62451	61482	60911	61321	62649	62015	62963	61721	61077
61074	Cumberland	61484	60912	61325	62672	62019	62964	61734	61101
61078	62428	61501	60924	61332	62674	62032	62976	Union	61102
Cass	DeWitt	61519	60926	61334	62685	62049	62992	62905	61103
62611	61727	61520	60930	61342	62686	62051	Putnam	62906	61104
62618	61735	61524	60931	61348	62690	62056	61336	62920	Woodford
62627	61749	61531	60938	61354	Madison	62075	61340	62926	61516
62691	61750	61542	60945	61358	62002	62077	61363	Vermilion	61545
Champaign	61777	61543	60951	61364	62048	62089	Randolph	60932	61570
61815	61778	61544	60953	61370	62058	62091	62217	60942	61760
61816	61882	61563	60955	61372	62060	62094	62242	60960	61771
61845	DeKalb	Gallatin	60966	Lawrence	62084	62538	62272	60963	
61849	60111	62934	60967	62439	62090	Morgan	Richland	61810	
61851	60129	Greene	60968	62460	62095	62601	62419	61831	
61852	60146	62016	60973	62466	Marion	62628	62425	61832	
61862	60550	62027	Jackson	Lee	None	62631	Rock Island	61833	
61872	Douglas	62044	62927	60553	Marshall	62692	61201	61844	
	61930	62050	62940	61006	61369	62695	61236	61848	
	61941	62054	62950	61031	61377		61239	61857	





State of Illinois  
Illinois Department of Public Health

## Guidelines for Lead Risk Evaluation and Blood Lead Testing

- **Lead risk** evaluation is the use of the Childhood Lead Risk Questionnaire to determine the risk of potential for lead exposures.
- **Blood lead testing** is defined as obtaining a blood lead test either by capillary or venous methodology.
- **It is always appropriate to obtain a diagnostic blood lead test when a child is symptomatic or a potential exposure to lead has been identified, regardless of child's age.**
- Federal mandates and the Illinois Department of Healthcare and Family Services' (HFS) policy require that all children enrolled in HFS medical programs be considered at risk for lead poisoning and receive a blood lead test prior to age **12 months and 24 months**. Children older than the age of 24 months, up to 72 months of age, for whom no record of a previous blood lead test exists, also should receive a blood lead test. **All children enrolled in HFS medical programs are expected to receive a blood lead test regardless of where they live.** (Consult Handbook for Providers of Healthy Kids Services, Chapter HK-203.3.1, for more blood lead testing and reporting information.)
- Illinois has defined ZIP code areas at high risk and low risk for lead exposure based on housing age and poverty rates. Review the list of ZIP codes and determine status of ZIP codes in your area.

### Childhood Lead Risk Questionnaire

- ◆ Complete the Childhood Lead Risk Questionnaire during a health care visit for children through 6 years of age, beginning at 6 months
  - If responses to all the questions are "NO," re-evaluate at every well child visit or more often if deemed necessary.
  - If any response is "YES" or "DON'T KNOW," obtain a blood lead test.
- ◆ If the child is age 3 years to 7 years **and**
  - there are any "YES" or "DON'T KNOW" answers **and**
  - has had two successive blood lead test results that were each less than < 10 mcg/dL with one of these tests at age 2 years or older **and**
  - risks of exposure to lead have not changed, **further blood lead tests are not necessary.**
- ◆ If the child is 3 years to 7 years of age, **and**
  - all answers to the Childhood Lead Risk Questionnaire are "NO," a blood lead test is not necessary.

### For children living in Chicago:

Lead evaluation and testing guidelines differ for the city of Chicago. For information for the Chicago Department of Public Health's you may access their Web site at [www.cityofchicago.org/health](http://www.cityofchicago.org/health).

Illinois Lead Program  
866-909-3572 or 217-782-3517  
TTY (hearing impaired use only) 800-547-0466

# Appendix H



State of Illinois  
Illinois Department of Public Health

## Childhood Lead Risk Questionnaire

**ALL CHILDREN 6 MONTHS THROUGH 6 YEARS OF AGE MUST BE EVALUATED FOR LEAD POISONING  
(410 ILCS 45/6.2)**

**A blood lead test should be performed on children:**

- with any "Yes" or "Don't Know" response
- living in a high-risk ZIP code area
- all Medicaid-eligible children should have a blood lead test prior to 12 months of age and 24 months of age. If a Medicaid-eligible child between 36 months and 72 months of age has not been previously tested, a blood lead test should be performed.

**If responses to all the questions are "No":**

- re-evaluate at every well child visit or more often if deemed necessary

Child's name \_\_\_\_\_ Today's date \_\_\_\_\_

Age \_\_\_\_\_ Birthdate \_\_\_\_\_ ZIP Code \_\_\_\_\_

**Respond to the following questions by circling the appropriate answer.**

**RESPONSE**

- |   |     |    |            |
|---|-----|----|------------|
| 1. Is this child eligible for or enrolled in Medicaid, Head Start, All Kids or WIC?   | Yes | No | Don't Know |
| 2. Does this child have a sibling with a blood lead level of 10 mcg/dL or higher?   | Yes | No | Don't Know |
| 3. Does this child live in or regularly visit a home built before 1978?   | Yes | No | Don't Know |
| 4. In the past year, has this child been exposed to repairs, repainting or renovation of a home built before 1978?  | Yes | No | Don't Know |
| 5. Is this child a refugee or an adoptee from any foreign country?  | Yes | No | Don't Know |
| 6. Has this child ever been to Mexico, Central or South America, Asian countries (i.e., China or India), or any country where exposure to lead from certain items could have occurred (for example, cosmetics, home remedies, folk medicines or glazed pottery)?  | Yes | No | Don't Know |
| 7. Does this child live with someone who has a job or a hobby that may involve lead (for example, jewelry making, building renovation or repair, bridge construction, plumbing, furniture refinishing, or work with automobile batteries or radiators, lead solder, leaded glass, lead shots, bullets or lead fishing sinkers)? | Yes | No | Don't Know |
| 8. At any time, has this child lived near a factory where lead is used (for example, a lead smelter or a paint factory)?  | Yes | No | Don't Know |
| 9. Does this child reside in a high-risk ZIP code area? (see reverse side of page for list)   | Yes | No | Don't Know |

**If there is any "Yes" or "Don't Know" response; and**

- the child has proof of two consecutive blood lead test results (documented below) that are each less than 10 mcg/dL (with one test at age 2 or older), **and**
- there has been no change in the child's living conditions, a blood lead test is not needed at this time.

Test 1: Blood Lead Result \_\_\_\_\_mcg/dL Date \_\_\_\_\_ Test 2: Blood Lead Result \_\_\_\_\_mcg/dL Date \_\_\_\_\_

\_\_\_\_\_  
*Signature of Doctor/Nurse*

\_\_\_\_\_  
*Date*

**Illinois Lead Program  
866-909-3572 or 217-782-3517  
TTY (hearing impaired use only) 800-547-0466**

# Appendix I



State of Illinois  
Illinois Department of Public Health

## Prenatal-risk Evaluation for Lead Exposure

Testing is only recommended for women who are at risk. If a woman answers "yes" to any of these questions, she is at risk for lead exposure and should have a blood lead test.

**Please Print**

Name \_\_\_\_\_ Date of Birth \_\_\_\_\_  
Last First

Address \_\_\_\_\_ Phone Number \_\_\_\_\_

City \_\_\_\_\_ County of Residence \_\_\_\_\_

Medicaid Number \_\_\_\_\_ (if applicable)

**RESPONSE**

1. Do you live in a house built before 1978?  Yes  No
2. Do you live in a house built before 1978 with ongoing renovations that generate dust from sanding and scraping?  Yes  No
3. Have you ever had an elevated blood lead level?  
If "yes", when? \_\_\_\_\_  Yes  No
4. Do you live with someone who has an elevated blood lead level?  
If "yes", who? \_\_\_\_\_  Yes  No
5. Do you crave or have you eaten a non-food item during this pregnancy?  
(Sometimes pregnant women have the urge to eat things, which are not food, such as clay, soil, pottery, plaster or paint chips.)  Yes  No
6. Do you have or have you had any oral piercings?  
(Oral piercing jewelry may contain lead which can cause lead poisoning.)  Yes  No
7. Do you use any imported cosmetics, herbal remedies, or food products?  Yes  No
8. Do you use pottery, painted china, leaded glass or other products that were made in another country?  Yes  No
9. Do you or others in your household have an occupation, hobby or activity which may expose you or them to lead?  Yes  No
10. Were you born, or have you spent any time outside of the United States?  
(Many identified lead-poisoned pregnant women are foreign born.)  Yes  No
11. Are you eligible for or enrolled in the Women's, Infants and Children (WIC) Program or Medicaid?  Yes  No

\_\_\_\_\_  
Signature of Doctor/Nurse Date of Assessment

Provider's full address \_\_\_\_\_ Provider # \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Phone Number \_\_\_\_\_

Blood Lead Test Result \_\_\_\_\_  Capillary  Venous

Date of Test \_\_\_\_\_ Date Reported \_\_\_\_\_

**If this questionnaire includes a blood lead test result, please fax to:**

**Illinois Lead Program**  
525 West Jefferson Street, Third Floor  
Springfield, Illinois 62761-0001  
Phone: 217-782-3517 • Fax: 217-557-1188  
TTY (hearing impaired use only) 800-547-0466



State of Illinois  
Illinois Department of Public Health

## Guidelines for Prenatal-risk Evaluation for Lead Exposure

### **What is the influence of lead exposure on health outcomes during pregnancy?**

The Centers for Disease Control and Prevention (CDC) has determined that lead exposure negatively affects health during pregnancy and that the threshold for exposures causing effects has not been established. Lead exposure is associated with increased risk for gestational hypertension. For the child, prenatal lead exposure, even at maternal blood lead levels (BLLs)  $<10 \mu\text{g/dL}$ , is inversely related to fetal growth and neurodevelopment.

### **What blood lead level is considered “elevated” in a pregnant woman?**

The CDC has published recommended strategies of medical care for pregnant women having a blood lead level at or above  $5 \mu\text{g/dL}$  and public health actions to reduce lead exposures for pregnant women who have a BLL at or above  $10 \mu\text{g/dL}$ . National surveys indicate that about 1% of U.S. women of child-bearing age have a BLL at or above  $5 \mu\text{g/dL}$  and 0.3% have a BLL at or above  $10 \mu\text{g/dL}$ .

### **How do I identify pregnant women in need of blood lead testing?**

The CDC has recommended that pregnant women routinely be evaluated for risk for lead exposures. Those having a risk factor for lead exposure should have blood lead measured when initiating prenatal care. IDPH has developed a questionnaire for evaluation of prenatal lead risk exposure to help identify pregnant women in need of blood lead testing.

### **How do I provide care for pregnant women who have a BLL at or above $5 \mu\text{g/dL}$ ?**

Medical management strategies include assessment for sources of lead exposure, lead avoidance counseling, and nutritional assessment and counseling. Nutritional strategies can reduce release of lead from bone stores and lower efficiency of lead absorption.

Please refer to <http://www.cdc.gov/nceh/lead/publications/leadandpregnancy2010.pdf>. Table 1 provides guidance on time to follow-up testing for BLLs by BLL value.

### **How will the IDPH Lead Program help me manage lead exposures for a pregnant woman with a BLL at or above $10 \mu\text{g/dL}$ ?**

Effective January 2015, the Illinois Department of Public Health Lead Program will provide services to pregnant women who have a BLL at or above  $10 \mu\text{g/dL}$ . Services IDPH will provide will include an environmental assessment to identify and reduce lead exposures, education on applying recommended nutritional practices, and recommendations on breastfeeding and infant follow-up.



## Guidelines for Prenatal-risk Evaluation for Lead Exposure

**Table 1: Frequency of Maternal Blood Lead Follow-up Testing During Pregnancy and Actions for Lead Management Care of Pregnant Women**

Blood Lead Level* $\mu\text{g}/\text{dL}$	Actions for Care of Pregnant Women	Time Frame for Follow-up Blood Lead Tests†
<5 $\mu\text{g}/\text{dL}$	<ul style="list-style-type: none"> <li>Provide anticipatory guidance and health education materials</li> </ul>	<ul style="list-style-type: none"> <li>No follow-up testing needed</li> <li>Re-evaluate at next visit</li> </ul>
5 – 9 $\mu\text{g}/\text{dL}$	<ul style="list-style-type: none"> <li>Confirm and refer, as appropriate</li> <li>Attempt to determine source of lead exposure and reduce/eliminate exposure</li> <li>If occupational exposure, review proper use of personal protective equipment and consider contacting employer</li> <li>Assess nutritional adequacy and provide nutritional management, as needed</li> </ul>	<ul style="list-style-type: none"> <li>Within 1 month</li> <li>Obtain a maternal BLL‡ or cord BLL at delivery</li> </ul>
10 – 14 $\mu\text{g}/\text{dL}$	<ul style="list-style-type: none"> <li>Above actions</li> <li>Notify health department</li> <li>Refer occupationally exposed women to occupational medicine specialists</li> <li>Recommend removal from occupational exposure</li> <li>Environmental assessment and abatement of lead hazards</li> </ul>	<ul style="list-style-type: none"> <li>Within 1 month</li> <li>Obtain a maternal BLL‡ or cord BLL at delivery</li> </ul>
15 – 24 $\mu\text{g}/\text{dL}$	<ul style="list-style-type: none"> <li>Above actions</li> </ul>	<ul style="list-style-type: none"> <li>Within 1 month and then every 2 - 3 months</li> <li>Obtain a maternal BLL‡ or cord BLL at delivery</li> <li>More frequent lead testing may be indicated based on risk factor history</li> </ul>
25 – 44 $\mu\text{g}/\text{dL}$	<ul style="list-style-type: none"> <li>Above actions</li> </ul>	<ul style="list-style-type: none"> <li>Within 1 – 4 weeks and then every month</li> <li>Obtain a maternal BLL‡ or cord BLL at delivery</li> </ul>
45 – 69 $\mu\text{g}/\text{dL}$	<ul style="list-style-type: none"> <li>Above actions</li> <li>Treat as high-risk pregnancy</li> <li>Consider chelation therapy in consultation with a clinician experienced in the management of pregnant women with BLLs in this range is strongly advised</li> </ul>	<ul style="list-style-type: none"> <li>Within 24 hours and then at frequent intervals, depending on clinical interventions and trend in BLLs</li> <li>Obtain a maternal BLL‡ or cord BLL at delivery</li> </ul>
70 $\mu\text{g}/\text{dL}$ or greater	<ul style="list-style-type: none"> <li>Medical emergency</li> <li>Chelation therapy</li> <li>Above actions</li> </ul>	<ul style="list-style-type: none"> <li>Above actions</li> </ul>

\* Venous blood sample is recommended for maternal blood lead testing.

† The higher the blood lead level on the screening test, the more urgent the need for confirmatory testing.

‡ If possible, obtain a maternal blood lead level before delivery because blood lead levels tend to increase over the course of pregnancy.

Source: Modified from Centers for Disease Control and Prevention. Guidelines for the identification and management of lead exposure in pregnant and lactating women. Atlanta (GA): CDC; 2010. Available at: <http://www.cdc.gov/nceh/lead/publications/leadand-pregnancy2010.pdf>. Retrieved February 5, 2015 and <http://www.acog.org/Resources-And-Publications/Committee-Opinions/Committee-on-Obstetric-Practice/Lead-Screening-During-Pregnancy-and-Lactation>. Retrieved February 11, 2015.



State of Illinois  
Illinois Department of Public Health

## Guidelines for Prenatal-risk Evaluation for Lead Exposure

### Key Points for Nutrition and Lead for Pregnant and Lactating Women

- The human body's nutritional status affects the absorption, deposition, and excretion of lead and may also affect lead toxicity.
- Lead exposure can also modify the body's ability to utilize nutrients.
- Avoidance of lead exposure remains the primary preventive strategy for reducing adverse health effects. However, the existence of nutrient-lead interactions suggests that optimizing nutritional status during pregnancy and lactation may assist in preventing the adverse consequences of lead exposure.

### General Nutritional Recommendations for Pregnant and Lactating Women

- All pregnant and lactating women should eat a balanced diet in order to maintain adequate amounts of vitamins, nutrients, and minerals.
- All pregnant and lactating women should be evaluated for iron status and be provided with supplementation in order to correct iron deficiency.
- All pregnant and lactating women should be evaluated for adequacy of their diets and be provided with appropriate nutritional advice and prenatal vitamins.
- Refer women in need of assistance to WIC or the Supplemental Nutrition Assistance Program (SNAP).
- All pregnant and lactating women should avoid the use of alcohol, cigarettes, herbal medicines, and any other substances, that may adversely affect the developing fetus or infant.

### Nutritional Recommendations for Pregnant and Lactating Women with Elevated Blood Lead Levels

- In pregnant and lactating women with BLLs  $\geq 5\mu\text{g/dL}$  or with a history of lead exposure, a dietary calcium intake of 2,000 mg daily should be maintained, either through diet or in combination with supplementation.
- Because data on the association of lead and Vitamin D are limited, no specific recommendation is made for supplementation of Vitamin D in lead poisoned pregnant or lactating women. Adequate levels of Vitamin D should be maintained. Therefore, if the mother is Vitamin D deficient supplementation may be necessary.
- Studies of the effects of iron supplementation in lead poisoned women are not available. Thus, iron supplementation in pregnant and lactating women should be consistent with those given for pregnancy and lactation. No additional iron supplementation is recommended for woman with EBLs. However, iron status of all pregnant women should be evaluated and supplementation should be provided to correct any deficiency.

Source: *Guidelines for the identification and management of lead exposure in pregnant and lactating women. Atlanta (GA): CDC; 2010.* Available at: <http://www.cdc.gov/nceh/lead/publications/leadandpregnancy2010.pdf>. Retrieved February 11, 2015



State of Illinois  
Illinois Department of Public Health

## Guidelines for Prenatal-risk Evaluation for Lead Exposure

### Newborn of a Mother with a BLL at or above 5 µg/dL

The BLL of a child born to a woman with known elevated BLL should be monitored closely. A newborn's BLL is expected to be equal to that of the mother. Medical management strategies should be applied at infant BLLs at or above 5 µg/dL; public health evaluations and appropriate case management activities should be applied at infant BLLs at or above 10 µg/dL, or at infant BLLs at or above 5 µg/dL, if resources permit.

### Breastfeeding Recommendations for Women with Elevated BLLs

Human milk is the most complete and ideal source of infant nutrition in the first year of life. Mothers with a BLL <40 µg/dL should be encouraged to breastfeed. Studies of lead in breast milk show breast milk to maternal blood lead ratios of approximately 3% or less. Measurement of levels of lead in breast milk is not recommended. Blood lead monitoring of the infant of a mother with an elevated BLL is recommended. Environmental sources of lead exposure should be evaluated for infants whose blood lead levels are rising or failing to fall by 5 µg/dL or more. If no external source of lead is identified, temporary interruption of breast feeding until the mother's blood lead levels decline should be considered.

**Table 2: Actions for Lactating Women**

0 –39 µg/dL	Breastfeeding should be encouraged
5 – 39 µg/dL	Breastfeeding may be continued if infants' BLLs monitored
40 µg/dL or greater	Lactation should be continued, but breast milk should be pumped and discarded until maternal BLL is < 40 µg/dL

Source: *Guidelines for the identification and management of lead exposure in pregnant and lactating women. Atlanta (GA): CDC; 2010.* Available at: <http://www.cdc.gov/nceh/lead/publications/leadandpregnancy2010.pdf>. Retrieved February 5, 2015 and <http://www.acog.org/Resources-And-Publications/Committee-Opinions/Committee-on-Obstetric-Practice/Lead-Screening-During-Pregnancy-and-Lactation>. Retrieved February 11, 2015.

**Illinois Lead Program**  
866-909-3572 or 217-782-3517  
TTY (hearing impaired use only) 800-547-0466

# Appendix K

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## *Anticipatory Guidance for the Illinois Lead Program*

Name \_\_\_\_\_

**1. Effects on young children**

**2. Need for retesting**

**3. Sources of lead**

**4. Housekeeping:**

- Use a wet rag, paper towels or mop to remove dust and loose paint chips from window wells, woodwork and floors.
- Use household detergent and rinse with clean water.
- Clean dust rags separately from other laundry or throw away.
- Wash child's hands frequently, especially before eating, napping and bedtime and after play.
- Wash toys that are mouthed frequently.
- Place rugs or mats at entry ways.
- Remove shoes at entry ways.
- If the parent/frequent visitor works in a lead environment, change clothes before entering home and wash separately.
- Steam clean carpets twice to remove lead dust. Steam clean twice again after lead hazard is removed.
- Moisten loose paint before scraping.
- Move child's furniture away from windows.
- Block windows so child cannot get near them.
- Make sure children are not in work area during mitigation.
- Do not store food in cans or ceramic pottery.
- Use duct tape or contact paper to cover peeling, chipping paint until permanent removal can be done.
- Wash bedclothes.
- Remove all mini-blinds, if possible.
- Move furniture in front of windows with peeling, chipping paint.
- Place ground covering (grass, rock, bark, etc.) in areas close to houses or buildings where bare soil is present so that children will not find loose paint chips or soil that might contain lead.

**5. Hygiene:**

- Wash child's hands several times a day.
- Keep fingernails short and clean.
- Keep hands away from mouth and face.
- Clean toys, pacifiers, bottle nipples, sippy cups, etc. after being on the floor.
- Always eat at a cleaned table or highchair.
- Wash bedclothes weekly.
- Use vinyl tablecloth or mat for the child to sit and watch television or to play on.

**6. Nutrition:**

- Provide a healthy diet, particularly with recommended amounts of iron and calcium and vitamin C to slow the absorption of lead into the blood.
- Eat five to six times per day (three meals and two—three snacks).
- Do not use hot tap water for cooking, bottles or drinking.
- Water can be contaminated from lead pipes. Prior to use, cold tap water should be run until a difference in temperature is noted. Families should avoid using hot tap water for drinking and cooking.
- Imported metal-seamed cans may contain lead. Transfer the food from cans that are opened into glass or plastic containers immediately. Metal cans with dented seams should be discarded without opening.

**7. Parenting skills:**

- Read
- Play
- Provide environmental stimulation
- Supervise where and what children play with to monitor for lead exposure.
- Provide environmental stimulation and interaction with the child. Environmental stimulation and good parental interaction can improve a child's cognitive and behavioral outcomes.

Given by \_\_\_\_\_ Date \_\_\_\_\_



# Appendix L



State of Illinois  
Illinois Department of Public Health

## Illinois Department of Public Health Public Health Home Visit Form for Environmental Health and Lead Assessment

Date \_\_\_\_\_

Child's name \_\_\_\_\_  
Last First MI

D.O.B. \_\_\_\_\_ Male \_\_\_\_\_ Female \_\_\_\_\_

Ethnicity \_\_\_\_\_

Medicaid number \_\_\_\_\_

Parent's/Guardian's name \_\_\_\_\_

Phone \_\_\_\_\_

Alternate phone \_\_\_\_\_

Street address \_\_\_\_\_ Apt. \_\_\_\_\_

City \_\_\_\_\_ ZIP \_\_\_\_\_ County \_\_\_\_\_

How long at this address? Years \_\_\_\_\_ Months \_\_\_\_\_

Previous address \_\_\_\_\_

Rent  Own

Landlord's address \_\_\_\_\_

Landlord's phone \_\_\_\_\_

Does the child spend time at:

Daycare  Head Start  Preschool

Babysitter  Relative/Friend  Other

**List addresses for checked box(es)**

Name, address, phone \_\_\_\_\_  
\_\_\_\_\_ Time spent \_\_\_\_\_

Name, address, phone \_\_\_\_\_  
\_\_\_\_\_ Time spent \_\_\_\_\_

Physician's name \_\_\_\_\_

Physician's address \_\_\_\_\_

Physician's phone number \_\_\_\_\_

Test date \_\_\_\_\_ BLL result \_\_\_\_\_ µg/dL

Test method \_\_\_\_\_ venous \_\_\_\_\_ capillary

### A. FAMILY ASSESSMENT

1. Number of children in household \_\_\_\_\_  
Name DOB Relationship Lead Tests  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Parent's occupations/hobbies \_\_\_\_\_  
\_\_\_\_\_

3. Are there any pregnant women in the household?  
 yes  no

a. Have the pregnant women been tested for lead?  
 yes  no  
Results \_\_\_\_\_ Reason for testing \_\_\_\_\_

b. Has educational material been given to pregnant women?  
 yes  no

c. Occupation \_\_\_\_\_  
Hobby \_\_\_\_\_

4. What does the parent/guardian think may be the source of the lead poisoning?  
\_\_\_\_\_

### B. CHILD'S HEALTH STATUS AND HISTORY

\_\_\_\_\_

### C. REVIEW OF SYMPTOMS

Symptoms	Initial Visit Date	Follow-up Date
Abdominal pain		
Constipation		
Vomiting		
Extreme activity		
Excessive tiredness		
Irritability		
Other		

### D. DEVELOPMENTAL DELAYS

Gross motor	
Fine motor	
Previous testing/evaluation	
Social skills	
Speech	

# Appendix L (continued)

<p><b>E. ORAL TENDENCIES</b></p> <p>1. Has the child been observed mouthing or eating non-food substances? <input type="checkbox"/> yes <input type="checkbox"/> no</p> <p>2. What does the child put in his/her mouth?  <input type="checkbox"/> Hands <input type="checkbox"/> Toys <input type="checkbox"/> Windowsills <input type="checkbox"/> Magazines  <input type="checkbox"/> Newspapers <input type="checkbox"/> Railings/Moldings <input type="checkbox"/> Doors  <input type="checkbox"/> Furniture <input type="checkbox"/> Dirt <input type="checkbox"/> Other _____</p> <p>3. How often does the child put his/her hands or other objects in his/her mouth?  <input type="checkbox"/> Never/Rarely <input type="checkbox"/> Sometimes <input type="checkbox"/> Often/Frequently</p> <p>4. Is the child a thumb/finger sucker/nail biter? <input type="checkbox"/> yes <input type="checkbox"/> no</p> <p>5. Does the child use a pacifier? <input type="checkbox"/> yes <input type="checkbox"/> no</p>	<p><b>H. EATING HABITS (cont.)</b></p> <p>3. How many servings of fruit and vegetables does your child eat per day? _____</p> <p>4. How many servings per day does your child eat meat/eggs/dried beans? _____</p> <p>5. How many ounces of milk/yogurt/cheese does your child drink or eat per day? _____</p> <p>6. Does your child use a bottle? <input type="checkbox"/> yes <input type="checkbox"/> no</p> <p>7. Do you use bottled water to prepare formula or other drinks for your child? <input type="checkbox"/> yes <input type="checkbox"/> no</p> <p>8. Does the bottled water include fluoride?  <input type="checkbox"/> yes <input type="checkbox"/> no</p> <p>9. Does your child take a vitamin with iron or other supplements every day? <input type="checkbox"/> yes <input type="checkbox"/> no</p> <p>10. Do you have any food, candy or supplements that were packaged in another country?  <input type="checkbox"/> yes <input type="checkbox"/> no</p>
<p><b>F. SLEEPING AREAS</b></p> <p>1. Is there loose paint on nearby walls or the ceiling that could fall into the child's bed? <input type="checkbox"/> yes <input type="checkbox"/> no</p> <p>2. Does the crib, furniture or windowsills show teeth marks?  <input type="checkbox"/> yes <input type="checkbox"/> no</p> <p>3. Is the child's bed near a window exposed to inside/outside sources of lead? <input type="checkbox"/> yes <input type="checkbox"/> no</p>	<p><b>I. PLAY HABITS AND ENVIRONMENTAL SAFETY</b></p> <p>1. Does your child hide and play quietly?  <input type="checkbox"/> yes <input type="checkbox"/> no          If yes, where? _____</p> <p>2. Where else inside the house does your child play?          _____</p> <p>3. Where does your child play outside?          _____</p> <p>4. Does your child play in the basement?  <input type="checkbox"/> yes <input type="checkbox"/> no</p> <p>5. Does your child play on the porch?  <input type="checkbox"/> yes <input type="checkbox"/> no</p> <p>6. Has anyone in the home been diagnosed with asthma? <input type="checkbox"/> yes <input type="checkbox"/> no</p> <p>7. Does anyone in the home have asthma now?  <input type="checkbox"/> yes <input type="checkbox"/> no</p> <p>8. Do you have pets? <input type="checkbox"/> yes <input type="checkbox"/> no</p> <p>9. Does anyone smoke in the house?  <input type="checkbox"/> yes <input type="checkbox"/> no</p> <p>10. Is there a garage/outbuilding on the property?  <input type="checkbox"/> yes <input type="checkbox"/> no</p>
<p><b>G. FOOD PREPARATION AND EATING AREA</b></p> <p>1. Is any paint peeling from ceilings or walls in the food preparation or eating areas? <input type="checkbox"/> yes <input type="checkbox"/> no</p> <p>2. Are there any windows or doors in the food preparation area that could create lead dust? <input type="checkbox"/> yes <input type="checkbox"/> no</p> <p>3. Do you use hot tap water when preparing food or bottles?  <input type="checkbox"/> yes <input type="checkbox"/> no</p> <p>4. Do you prepare or store food in or eat food from cans or pottery? <input type="checkbox"/> yes <input type="checkbox"/> no</p> <p>5. Do you use glazed dishes or dishes made in a foreign country?  <input type="checkbox"/> yes <input type="checkbox"/> no</p>	
<p><b>H. EATING HABITS</b></p> <p>1. Is your child enrolled in the Women, Infants, Children (WIC Program)? <input type="checkbox"/> yes <input type="checkbox"/> no</p> <p>2. How many meals and snacks per day does your child eat?          _____          At what times? _____</p>	



# Appendix L (continued)

## Care Plan/Assessment

**Nursing Diagnosis:** Elevated blood lead level as evidenced by confirmatory level of \_\_\_\_\_

**Goal:** The family will have an improved understanding of elevated blood lead levels and will carry out practices that will minimize lead exposure. The child will have decreased blood lead levels and will demonstrate optimal growth and development.

Intervention:			Date
1. Discuss possible sources of lead exposure (paint, occupation, cultural). Identify, if possible, the lead source.	Yes	No	
2. Conduct "visual assessment" of the child's environment.	Yes	No	
3. Discuss effects of elevated blood lead levels (IQ/behavior/growth).	Yes	No	
4. Review behaviors that put child at risk for lead exposure (hand mouth).	Yes	No	
5. Review housekeeping, cleaning, remodeling, hygiene.	Yes	No	
6. Discuss nutrition (iron, vitamin c, calcium, 3 meals, 3 snacks).	Yes	No	
7. Refer for environmental inspection, document referral.	Yes	No	
8. Explain need for follow-up testing.	Yes	No	
9. Refer or conduct developmental screening.	Yes	No	
10. Referrals to social service agencies/programs (WIC, Medicaid, FS).	Yes	No	
11. Physician contact.	Yes	No	
12. Provide educational materials.	Yes	No	
13. Offer radon information and access to testing kits.	Yes	No	
14. Offer indoor clean air quality education.	Yes	No	

Nurse signature \_\_\_\_\_

Date \_\_\_\_\_

# Appendix M

## *Telephone Information*

IDPH - Illinois Lead Program	217-782-3517 Fax 217-557-1188
IDPH - Information and Referral Hotline	866-909-3572
IDPH - Champaign Regional Office	217-278-5900
IDPH - Edwardsville Regional Office	618-656-6680
IDPH - Marion Regional Office	618-993-7010
IDPH - Peoria Regional Office	309-693-5360
IDPH - Rockford Regional Office	815-987-7511
IDPH - West Chicago Regional Office	630-293-6800
IDPH – Division of Environmental Health, Indoor Air Quality	217-785-5886
IDPH – Division of Environmental Health, Structural Pest Control	217-785-3178
IDPH – Division of Environmental Health, Toxicology Program	217-782-2045
IDPH – Division of Chronic Disease Prevention and Control	217-782-3300
IEEMA – Division of Nuclear Safety Radon Program	800-325-1245
IDPH Lab – Springfield	217-782-6562
IDPH - Division of Environmental Health/Lead Abatement Program	217-782-3517
Chicago Department of Public Health (CDPH) Environmental Lead Program	312-746-7810 or 312-746-7820 or 312-747-LEAD
National Lead Information Center Clearinghouse	800-424-LEAD

# Appendix N

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## *Resources*

- American Academy of Pediatrics: *Screening for Elevated Blood Lead Levels*, Pediatrics, Vol. 101 No. 6 June 1998, pp. 1072-1078.
- Illinois Department of Public Health. *Lead Screening and Case Follow-up Guidelines for Local Health Departments*. Springfield: IDPH, August 1998.
- Lawrence, Ruth A., Lawrence, R.M. *Breastfeeding: A Guide for the Medical Profession*, Sixth Edition, St. Louis: Elsevier/C.V. Mosby, 2005.
- U.S. Census Bureau, 2000 Census of Population and Housing, *Summary Population and Housing Characteristics*, PHC-1-15, Illinois, Washington, DC, 2002.
- United States Centers for Disease Control and Prevention. Lead poisoning associated with use of traditional ethnic remedies – California, 1991 – 1992. MMWR 1993;42:521-4.
- United States Centers for Disease Control and Prevention. Lead poisoning from Mexican folk remedies – California MMWR 1983;32:554-4.
- United States Centers for Disease Control and Prevention. Lead poisoning associated with imported candy and powdered food coloring – California and Michigan. MMWR 1998;48:1041-3.
- United States Centers for Disease Control and Prevention. Lead poisoning - associated death from Asian Indian folk remedies – Florida. MMWR 1984;33;638,643-5.
- United States Centers for Disease Control and Prevention. Occupational and take-home lead poisoning associated with restoring chemically stripped furniture – California, 1998. MMWR 2001;50:246-8.
- United States Centers for Disease Control and Prevention. *Managing Elevated Blood Lead Levels Among Young Children: Recommendations from the Advisory Committee on Childhood Lead Poisoning Prevention*, March 2002.
- United States Centers for Disease Control and Prevention. *Preventing Lead Poisoning in Young Children*: Atlanta: CDC; August 2005.

## Appendix O

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### *Links to other sites with lead poisoning information*

Agency for Toxic Substances and Disease Registry – <http://www.atsdr.cdc.gov/>

Alliance to End Childhood Lead Poisoning – [http://www.nchh.org/Portals/0/Contents/Another\\_Link\\_in\\_Chain.pdf](http://www.nchh.org/Portals/0/Contents/Another_Link_in_Chain.pdf)

American Academy of Pediatrics – <http://www.aap.org/>

Chicago Department of Public Health - <http://www.cityofchicago.org/health>

Global Lead Network – <http://www.globalleadnet.org/>

Illinois Department of Human Services Bureau of Family Nutrition – <http://www.dhs.state.il.us/page.aspx?item=32010>

Illinois Department of Public Health, Division of Environmental Health – Internet  
<http://www.dph.illinois.gov/topics-services/environmental-health-protection>

Illinois Department of Public Health, Division of Environmental Health – Intranet  
<http://intra.idph.il/IDPH+Intranet/Environmental+Health/Channel+Home.htm>

Illinois Department of Public Health, Epidemiology – <http://www.dph.illinois.gov/data-statistics/epidemiology>

Illinois Department of Public Health, Laboratory – <http://www.idph.state.il.us/about/laboratories/hclintes.htm>

Illinois Department of Public Health, City and County Health Departments – <http://www.idph.state.il.us/local/home.htm>

Illinois Lead Poisoning Prevention Act 410 ILCS 45 – <http://www.ilga.gov/legislation/ilcs/ilcs2.asp?ChapterID=35>

Illinois Lead Program - <http://www.idph.state.il.us/illinoislead/index.htm>

Minnesota Department of Health – <http://www.health.state.mn.us/divs/eh/lead/index.html>

National Center for Lead Safe Housing – <http://www.centerforhealthyhousing.org>

National Lead Information Center - <http://www.epa.gov/lead/pubs/nlic.htm>

National Institute of Occupational Safety and Health – <http://www.cdc.gov/niosh/topics/ables/default.html>

The Center for National Lead-Safe Housing – [http://www.lead safehousing.org/html/tech\\_assistance.htm](http://www.lead safehousing.org/html/tech_assistance.htm)

The Coalition to End Childhood Lead Poisoning – <http://www.lead safe.org/>

U.S. Census Bureau - <http://factfinder.census.gov/faces/nav/jsf/pages/index.xhtml>

U.S. Centers for Disease Control and Prevention – <http://www.cdc.gov/nceh/lead/lead.htm>

U.S. Consumer Products Safety Commission – <http://www.cpsc.gov>

U.S. Department of Housing and Urban Development – <http://www.hud.gov/offices/lead/index.cfm>

U.S. Environmental Protection Agency – <http://www2.epa.gov/lead>

