



State of Illinois
Illinois Department of Public Health

Lead Screening and Case Follow-up Guidelines for Local Health Departments

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DEFINITION OF TERMS

In this document, the following terminology is used:

Abatement	Removal or encapsulation of all lead-bearing substances in a residence or dwelling
Assessment	Administration of the risk questionnaire to the parent by a health care provider
BAL	Medication used in lead poisoning; generic name Dimercaprol
BLL	Blood lead level
Case Management/ Case Follow-up	Involves coordinating, providing and overseeing the services required to reduce BLLs below the level of concern (i.e. 10 µg/dL)
CBC	Complete blood count
CDC	U.S. Centers for Disease Control and Prevention
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
Cornerstone	State data management system that tracks women and children receiving WIC, Family Case Management and Immunization services at local health departments and federally-qualified health centers
DCFS	Illinois Department of Children and Family Services
Department	Illinois Department of Public Health
HFS	Illinois Department of Healthcare and Family Services (formerly known as Public Aid)
High-risk ZIP Code Area	Designated area of the state where children through 6 years of age are considered at high risk for lead exposure
Delegate Agency	Local health department who has a contract with the Illinois Department of Public Health to act on their behalf, providing lead assessments, testing and case management activities for children in their counties
EBLL	Elevated blood lead level; a blood lead level ≥ 10 µg/dL
EI	Environmental inspection
EPSDT	Early periodic screening, diagnosis and treatment
FDA	U.S. Food and Drug Administration

HM/HK	Healthy Moms/Healthy Kids
HIPPA	Health Insurance Portability and Accountability Act
ILP	Illinois Lead Program
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	Means a lead-bearing substance that poses an immediate health hazard to humans
LHD	Local health department
Low-risk ZIP Code Area	Designated area of the state where children through 6 years of age are considered at low risk for lead exposure
MCHPC	Maternal/child health primary care
Medical Evaluation	An assessment of a patient for the purpose of forming a diagnosis and plan of treatment
Oral Behavior	The behavior of putting items in the mouth such as toys
PCP	Primary care physician
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
Screening	Refers to initial blood lead testing by venous or capillary methodology
Succimer	Chelating agent used in treating lead poisoning
Testing	A blood lead draw
WIC	Women, Infants and Children Nutrition Program offered by most local health departments

INTRODUCTION

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

- Federal standards determining blood lead level of concern
- Current U.S. Centers for Disease Control recommendations
- State laws on testing
- Case management and follow-up of children with elevated blood lead levels
- Medical management of children with elevated blood lead levels
- Health education and outreach

FEDERAL STANDARDS DETERMINING BLOOD LEAD LEVEL OF CONCERN

Lead poisoning, with its negative impact on young children, is a public health problem of continuing importance. Current research indicates that adverse outcomes may occur at less than or equal to 10 µg/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. 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, more than 300,000 blood lead screenings are provided annually by local health departments, private physicians and other health service providers. Data from the Department's 2009 Childhood Lead Poisoning Surveillance Report identified 3,720 children with lead levels greater than or equal to 10 µg/dL.

Research has determined that **lead poisoning is not equally distributed among children in the United States.** BLLs requiring individual follow-up is low in some populations and geographic locations. High-risk populations include those residing in older homes, children in low-income families, African-American children and immigrants. However, sources of lead for children continue to emerge (e.g., children's jewelry, imported 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 EBLs. 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.

U. S. CENTERS FOR DISEASE CONTROL AND PREVENTION (CDC) RECOMMENDATIONS

Many children throughout the United States are exposed to lead. Lead is a toxic chemical; no safe level of lead in the body has been able to be determined. Childhood lead poisoning is a preventable pediatric health problem. Children are particularly susceptible to lead's toxic effects. 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. A BLL greater than or equal to 10 µg/dL is considered lead poisoning.

Refugee Children

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 local health department 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 your 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 EBLLs in newly resettled refugee children. Scientific evidence demonstrated that although some children had EBLLs 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 Children With EBLs

1. BLL testing of all refugee children 6 months to 16 years of age at entry to the United States.
 - 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 screening **all** refugee children at time of arrival.
2. Repeat BLL testing of all refugee children 6 months through 6 years three to six months after refugee children are placed in permanent residences 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 screening which was conducted on average 60 to 980 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

1. 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 of 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.
2. 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 local health departments 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

1. CDC and its state and local partners should develop health education and outreach activities that are culturally appropriate and sensitive to the target population.
2. 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 elevated BLLs

The race and ethnicity of refugee populations will vary based on locality and world events. The 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://www.cdc.gov/nceh/lead> to view the latest version of the health education database.

Therapy for Pregnant Women With EBLLs

National surveys indicate that 0.3 percent of U.S. women of child-bearing age have a BLL greater than or equal to 10 µg/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 greater than or equal to 10 µg/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.

Breastfeeding Women With EBLL

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 less than 40 µg/dL, it is considered safe to breastfeed.

Newborn of a Lead-bearing Mother

If a child is born to a woman with 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 greater than or equal to 10 µg/dL, appropriate case management activities should take place.

ILLINOIS LAWS FOR BLOOD LEAD ASSESSMENT AND TESTING

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

By January 1, 1993, the Illinois Lead Poisoning Prevention 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 Department using the Department'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 blood lead level 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 years to 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 assessment and potential blood lead screening. There is no documented evidence of any benefits of chelating older children.

Effective January 1, 1997, the Illinois Lead Poisoning Prevention 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 Department, **within 48 hours of receipt of verification, shall report to the Department the name, address, laboratory results, date of birth, and any other information about the person deemed essential by the Department.**
- Directors of clinical laboratories must report to the Department, 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 results must be reported** to the Department in accordance with rules adopted by the Department. 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 includes reporting all venous and finger stick screening, diagnostic, and follow-up tests.

In 2006, the Illinois Lead Poisoning Prevention Act was amended to initiate environmental investigations of homes of lead poisoned children ages 3 years and younger at blood lead levels greater than or equal to 10 micrograms per deciliter.

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

CASE MANAGEMENT AND FOLLOW-UP ACTIVITIES OF CHILDREN WITH ELEVATED BLOOD LEAD LEVELS

DELEGATE AGENCY RESPONSIBILITIES

Local health departments contract with the Illinois Department of Public Health to serve as delegate agencies. These agencies provide or coordinate these services for **all children residing in their geographical boundaries**:

- Assessments and testing
- Case management and social service referrals
- Medical evaluation
- Environmental investigation or referrals for environmental investigation
- Education and outreach

Section 845.80 of the Illinois Lead Poisoning Prevention Code requires delegate agencies to conduct interviews with the parent/guardian of a child with an elevated blood lead level or attending physician as needed to assure the accuracy and completeness of reports and to perform case follow-up activities for confirmed blood lead levels greater than or equal to 15 µg/dL.

Parental Consent Forms and Counseling

Prior to lead testing, health department staff should obtain a signed parental consent form according to their agency policies and protocol. See Appendix B for a sample of a County Health Department consent.

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

Each delegate agency is directed, under their contract with the Department, to develop a policy for agency procedures for lead poisoning case management protocol to include home visit consent and release of information. See Section 845.APPENDIX B *Information Agreement* of the Illinois Lead Poisoning Prevention Code.

Assessment and Testing

The Department has determined high-risk and low-risk ZIP code areas for Illinois, based on age of housing stock, prevalence rate of EBLLs, and poverty level. ZIP codes identified as high-risk are listed in Appendices D and E. **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 assessment or testing strategy, as discussed below **MUST** be applied. Additionally, all children age 6 and younger with a sibling having an EBLL should have a blood lead test. See Appendix F.

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 at 1 and 2 years of age even if they live in a low-risk ZIP code area. If a child is 3 through 6 years old and has not been tested, a blood lead test is required.
- **Complete a Childhood Lead Risk Assessment Questionnaire** (See Appendix G).
- Assess children through 6 years of age, beginning at 12 months.
- If responses to all the questions are "NO," re-evaluate at next scheduled well child visit.
- If any response is "YES" or "DON'T KNOW," obtain a blood lead test.
- Consider evaluating children before 12 months of age, depending on the area.
- If the child is 1) age 3 to 6 years **and** 2) has had two successive blood lead test results that are each less than 10 µg/dL with one of these tests at age 2 years or older **and** 3) risks of exposure to lead have not changed, further blood lead tests are not necessary.
- 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 assess at well child visits through age 6.**

For Children Living in Chicago:

- Lead screening guidelines for the city of Chicago are available at the Chicago Department of Public Health's Web site at www.cityofchicago.org/health. Click on Childhood Lead Poisoning Prevention and then access Lead Poisoning Prevention for Health Care Providers.

Case Management and Social Service Referrals

1) 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, iron deficiency testing, WIC services and developmental screening.
- Making a referral for primary care to a physician or other health care provider if indicated.

The interview must be performed by a public health nurse or under the supervision of a public health nurse. Lead poisoning prevention service for clients of private practitioners require coordination of care to obtain the necessary medical record to adequately trace the case and intervene for the child.

2) Educate the parent or guardian of the case

The public health nurse or health educator must inform the family of the BLL 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
- Discuss nutrition, good hygiene practices and housekeeping tips
- Provide information about lead sources
- Inquire about lead sources in the child's environment
- Discuss ways to mitigate these hazards
- Develop strategies to decrease both lead exposure and prevent further elevation of the child's lead levels
- Refer to the appropriate environmental person for information on appropriate techniques for remodeling or renovating older houses or facilities
- Conduct a home visit, when recommended

The home visit and assessment must be performed by or under the supervision of a public health nurse. See sample of Anticipatory Guidance at Appendix H. Free handouts for parents are available through the Department's Web site at www.idph.state.il.us or by contacting the Department at 217-782-3517.

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

The Public Health Home Visit for Environmental Health and Lead Assessment form should be completed during the home visit. The environmental inspector and the child's physician should receive copies of the completed form. Refer to Appendix I.

A Nurse Care Plan is recommended to raise awareness of a healthy homes approach to provide the parent/guardian 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 Department's template when possible. Refer to last page of Appendix I.

3) Provide case management appropriate for the BLL

At confirmed blood lead levels 5 to 9 µg/dL. Blood lead levels in this range would indicate there is a risk of exposure to lead in the child's environment. Inform parent or guardian of the blood lead result to emphasize the importance of follow-up screening to make sure the levels do not increase. Parents should receive counseling and educational materials regarding nutrition and housekeeping recommendations.

At confirmed blood lead levels 10 to 14 µg/dL. Case management begins at 10 µg/dL on all children younger than 84 months of age. Children with blood lead levels in this range may be at risk for a decrease in IQ and other subtle effects significant enough that the case manager should emphasize to the parent or guardian the importance of follow-up screening to make sure the levels do not increase. Parents should receive notification of their child's blood lead level, the "Get the Lead Out – Intervention" brochure and education to prevent further exposure.

For children younger than 36 months of age:

- Refer for an environmental investigation.
- Refer to physician within one week.
- A nurse home visit including developmental screening and coordination of care is recommended.

At confirmed blood lead levels 15 to 19 µg/dL. Children with venous blood lead levels 15 µg/dL to 19 µg/dL need more careful follow-up. A nurse home visit is required to interview the parent or guardian of the case 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 I) should be completed and referrals for medical management, environmental investigation, developmental screening, hearing screening, nutrition and prevention counseling should be made. Refer to physician within two weeks. The family should be given educational brochures from the "Get the Lead Out" series. If the blood lead level persists in the 15 µg/dL to 19 µg/dL range for a six-month period, then an environmental investigation and individual case follow-up should be implemented.

At confirmed blood lead levels 20 to 44 µg/dL. An environmental investigation is required to reduce lead hazards and case follow-up should be conducted as quickly as possible. Parents should receive education regarding lead poisoning that includes information about: 1) the causes and effects of lead poisoning; 2) the need for more routine blood lead testing; 3) possible sources of lead intake and means of reducing intake; 4) nutrition, emphasizing the need for adequate nutrition, i.e. iron and calcium; and 5) resources for further information. Refer to physician within one week. 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 done monthly or as indicated.

At confirmed blood lead levels 45 to 69 µg/dL. Children with confirmed venous blood lead levels of 45 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 20 µg/dL to 44 µg/dL. The homes of these children must be remediated before they are allowed to return. Children whose blood leads 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 blood lead levels at or greater than 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 inspection 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 assessment and follow-up test results.

Follow-up confirmatory venous testing for capillary BLL greater than or equal to 10 µg/dL:

If capillary result is:	Perform a confirmatory venous test in:
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 or above	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 screened 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 Blood Lead Testing

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

4) Refer the parent or guardian of the case for medical management when appropriate.

The *Preventing and Screening for Childhood Lead Poisoning – A Reference Guide for Physicians and Health Care Providers* and the American Academy of Pediatrics guidelines should be used to determine when it is appropriate to refer a child’s parent or guardian to a physician for medical treatment.

5) Refer for environmental inspection (Also see Section 845.85 of the Lead Poisoning Prevention Code, December 2008.) After notification that a child who is an occupant or frequent inhabitant of a dwelling, child care facility or residential building has an elevated blood lead level, a representative of the Department 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 Department regional office or to the Department’s Division of Environmental Health at 217-782-3517. Referrals for environmental inspections should be made using the Department’s data management reporting system. Any instances where test results were not imported via the Department’s data management reporting system should be referred to the Department’s Division of Environmental Health.

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

1. A child with a confirmed blood lead level at or about 20 µg/dL
2. A child has three successive confirmed blood lead levels of 15 – 19 µg/dL with no time requirement between tests
3. A child has a single confirmed blood lead level at or above 10 µg/dL and the child’s physician requests an investigation to determine whether the child should be removed from the regulated facility because of the lead hazard
4. If a child younger than 3 years of age has a single confirmed blood lead level at or above 10 µg/dL

5. If mitigation notices are issued for two or more dwelling units in a building within a five-year time period, the Department may inspect common areas in the building and shall inspect units where children younger than the age of 6 reside, at the request of a parent or guardian of the child, or a pregnant woman resides, at the pregnant woman's request.

Environmental inspections should be prioritized for inspection according to the severity of the blood lead level, the age of the child (younger children over older children), number of children in the household, previous blood lead history, etc.

Opening Case With Capillary Tests

If two capillary draws greater than or equal to 15 µg/dL occur in a 90-day period, the agency should consider initiating services for the child. If there are questions on the appropriateness of opening a case, consult the regional nurse consultant to determine the proper action to be taken.

Time Frames for Case Management and Environmental Investigation

Based on the Follow-up Venous Test

Blood Lead Level	Actions for children <36 months	Action for children ≥36 months	Time frame for initiation
0 – 9 µg/dL	<ol style="list-style-type: none"> 1) Inform parent by letter of blood lead result. 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. 3) Education is recommended. 	<ol style="list-style-type: none"> 1) Inform parent by letter of blood lead result. 2) Education is recommended. 	
10 – 14 µg/dL	<ol style="list-style-type: none"> 1) Take a careful history to determine obvious sources of lead that must be addressed. 2) Conduct nurse home visit including developmental screening. 3) Provide coordination of care (case management). 4) Repeat BLL in three to six months, until the child has had at least two BLLs less than 10 µg/dL, with no change in the status of housing or potential exposure. 5) Refer for environmental investigation and control current lead hazards. 6) Provide “Get the Lead Out” brochure series to parent/guardian. 7) Refer to physician within one week. 	<ol style="list-style-type: none"> 1) Take a careful history to determine obvious sources of lead that must be addressed. 2) Provide education and social services referrals as needed. 3) Repeat BLL in three to six months, until the child has had at least two BLLs less than 10 µg/dL, with no change in the status of housing or potential exposure. 4) Provide “Get the Lead Out” brochure series to parent/guardian. 	Within 30 days
15 – 19 µg/dL	Above actions	Above actions, plus: <ol style="list-style-type: none"> 1) Provide coordination of care (case management). 2) Conduct developmental screening. 3) A nurse home visit is conducted. 4) If three consecutive blood lead test results persist in the 15 – 19 µg/dL range for a six-month period, an environmental investigation and case follow-up should occur. 5) Repeat blood lead test in one to three months. 	Within two weeks
20 – 44 µg/dL	Above actions	Above actions, plus: <ol style="list-style-type: none"> 1) Refer to physician within one week. 2) Repeat BLL monthly. 3) Refer for environmental investigation and control current lead hazards. 	Within one week
45 – 69 µg/dL	Above actions	Above actions	Within 48 hours
70 µg/dL or greater	<ol style="list-style-type: none"> 1) Above actions, plus: 2) Child should be hospitalized for chelation therapy immediately. 	<ol style="list-style-type: none"> 1) Above actions, plus: 2) Child should be hospitalized for chelation therapy immediately. 	Within 24 hours

Medical Evaluation

A child with a blood lead level greater than or equal to 20 µg/dl should have a pediatric evaluation, whether or not symptoms are present. Special attention should be directed to:

- The child'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 environmental and occupational histories of adults in the household or other places the child spends a lot of time.
- The physical examination, with particular attention to the neurological examination and psychosocial and language development. A neurobehavioral assessment may be useful in children receiving chelation therapy both at the time of diagnosis and as the child approaches school age. Findings of language delay 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.

Integration of Services in the Local Health Department

Integration of lead assessment 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 assessment and testing.

Coordination of Care with Other Agencies

School Districts

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

The school nurse should check that the Lead Risk Assessment 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 local health department for assessment, 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 screening. Local health departments in some counties send clinic staff to school to assist with registration. A component of back-to-school services should include lead assessment.

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 845.15 Lead Screening 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 between the ages of 6 months and 6 years provide a statement from a physician or health care provider that the child has been screened or assessed 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 from the ages of 1 through 6 years have been screened for lead poisoning for children residing in an area defined as high risk by the Illinois Department of Public Health in its Lead Poisoning Prevention Code (77 Ill. Adm. Code 845) or that a lead risk assessment has been completed for children residing in an area defined as low risk by the Illinois Department of Public Health.

Local health departments are encouraged to work with DCFS personnel to clarify legal questions 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.

Local health department personnel, physicians or other health care providers, when there is suspected medical neglect, may initiate contact with the family services agency. 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 departments of Public Health, Human Services and Children and Family Services. 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 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: 1) wards tend to live in numerous locations; 2) the environmental status of wards before custody is often unknown; and 3) 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 assessment and testing. HWIL staff should assist with lead poisoning education efforts for DCFS caseworkers and the substitute caregiver if needed.

Community Intervention

Local health officials have traditionally carried out all or most of the lead poisoning prevention activities in communities. They should collaborate with physicians, educators, 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.

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

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

Delegate agencies are required and strongly encouraged 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 accomplish this. Participation in health fairs, public speaking 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. Information regarding prevention activities and basic information regarding lead poisoning are appropriate topics for increasing awareness. Hygiene, housekeeping, nutrition and good parenting skills are the four key components of education programs in the home. See Appendix H for Anticipatory Guidance.

Professional Education - The local health department lead nurse should introduce herself by phone, letter or personal contact to the area physicians. She should explain her role in the case management of children with EBLs. The local health department lead nurse may follow-up with a visit to provide educational materials for the physicians, staff and clients. The nurse also can provide education to the physicians by public speaking to physician groups during such instances as grand rounds.

Record Keeping System

Information about test results that have been reported to the Illinois Lead Program is sent to each delegate agency at least weekly. Reports listing newly confirmed cases (greater than or equal to 10 µg/dL) are forwarded to the delegate agencies on a weekly basis. These reports are only as accurate as the data reported.

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

Medical Records

It is expected that information on each child with an EBL be documented in the recordkeeping system. 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 lead level from the laboratory;
- the *Public Health Home Visit for Environmental Health and Lead Assessment* form;
- all consent forms;
- documentation and/or progress report regarding:
 - assessment
 - nutritional and educational materials;
- a current full case report from the Department's data system;
- copies of all communication sent to the parent/guardian and physician, including environmental inspection correspondence;
- developmental screening; and
- all referrals.

Transferring Cases

When a county health department or local health district establishes itself as a new delegate agency with the Illinois Department of Public Health Illinois Lead Program, the regional nurse consultant who has been following the child(ren), will transfer all information to the appropriate individual within the newly established delegate agency.

Retention of Records

Consult the local state's attorney or your agency's legal counsel for regulations on retention of patient records.

Closing Cases

A policy for closing cases should exist within each agency. There are four reasons a case may be closed:

- the child moves to a different county
- the child has reached age 7 and has a BLL less than 10 µg/dL
- the child, younger than 7 years of age, has two BLLs less than 10 µg/dL or three BLLs less than 15 µg/dL
- 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 in 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: 1) A letter will be sent to the parent/guardian reminding them to have their child retested and the letter will give the next test date; 2) subsequent letters will either provide the next scheduled test date; or 3) 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, carbon copied to the physician.
- 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 BLL is less than 20 µg/dL, the case can be closed with complete documentation of events leading up to closing the case.
- If the nurse feels further follow-up may be necessary (e.g. BLL greater than 20 µg/dL and child is younger than 5 years of age), the case can be presented as part of a case conference with information provided by Environmental Health, regional nurse consultant and, when needed, the local health department director of nursing and/or physician. The review will determine if further action, such as referral to DCFS, is necessary.

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

The Department 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.

Children with a prior EBLL requiring chelation may have a BLL that falls less than or equal to 20 µg/dL. Other children with chronic low-level exposures who have received education intervention may plateau at a level in the mid-teens. Children older than age 7 meeting these criteria may be discharged by the agency from the lead program.

Illinois Department of Public Health Monitoring

Quarterly Narrative

Each delegate agency is required to submit a quarterly report per Illinois Lead Program/Delegate Agency Grant Agreement on case management activities as requested by the Department. See Appendix J for the submission form to use when reporting to the Illinois Lead 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 Department'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 in 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 Illinois Lead Program.

Reimbursements for Lead Poisoning Services

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 Illinois Department of Public Health. Department of Children and Family Services (DCFS) wards involved in the Health Works Illinois (HWIL) program are eligible for services through the Illinois Department of Healthcare and Family Services (HFS).

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

Reimbursement for Lead Poisoning Services by Illinois Department of Public Health

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 Department laboratory analyzes the sample. The monies received are meant to provide nursing case management services to the children in each delegate agency's region.

Health departments, rural health clinics and federally qualified health clinics (FQHC) 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 Department's laboratory.

Laboratory Services:

For delegate agencies that use the Department'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 Illinois Lead Program relieving providers of this responsibility.

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

Private Pay Clients:

A local health department 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 local health department should determine fees.

Laboratory Services Reimbursement:

A fee of \$25.75 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.

MEDICAL MANAGEMENT OF CHILDREN WITH ELEVATED BLOOD LEAD LEVELS

Case management of children with elevated blood lead levels (EBLLs) requires a different approach from that used in the past. Prior to the development of programs aimed at screening children for EBLLs, 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 EBLL, and children with these symptoms required immediate hospitalization and treatment. Encephalopathy could result from a blood lead level (BLL) greater than or equal to 70 $\mu\text{g}/\text{dL}$ and could develop without prior symptoms. Among children with BLLs exceeding 150 $\mu\text{g}/\text{dL}$, laboratory abnormalities often included phosphaturia, proteinuria, aminoaciduria, glucosuria, and hypophosphatemia.

Today such presentations are rare. Children with EBLLs usually have BLLs less than 30 $\mu\text{g}/\text{dL}$, and few BLLs exceed 50 $\mu\text{g}/\text{dL}$. Most children with EBLLs have no symptoms. Case management now focuses on reducing children's exposure to lead and decreasing their BLLs, 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.

HEALTH EDUCATION AND OUTREACH

Parental education should include information on the effects of lead on children and the need for assessment 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. Environmental stimulation, though not a cure, benefits all children and may help compensate for some of the effects of lead.

Outreach programs can be carried out through brochures, pamphlets and other written materials; local news media; school programs; physician awareness activities and community service organizations. The most important targets for outreach and educational programs are the following within high-risk ZIP codes:

- local public officials
- property owners
- parents
- day care providers
- health care providers
- early childhood educators

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 screenings 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 screenings.

Outreach and education for health care providers can be accomplished through pamphlets, grand rounds, and continuing education programs targeted to pediatricians, family practitioners, pediatric and community health nurses, obstetricians and midwives. On a local level, the agency can inform all of the area physicians of the need for assessment and screening and case follow-up procedures.

Property owners, realtors and other real estate professionals 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 inspection (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 EPA brochure about lead to the renter. Leases must include a disclosure form about lead-based paint.

Renters can ask for information at anytime 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 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.

The Illinois Department of Public Health has identified physicians willing to act as medical consultants on any issues relating to screening, 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 Illinois Lead Program are identified in Appendix K. They can assist with:

Laboratory results

Home inspection schedules and status

Social service, early intervention and other referrals

Public education programs and pamphlets

Other community contacts

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.

Prevention of Lead Poisoning

Get the Lead Out Series and Education Programs

The Illinois Lead Program developed the "Get the Lead Out" series, which consists of brochures and posters for use as educational material. The 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 local health departments have numerous handout materials 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 located on the Department Web site or by calling the Illinois Lead Program at 217-782-3517, or TTY (hearing impaired use only) 800-547-0466. The *Get the Lead Out* series, along with other available resources published by the Illinois Lead Program, can be viewed on the IDPH Environmental Health Web site at: <http://www.idph.state.il.us/envhealth/ehpublications.htm#lead>

The Department'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. Yearly lead safe community conference programs are conducted to provide information to professional and non-professional individuals who have an interest in lead poisoning.

Training sessions on the computer data collection program, are offered by Department staff throughout the year. Lead awareness training programs for personnel in local health departments are conducted several times each year. The training program includes segments on medical management, blood lead testing, environmental investigations, nursing case management, data management, and recommendations for healthy homes.

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 screened. Healthy People 2010 established a national goal to eliminate lead poisoning by the year 2010. The state of Illinois adopted a targeted approach to achieve this goal.

An amendment to the Illinois Lead Poisoning Prevention Act was signed into law in August 1995. This required the Department 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. It also was disturbing to note that 10.9 percent of previously low-risk ZIP codes became high risk. The new 2000 census shows migration of low-income families, a condition that significantly increases risk for blood lead poisoning.

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

- ZIP codes are the smallest geographic entity, which 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 track or census block.

However, please be aware that the ZIP codes are used in conjunction with the Lead Risk Assessment Questionnaire (LRAQ). The LRAQ 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 LRAQ has been updated routinely and has been found to be a useful assessment tool.

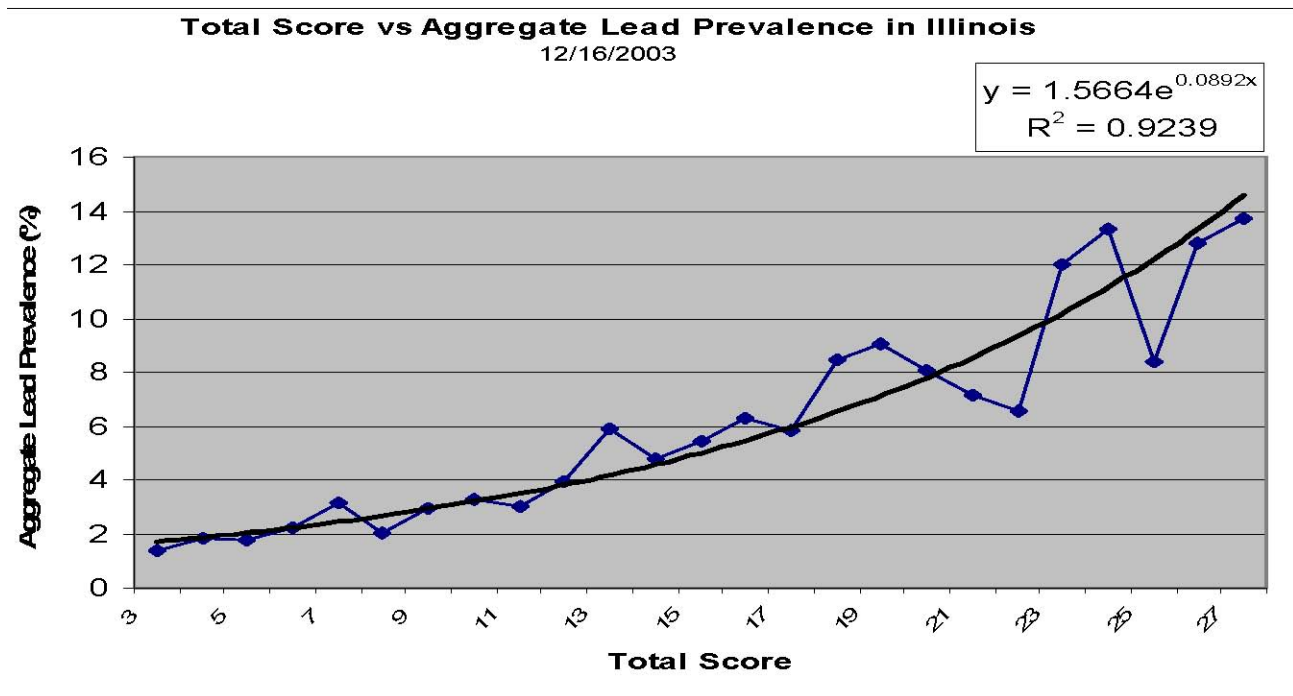


Figure 1. Relationship between total score and aggregate EBLL prevalence rate. Total score based on ranked ZIP codes was determined from the sum of the double weight of proportion of housing units with lead and number of families living at less than or equal to 200 percent poverty level. Lead prevalence was based on lead test 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 greater than or equal to 18 were considered high-risk ZIP codes. Scores less than 18 with prevalence greater than or equal to 8 percent were considered high-risk if 30 percent of children were tested for lead poisoning (45 ZIP codes).

Appendix C

Sample for Request of 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.

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: _____

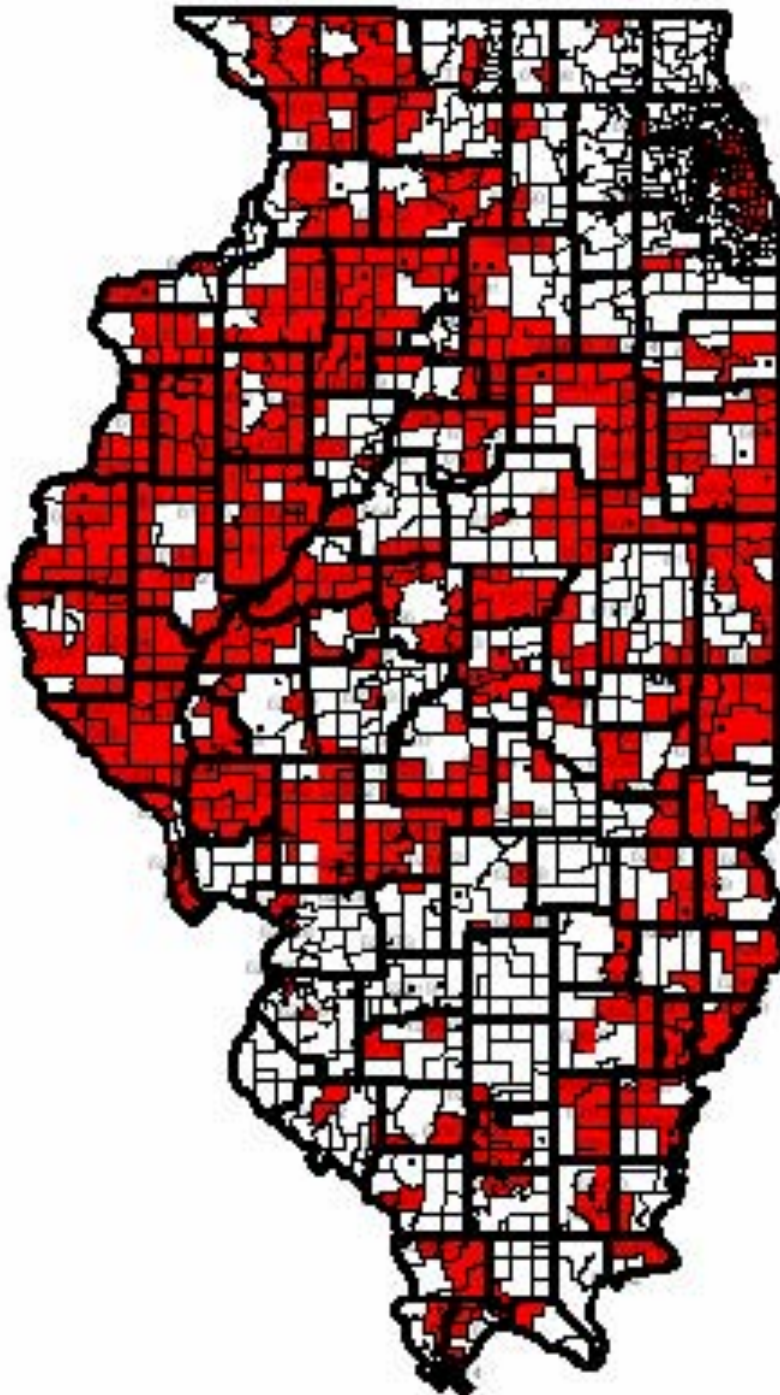
Appendix D

High-Risk ZIP Codes for Pediatric Blood Lead Poisoning

Adams	62567	Effingham	62367	Knox	62526		61466	62976	60942
62301	62570	None	62373	61401	62537		61476	62992	60960
62320	Clark	Fayette	62379	61410	62551		61486	Putnam	60963
62324	62420	62458	62380	61414	Macoupin	Monroe	61336	61336	61810
62339	62442	62880	Hardin	61436	62009	None	61340	61340	61831
62346	62474	62885	62919	61439	62033	Montgomery	61363	61363	61832
62348	62477	Ford	62982	61458	62069	62015	Randolph	61833	61833
62349	62478	60919	Henderson	61467	62085	62019	62217	61844	61844
62365	Clay	60933	61418	61474	62088	62032	62242	61848	61848
Alexander	62824	60936	61425	61485	62093	62049	62272	61857	61857
62914	62879	60946	61454	61489	62626	62051	Richland	61865	61865
62988	Clinton	60952	61460	61572	62630	62056	62419	61870	61870
Bond	62219	60957	61469	Lake	62640	62075	62425	61876	61876
62273	Coles	60959	61471	60040	62649	62077	Rock Island	61883	61883
Boone	61931	60962	61480	LaSalle	62672	62089	61201	Wabash	61201
61038	61938	61773	Henry	60470	62674	62091	61236	62410	62410
Brown	61943	Franklin	61234	60518	62685	62094	61239	62852	62852
62353	62469	62812	61235	60531	62686	62538	61259	62863	62863
62375	Cook	62819	61238	61301	62690	Morgan	61265	Warren	61265
62378	All Chicago	62822	61274	61316	Madison	62601	61279	61412	61412
Bureau	ZIP Codes	62825	61413	61321	62002	62628	St. Clair	61417	61417
61312	60043	62874	61419	61325	62048	62631	62201	61423	61423
61314	60104	62884	61434	61332	62058	62692	62203	61435	61435
61315	60153	62891	61443	61334	62060	62695	62204	61447	61447
61322	60201	62896	61468	61342	62084	Moultrie	62205	61453	61453
61323	60202	62983	61490	61348	62090	61937	62220	61462	61462
61328	60301	62999	Iroquois	61354	62095	Ogle	62289	61473	61473
61329	60302	Fulton	60911	61358	Marion	61007	Saline	61478	61478
61330	60304	61415	60912	61364	None	61030	62930	Washington	61030
61337	60305	61427	60924	61370	Marshall	61047	62946	62214	62214
61338	60402	61431	60926	61372	61369	61049	Sangamon	62803	62803
61344	60406	61432	60930	Lawrence	61377	61054	62625	Wayne	62625
61345	60456	61441	60931	62439	61424	61064	62689	62446	62446
61346	60501	61477	60938	62460	61537	61091	62703	62823	62823
61349	60513	61482	60945	62466	61541	Peoria	Schuyler	62843	62843
61359	60534	61484	60951	Lee	Mason	61451	61452	62886	62886
61361	60546	61501	60953	60553	62617	61529	62319	White	62319
61362	60804	61519	60955	61006	62633	61539	62344	62820	62820
61368	Crawford	61520	60966	61031	62644	61552	62624	62821	62821
61374	62433	61524	60967	61042	62655	61602	62639	62835	62835
61376	62449	61531	60968	61310	62664	61603	Scott	62844	62844
61379	62451	61542	60973	61318	62682	61604	62621	62887	62887
Calhoun	Cumberland	61543	Jackson	61324	Massac	61605	62663	Whiteside	61605
62006	62428	61544	62927	61331	62953	61606	62694	61037	61037
62013	DeWitt	61563	62940	61353	McDonough	Perry	Shelby	61243	61243
62036	61727	Gallatin	62950	61378	61411	62832	62438	61251	61251
62070	61735	62934	Jasper	Livingston	61416	62997	62534	61261	61261
Carroll	61749	Greene	62432	60420	61420	Piatt	62553	61270	61270
61014	61750	62016	62434	60460	61422	61813	Stark	61277	61277
61051	61777	62027	62459	60920	61438	61830	61421	61283	61283
61053	61778	62044	62475	60921	61440	61839	61426	Will	61426
61074	61882	62050	62480	60929	61470	61855	61449	60432	60432
61078	DeKalb	62054	Jefferson	60934	61475	61929	61479	60433	60433
Cass	60111	62078	62883	61311	62374	61936	61483	60436	60436
62611	60129	62081	Jersey	61313	McHenry	Pike	61491	Williamson	61491
62618	60146	62082	62030	61333	60034	62312	Stephenson	62921	62921
62627	60550	62092	62063	61740	McLean	62314	61018	62948	62948
62691	Douglas	Grundy	Jo Daviess	61741	61701	62323	61032	62949	62949
Champaign	61930	60437	61028	61743	61720	62340	61039	62951	62951
61815	61941	60474	61075	61769	61722	62343	61044	Winnebago	61044
61816	61942	Hamilton	61085	61775	61724	62345	61050	61077	61077
61845	DuPage	62817	61087	Logan	61728	62352	61060	61101	61101
61849	60519	62828	Johnson	62512	61730	62355	61062	61102	61102
61851	Edgar	62829	62908	62518	61731	62356	61067	61103	61103
61852	61917	62859	62923	62519	61737	62357	61089	61104	61104
61862	61924	Hancock	Kane	62548	61770	62361	Tazewell	Woodford	62361
61872	61932	61450	60120	62543	Menard	62362	61564	61516	61516
Christian	61933	62311	60505	62635	62642	62363	61721	61545	61545
62083	61940	62313	Kankakee	62643	62673	62366	61734	61570	61570
62510	61944	62316	60901	62666	62688	62370	Union	61760	61760
62517	61949	62318	60910	62671	Mercer	Pope	62905	61771	61771
62540	Edwards	62321	60917	Macon	61231	None	62906		
62546	62476	62330	60954	62514	61260	Pulaski	62920		
62555	62806	62334	60969	62521	61263	62956	62926		
62556	62815	62336	Kendall	62522	61276	62963	Vermilion		
62557	62818	62354	None	62523	61465	62964	60932		

Appendix E

New High-risk ZIP Codes
Effective January 2005



Appendix F

Guidelines for Blood Lead Screening and Lead Risk Assessment

- **Blood lead screening** is defined as obtaining a blood lead test. **Lead risk assessment** is defined as evaluation of potential for exposures to lead based on questionnaire responses.
- **It is always appropriate to obtain a diagnostic blood lead test when a child is symptomatic or 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 screening 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 screening blood lead test exists, also should receive a screening 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 screening 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 Assessment Questionnaire

- Complete the Childhood Lead Risk Assessment Questionnaire during a health care visit at ages 12 months and 24 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.
- Consider evaluating children before 12 months of age, depending on the area.
- If the child is age 3 years to 6 years **and**
 - 1) there are any “YES” or “DON’T KNOW” answers **and**
 - 2) 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**
 - 3) risks of exposure to lead have not changed, **further blood lead tests are not necessary.**
- If the child is 3 years to 6 years of age, **and**
 - 1) all answers to the Childhood Lead Risk Assessment Questionnaire are “NO,” **and**
 - 2) risks of exposure to lead have not changed, a blood lead test is not necessary.
- If the child is 3 years to 6 years of age and risks of exposures to lead have increased, obtain a blood lead test.
- Continue to use the Childhood Lead Risk Assessment Questionnaire through age 6.

For children living in Chicago:

- A blood lead test for children age 3 and younger should be obtained at 6, 12, 18, 24 and 36 months **OR** at 9, 15, 24 and 36 months.
- Children 4 years through 6 years of age with prior blood lead levels of <10 mcg/dL should have an annual risk assessment. A blood lead test should be performed if risk increases or if the child exhibits persistent oral behaviors.

Illinois Lead Program

866-909-3572 or 217-782-3517

TTY (For Deaf, Hard of Hearing Use Only) 800-547-0466

Printed by Authority of the State of Illinois

P.O. #5511502 2M 10/10

Appendix G

Illinois Department of Public Health Childhood Lead Risk Assessment Questionnaire All Children 6 Months Through 6 Years Of Age Must Be Assessed For Lead Poisoning (410 ILCS 45/6.2)

Name _____ Today's Date _____

Age _____ Birthdate _____ ZIP Code _____

Respond to the following questions by circling the appropriate answer.	R E S P O N S E		
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 µg/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?	Yes	No	Don't Know

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 at 12 months of age and at 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 there is any "Yes" or "Don't Know" response; **and**

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

Test 1: Blood Lead Result _____ µg/dL Date _____ Test 2: Blood Lead Result _____ µg/dL Date _____

_____ If responses to all the questions are "NO," re-evaluate at every well child visit or more often if deemed necessary.

Signature of Doctor/Nurse

Date

Appendix H

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, bedtime and after play.
- Wash toys that are mouthed frequently.
- Place rugs or mats and 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 and 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 is done.
- Wash bedclothes weekly.
- Remove all mini-blinds, if possible.
- Place ground covering (grass, rock, bark, etc.) in areas close to houses or buildings where bare soil is present so children will not find loose paint chips or contaminated soil.

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.
- 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, calcium and Vitamin C to slow the absorption of lead into the blood.
- Eat five to six times per day, which consists of 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 60 seconds until a difference in temperature is noted.
- Imported metal-seamed cans may contain lead. Transfer the food from cans that are opened into glass or plastic containers immediately. Metal cans that have dented seams should be discarded without opening.

7. Parenting skills:

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

Given by _____

Date _____

Appendix I



State of Illinois
Illinois Department of Public Health

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

<p>Date _____</p> <p>Child's name _____ <small style="margin-left: 100px;">Last</small> <small style="margin-left: 100px;">First</small> <small style="margin-left: 100px;">MI</small></p> <p>D.O.B. _____ Male _____ Female _____</p> <p>Ethnicity _____</p> <p>Medicaid number _____</p> <p>Parent's/Guardian's name _____</p> <p>Phone _____</p> <p>Alternate phone _____</p> <p>Street address _____ Apt. _____</p> <p>City _____ ZIP _____ County _____</p> <p>How long at this address? Years _____ Months _____</p> <p>Previous address _____</p> <p>_____</p> <p><input type="checkbox"/> Rent <input type="checkbox"/> Own</p> <p>Landlord's address _____</p> <p>_____</p> <p>Landlord's phone _____</p> <p>Does the child spend time at:</p> <p><input type="checkbox"/> Daycare <input type="checkbox"/> Head Start <input type="checkbox"/> Preschool</p> <p><input type="checkbox"/> Babysitter <input type="checkbox"/> Relative/Friend <input type="checkbox"/> Other</p> <p>List addresses for checked box(es)</p> <p>Name, address, phone _____ _____ Time spent _____</p> <p>Name, address, phone _____ _____ Time spent _____</p> <p>Physician's name _____</p> <p>Physician's address _____</p> <p>Physician's phone number _____</p> <p>Test date _____ BLL result _____ µg/dL</p> <p>Test method _____ venous _____ capillary</p>	<p>A. FAMILY ASSESSMENT</p> <p>1. Number of children in household _____</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Name</th> <th style="width: 15%;">DOB</th> <th style="width: 30%;">Relationship</th> <th style="width: 25%;">Lead Tests</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table> <p>2. Parent's occupations/hobbies _____</p> <p>3. Are there any pregnant women in the household? <input type="checkbox"/> yes <input type="checkbox"/> no</p> <p style="margin-left: 20px;">a. Have the pregnant women been tested for lead? <input type="checkbox"/> yes <input type="checkbox"/> no</p> <p style="margin-left: 40px;">Results _____ Reason for testing _____</p> <p style="margin-left: 20px;">b. Has educational material been given to pregnant women? <input type="checkbox"/> yes <input type="checkbox"/> no</p> <p style="margin-left: 20px;">c. Occupation _____ Hobby _____</p> <p>4. What does the parent/guardian think may be the source of the lead poisoning? _____</p> <p>_____</p> <p>B. CHILD'S HEALTH STATUS AND HISTORY</p> <p> </p> <p> </p> <p> </p> <p>C. REVIEW OF SYMPTOMS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;">Symptoms</th> <th style="width: 20%;">Initial Visit Date</th> <th style="width: 20%;">Follow-up Date</th> </tr> </thead> <tbody> <tr><td>Abdominal pain</td><td> </td><td> </td></tr> <tr><td>Constipation</td><td> </td><td> </td></tr> <tr><td>Vomiting</td><td> </td><td> </td></tr> <tr><td>Extreme activity</td><td> </td><td> </td></tr> <tr><td>Excessive tiredness</td><td> </td><td> </td></tr> <tr><td>Irritability</td><td> </td><td> </td></tr> <tr><td>Other</td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table> <p>D. DEVELOPMENTAL DELAYS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr><td>Gross motor</td><td> </td></tr> <tr><td>Fine motor</td><td> </td></tr> <tr><td>Previous testing/evaluation</td><td> </td></tr> <tr><td>Social skills</td><td> </td></tr> <tr><td>Speech</td><td> </td></tr> <tr><td> </td><td> </td></tr> </tbody> </table>	Name	DOB	Relationship	Lead Tests													Symptoms	Initial Visit Date	Follow-up Date	Abdominal pain			Constipation			Vomiting			Extreme activity			Excessive tiredness			Irritability			Other						Gross motor		Fine motor		Previous testing/evaluation		Social skills		Speech			
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Appendix I (continued)

<p>E. ORAL TENDENCIES</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>H. EATING HABITS (cont.)</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>F. SLEEPING AREAS</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>I. PLAY HABITS AND ENVIRONMENTAL SAFETY</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>G. FOOD PREPARATION AND EATING AREA</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>H. EATING HABITS</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 I (continued)

I. PLAY HABITS AND ENVIRONMENTAL SAFETY (cont.)	COMMENTS
11. Are there mini-blinds in the sleep or play area? <input type="checkbox"/> yes <input type="checkbox"/> no	<hr/>
12. Are the cords on the mini-blinds out of reach of the child? <input type="checkbox"/> yes <input type="checkbox"/> no	<hr/>
13. Does your child play at the window? <input type="checkbox"/> yes <input type="checkbox"/> no	<hr/>
14. Does your child play with painted or metal toys, antique toys or toy jewelry? <input type="checkbox"/> yes <input type="checkbox"/> no	<hr/>
15. Do you keep all firearms in a locked gun safe? <input type="checkbox"/> yes <input type="checkbox"/> no	<hr/>
16. Do you utilize safety gates to prevent a child from entering a stairwell or other area that might present a danger to the child? <input type="checkbox"/> yes <input type="checkbox"/> no	<hr/>
17. Do you have operational CO detectors? <input type="checkbox"/> yes <input type="checkbox"/> no Do you have operational smoke alarms? <input type="checkbox"/> yes <input type="checkbox"/> no Do you have an operational fire extinguisher? <input type="checkbox"/> yes <input type="checkbox"/> no	<hr/> <hr/> <hr/>
18. Do you use safety products, i.e., child bathtub chairs and gates at swimming pools and other areas to prevent accidental drowning? <input type="checkbox"/> yes <input type="checkbox"/> no	<hr/>
19. Do you use indoor pesticides? <input type="checkbox"/> yes <input type="checkbox"/> no	<hr/>
20. Are you aware of any water problems or mold conditions? <input type="checkbox"/> yes <input type="checkbox"/> no	<hr/>
J. OBSERVATION OF DWELLING UNIT	
1. Exterior construction: <input type="checkbox"/> Painted <input type="checkbox"/> Brick <input type="checkbox"/> Other _____	<hr/>
2. Is paint peeling or chipping from walls or ceiling? <input type="checkbox"/> yes <input type="checkbox"/> no If so, where? _____	<hr/>
3. Is the house in a high traffic area or near an industry (i.e., foundry, lead smelter, battery recycling facility)? <input type="checkbox"/> yes <input type="checkbox"/> no	<hr/>
4. Are renovations occurring? <input type="checkbox"/> yes <input type="checkbox"/> no	Staff conducting home visit
5. Housekeeping practices <input type="checkbox"/> Good <input type="checkbox"/> Moderate <input type="checkbox"/> Poor	<hr/>
6. Overall condition of the house? <input type="checkbox"/> Good <input type="checkbox"/> Moderate <input type="checkbox"/> Poor	Case manager
7. Age of windows _____	Nurse signature
8. Has your home been tested for radon? <input type="checkbox"/> yes <input type="checkbox"/> no	Today's date
9. Are you interested in information on how to obtain a test kit? <input type="checkbox"/> yes <input type="checkbox"/> no	Date of environmental investigation referral

Appendix I (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 J
Illinois Lead Case Management Quarterly Narrative Report

Delegate Agency's Name:

Date of Submission _____

Indicate Reporting Period (FY xxxx)

____ First Quarter (July-Sept xxxx)

____ Second Quarter (Oct-Dec xxxx)

____ Third Quarter (Jan-March xxxx)

____ Fourth Quarter (April-June xxxx)

1) Program progress or highlights, number of children screened this quarter

2) Activities related to increasing blood lead screenings compliance of Medicaid eligible children:

3) Educational, Collaboration, or Outreach Activities:

4) Specific problems requiring assistance:

Please specify # of open cases _____ and # of Nurse home visits _____

(This quarter ONLY)

5) Please note any personnel changes regarding lead program staff:

Name Position

Name Position

Form completed by: _____ Date: _____

FY2011

Appendix K
Telephone Information

IDPH - Illinois Lead Program http://intra.idph.il/IDPH+Intranet/Environmental+Health/Illinois+Lead+Program/Channel+Home.htm	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 - Childhood Blood Lead Test Reporting	217-782-3517
IDPH – Division of Environmental Health, Indoor Air Quality	217-785-5886
IDPH – Division of Environmental Health, Structural Pest Control	217-782-5830
IDPH – Division of Environmental Health, Toxicology Program	217-782-5830
IDPH – Division of Chronic Disease Prevention and Control	217-782-3300
IEMA – 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 L



State of Illinois
Illinois Department of Public Health

Lead Program Contact Record and Order Form

To request free brochures please complete the requested information on both sides (Print or Type).

Your Name		
Organization		
Mailing Address		
City	State	ZIP Code
Daytime Phone	Fax	
Comments		
Office Use		
Order Sent To Warehouse	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date
Sent By	Order Number	

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525 W. Jefferson St., Third Floor, Springfield, IL 62761
866-909-3572 or 217-782-3517 • TTY (hearing impaired use only) 800-547-0466 • Fax 217-557-1188

IOCI 0038-11



Appendix L (continued)

Illinois Department of Public Health
Division of Environmental Health

Lead Program Contact Record and Order Form

Please indicate the number of copies needed in the English, Spanish and/or French column(s).
No more than 300 copies may be ordered of any one material

Item	Title	Number of Copies		
		English	Spanish	French
Lead Program Brochures	Prevention (How to protect against lead poisoning)			NA
	Intervention (How to lower blood lead levels in children)			NA
	Renovation (How to safely remove old paint)			NA
	Activities to Reduce Lead Exposure		NA	NA
	A Landlord's Guide for Working Safely With Lead		NA	NA
	Lead Paint Safety (EPA)		NA	NA
	Homeowners' Lead-based Paint Abatement Guide		NA	NA
	Work Lead Safe When Remodeling		NA	NA
	Protect Your Family From Lead in Your Home (EPA)			NA
	Buying a Home? Here's What You Need to Know About Lead-based Paint! (EPA)		NA	NA
	Renovate Right (EPA)			NA
	Lead Safety During Renovation (EPA)			NA
	Steps to Lead-Safe Renovations (EPA)		NA	NA
	Small Entity Compliance Guide to Renovate Right		NA	NA
	Environmental Health Facts – Lead		NA	NA
	Poster (Shows various sources of lead in home)			NA
	Poster (WARNING for Paint Supply Stores)			NA
	Brochures (WARNING for Paint Supply Stores)			NA
Handouts	Childhood Lead Poisoning (green)			
	Medical Consequences (goldenrod)			
	Housekeeping (blue)			
	Nutrition (yellow)			
	Sources of Lead (buff)			
	For Health Care Providers (pink)		NA	NA
	Choice of Medical Management – (Physician's Wall Reference Poster)		NA	NA
	What You Should Know About Exposure to Lead (for Daycare Providers)			NA
	Pregnant Women and Lead Poisoning			NA
	Fight Lead Poisoning with a Healthy Diet (EPA)			NA
Administrative Directive/Other	Lead Risk Assessment Questionnaire			NA
	High Risk ZIP Code Areas			NA
	Lead Risk Assessment Questionnaire Guidelines		NA	NA
	Lead Risk Assessment Questionnaire/Medical Record Copy		NA	NA
	Lead Poisoning Prevention Act		NA	NA
	Lead Poisoning Prevention Code		NA	NA
	A Reference Guide for Physicians and Health Care Providers		NA	NA
	Lead Screening & Case Follow-up Guidelines for Local Health Departments		NA	NA
	Surveillance Report Year _____		NA	NA
Other Items				

Appendix M

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.cehn.org/cehn/resourceguide/ateclp.html>

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 Administrative Code, Chapter 1, Section 845, Lead Poisoning Prevention Code – <http://www.ilga.gov/legislation/ilcs/ilcs2.asp?ChapterID=35>

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 – <http://intra.idph.il/IDPH+Intranet/Environmental+Health/Channel+Home.htm>

Illinois Department of Public Health, Epidemiology– <http://www.idph.state.il.us/about/epi/index.htm>

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>

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

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

U.S. Census Bureau - http://factfinder.census.gov/home/saff/main.html?_lang=en

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://www.epa.gov/opptintr/lead/index.html>

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

Appendix N

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.

