










# Elevated Blood Lead Investigation Guideline

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*Attachments can be accessed through the Adobe Reader's navigation panel for attachments. Throughout this document attachment links are indicated by this symbol ; when the link is activated in Adobe Reader it will open the attachments navigation panel. The link may not work when using PDF readers other than Adobe.*

## Revision History

<b>Date</b>	<b>Replaced</b>	<b>Comments</b>
11/2013	-	First version
01/2017	11/2013	Updated case definitions and modified all sections of the guideline. New resources added for investigation.
01/2018	01/2017	Updated notification section for all lab results to be reported within 24 hours.
05/2019	01/2018	Updated all sections of the guideline. New adult education packet resource. (05/08/2019). Updated Appendix B Algorithm (06/26/2019).
12/2020	05/2019	Updated all sections of the guideline to reflect newest version of EpiTrax. Removed Appendix A and B from main document and placed in pdf attachments.
05/2022	12/2020	Updated all sections of the guideline to reflect revised elevated blood lead reference value and guidance instructions. Updated broken weblinks and checked accessibility.

# Elevated Blood Lead Investigation Disease Management and Investigation Guidelines

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## CASE DEFINITION

### Elevated Blood Lead Level, Childhood

#### Criteria for Case Investigation and Management:

- Blood lead test result greater than or equal to 3.5 micrograms per deciliter ( $\mu\text{g}/\text{dL}$ ) for persons less than 16 years of age on the day the blood sample was drawn.

### Elevated Blood Lead Level, Adult

#### Criteria for Case Investigation and Management:

- Blood lead test result greater than or equal to 3.5 micrograms per deciliter ( $\mu\text{g}/\text{dL}$ ) for persons 16 years of age or older on the day the blood sample was drawn.

## LABORATORY ANALYSIS

The results of any blood lead draw (capillary, venous or unknown sample type) on a Kansas child or adult that produces a quantifiable result and is analyzed by a Clinical Laboratory Improvement Amendments (CLIA)-certified facility or a portable device designed by the manufacturer to detect lead in a blood sample is reportable to the Kansas Department of Health and Environment (KDHE).

The Kansas Health and Environmental Laboratories (KHEL) will analyze blood samples collected by local health departments (LHDs) and other approved facilities via collection of a capillary sample using a capillary tube (microtainer or vacutainer) or collection of a venous sample. KHEL resources for testing should be reserved for Medicaid eligible, uninsured and underinsured patients.

Additionally, KHEL will provide blood collection supplies at no cost to Kansas LHDs and other approved facilities. Supplies must be ordered on a “Requisition for Laboratory Specimen Kits” form and samples submitted with a “Universal Form.” Instructions on how to order supplies and submit specimens can be found at [Packaging & Shipping | KDHE, KS](#). Note: Submitting facilities should avoid covering required information fields located on the top of the form with bar codes or other markings.

Capillary samples are used only for screening purposes; meaning the first time a child or adult has been tested for lead. All elevated capillary samples with a result of 3.5  $\mu\text{g}/\text{dL}$  or greater must be confirmed by a venous sample. See the [Elevated Blood Lead Case Investigation and Management Algorithm \(Appendix B\)](#) for the recommended testing schedule. Once a patient has a confirmed elevated blood lead level from a venous sample, all follow-up testing must use a **venous sample**.

Additional resources for laboratory testing can be found at KHEL website:

- [Blood Lead | KDHE, KS](#)
- Blood Lead Screen Form Instructions (doc):  
<https://www.kdhe.ks.gov/DocumentCenter/View/8093>

## EPIDEMIOLOGY

According to the Centers for Disease Control and Prevention, approximately half a million children in the United States ages 1-5 years have blood lead levels greater than 5 micrograms of lead per deciliter of blood. The most common source of lead poisoning in children comes from deteriorating lead-based paint and, in Kansas, a large proportion of the homes were built before 1978 when the addition of lead in residential paint was banned. Other sources of lead exposure include lead pellets from guns, some imported cosmetics, spices, and medicines, use of glazed pottery for cooking or storing food, certain hobbies, and certain occupations including lead battery manufacturing (take-home lead).

The Centers for Disease Prevention and Control (CDC) created a population-based blood lead reference value (BLRV) in 2012. The BLRV is based on the 97.5<sup>th</sup> percentile of the blood lead distribution in United States children aged 1-5 years from the National Health and Nutrition Examination Survey (NHANES) data. The CDC officially reduced the BLRV in October 2021 from 5 µg/dL to 3.5 µg/dL. KDHE adopted the recommendations from the CDC to reduce the BLRV from 5 µg/dL to 3.5 µg/dL on January 1<sup>st</sup>, 2022.

## DISEASE OVERVIEW

### A. Agent:

Lead is found throughout our environment. It is a naturally occurring bluish-gray metal found in small amounts in the Earth's crust. A large proportion of lead in our environment comes from human activities including burning fossil fuels, mining, and manufacturing. In the United States, the most common source of exposure for lead-poisoned children is lead-based paint, while most exposures in adults are work-related. A blood lead test is the only way to tell if a child or adult has an elevated blood lead level.

### B. Clinical Description:

The health effects of lead exposure include intellectual and behavioral deficits in children and hypertension and kidney disease in adults (ATSDR, 1999).

### C. Routes of exposure:

The most common routes of exposure to lead are ingestion and inhalation.

### D. Treatment:

The primary management methods for blood lead poisoning in children and adults are identification and removal of the exposure source(s) or putting barriers in place to avoid introducing lead into the body. In the case of very high blood lead levels, a physician may need to consider chelation therapy to help reduce the amount of lead in the body.

For children, a **venous** blood lead level  $\geq 45$  µg/dL may warrant the use of chelation therapy. The LHD should immediately recommend that the physician

managing the child contact the Children's Mercy Hospital Kansas City for a medical consultation.

In adults, chelation therapy is generally reserved for individuals with very high blood lead levels or signs of toxicity. Chelation therapy should be strongly considered for adults with **venous** levels  $\geq 80$  ug/dL and is almost always warranted for levels  $\geq 100$  ug/dL. The LHD should recommend to the patient that he/she contacts his/her physician to discuss treatment.

## **NOTIFICATION TO PUBLIC HEALTH AUTHORITIES**

All blood lead test results performed on a Kansas resident are reportable by laboratories to the KDHE's Bureau of Epidemiology and Public Health Informatics within 24 hours, except if the reporting period ends on a weekend or state-approved holiday. In that case, the report shall be submitted by 5:00 p.m. on the next business day following the weekend or the holiday. Reports should be submitted electronically using the Electronic Laboratory Reporting platform or the Blood Lead Results Reporting Web Application located on the KDHE website.

Blood Lead Results Reporting Application:

<https://keap.kdhe.state.ks.us/ReportableConditions/>

User Instructions are available on the main page of the application. Providers must set up a password-protected account to obtain access to the application. For questions regarding the Blood Lead Results Reporting Application, or to set up an account, please send an email to the application administrator at [kdhe.leadlabreporting@ks.gov](mailto:kdhe.leadlabreporting@ks.gov) or call 785-296-4499.

## **SCREENING CRITERIA**

It is recommended that all children under age 6 years be screened using the [Lead Risk Questionnaire \(Appendix A\)](#). While the LHD may choose to offer blood lead testing services to a wider clientele, the following population subgroups should have priority:

- Medicaid, underinsured, or uninsured children under the age of 6 years
- All children under age 6 years that have one or more risk factors identified on the Lead Risk Questionnaire
- Pregnant or lactating women
- Any close family member of a child with an elevated blood lead level

## INVESTIGATOR RESPONSIBILITIES

### Elevated Blood Lead Level, Child < 16 years

**Definition:** Blood lead test result greater than or equal to 3.5 micrograms per deciliter ( $\mu\text{g}/\text{dL}$ ) for persons less than 16 years of age on the day the sample was drawn.

Note: KDHE automatically mails a notification letter and lead fact sheet, that is different from the educational packet, to families after receipt of the first elevated test result unless a venous confirmation test proves that the EBL is not elevated prior to the generation of the letter.

Cases between  $\geq 3.5$  and  $4.9 \mu\text{g}/\text{dL}$  will remain in closed status. These may be viewed by the LHD by searching the name in EpiTrax. Providers should continue testing these children according to the recommendations in Appendix B.

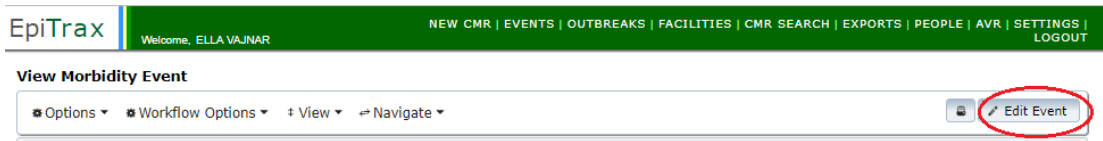
Upon notification of an elevated blood lead test result for a child, the local health department (LHD) investigator should:

- 1) **Accept** and assign the case in EpiTrax within 3 business days.
- 2) Assign the case to appropriate LHD Investigator.
- 3) Accept the case by the assigned LHD Investigator, the workflow status which will then show "Under Investigation".

- 4) In the **[Laboratory]** tab, note the Result (Value) and the specimen source.
  - Note: the address in this tab is the current residential address at the time of this test. It should match the current address listed in the demographic tab. Please verify that this is the correct address.

- 5) Refer to the [Elevated Blood Lead Case Investigation and Management Algorithm \(Appendix B\)](#).
  - **Note: all capillary results should be confirmed by a venous sample before any case investigation or management occurs. Refer to the [Elevated Blood Lead Case Investigation and Management Algorithm \(Appendix B\)](#) to determine how urgently the confirmatory test should be performed.**
- 6) If investigation and case management is needed for the case, which begins with a telephone interview, first gather the following information from the primary care physician/nurse and/or the family. Update the EpiTrax record with the following information:

- In the **View Morbidity Event** page, select **Edit** mode.



- In the **[Demographic]** tab:

sandalltest, shannon Record #: 20201126542	Event Type Morbidity	Workflow status Under investigation	Investigator Laurie Render	Disease Blood lead poisoning	Investigating Agency Deleted		
Demographic	Clinical	Laboratory	Contacts	Encounters	Investigation	Notes	Administrative

- Verify name of patient and correct spelling
- Verify name of parent/guardian
- Verify guardian relationship to patient
- Verify contact information for parent/guardian
- Verify patient date of birth
- Verify patient gender
- Verify patient ethnicity
- Verify patient race
- Verify patient primary language
- Verify insurance type

- Choose the **[Clinical]** tab:

Demographic	Clinical	Laboratory	Contacts	Encounters	Investigation	Notes	Administrative
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- Update treatment given by the physician
- Verify ordering provider name
- Verify ordering provider phone
- Verify ordering facility name
- Verify ordering facility phone
- Verify if any treatment was given
- If treatment was given, verify that a date is entered

Note: It is important to document if any chelation treatment was given.

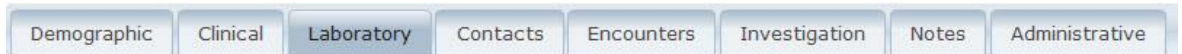
- On the **[Clinical]** tab scroll to treatments.  
Under treatments select whether treatment was given or not from the dropdown box. Add treatment information by clicking on the + Treatment to open the treatment options window.

The screenshot shows a web-based form for clinical data entry. At the top, there are navigation options like 'Options', 'Workflow Options', 'View', and 'Navigate'. Below that, there are 'Save & Continue' and 'Save & Exit' buttons. The main form is titled 'Facility / Clinician / Hospitalized Status'. It contains several sections:
 

- Visit type:** A dropdown menu set to 'Outpatient'.
- Blood lead poisoning caused hospitalization?:** A dropdown menu set to 'Please select...'.
- Health facility:** A text field containing 'Pediatric Partners PA Olathe'.
- Type:** A dropdown menu set to 'Clinic / Doctor's Office, Laboratory'.
- Address / Phone:** A text field containing '2111 E Kansas City Rd, Olathe, Kansas 66061'.
- Clinician:** A text field containing 'Carter Peter (913)888-4567'.
- Visit start:** A date field set to 'mm/dd/yyyy'.
- Visit end:** A date field set to 'mm/dd/yyyy'.
- Medical record number:** A text field.
- Facility comment:** A large text area for notes.

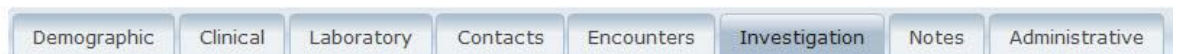
 Below this section is another section titled 'Other Facility / Clinician / Hospitalized Status'. Underneath that is the 'Mortality Status' section with 'Died?' and 'Date of death' dropdowns. The 'Treatments' section is highlighted with a red circle around the 'Treatment given?' dropdown. To the right of the 'Treatments' section is a red circle around the '+ Treatment' button. Below the 'Treatments' section is a table with columns: 'Treatment date', 'Treatment stopped', 'Treatment', 'Quantity', 'Treatment form', 'Status', and 'Data source'. The 'Treatment' column has a dropdown menu. Below the table is a 'Treatment comment' text area and a 'Cancel' button. At the bottom, it says 'No treatments found.'

- Choose the **[Laboratory]** tab:

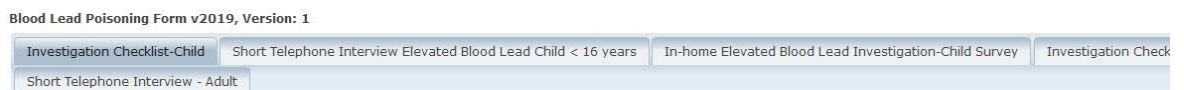


- Verify the specimen source as capillary or venous.
  - ◆ For parents, you may need to explain that a capillary blood sample would have been taken as a finger stick, while the venous sample would have been drawn from the vein.
- Click on the most recent laboratory result.
- Verify the address listed under the Laboratory tab to make sure that it is the same as the address listed under the Demographic tab. Correct and/or add if necessary.

- 7) Choose the **[Investigation]** tab:



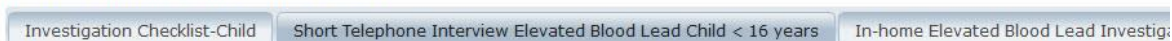
- 8) You should see the **Blood Lead Poisoning Form v2019** in use for new cases. If it is properly loaded, you will see the following tabs.





- 9) Open the [\[Investigation Checklist-Child\]](#) tab
- Make sure you are in **Edit** mode
  - KDHE automatically sends letters when elevated test results are received. If the **Date** and **Completed by options** for “mailed letter to family and physicians re: elevated result” are not filled out.
  - KDHE automatically sends elevated blood lead notification letters to parents/guardians and one-page fact sheets when test results are received  $\geq 3.5$  micrograms per deciliter.
  - LHD will use this checklist to record other actions taken by the LHD.
- 10) All children with a blood lead result  $\geq 10$  shall have a Short Telephone Interview completed. Open the [\[Short Telephone Interview Elevated Blood Lead Child < 16 years\]](#) tab

Blood Lead Poisoning Form v2019, Version: 1



- Make sure you are in **Edit** mode.
- If the LHD investigator prefers, he/she can print a hard copy of the [Short Telephone Interview-Child \(Appendix C\)](#). However, he/she must enter the data into the form in EpiTrax. Data not entered in the EpiTrax form cannot be exported later for analysis.
- It is important that the entire short telephone interview form be filled out unless some fields are not applicable to your case.

**Note: Please, do not leave any fields blank.**

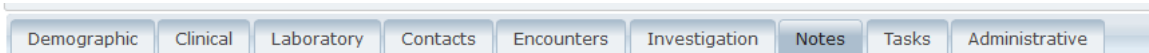
- 11) At the end of the Short Telephone Interview, the investigator should discuss the potential source(s) of the lead exposure. Tell the respondent that you will mail them an educational packet.
- Discuss with the family and physician when the child should be retested. Refer to the [Elevated Blood Lead Case Investigation and Management Algorithm \(Appendix B\)](#).
  - The LHD investigator should mail the [Elevated Blood Lead Education Packet-Child \(Appendix D\)](#) to the parents.
  - Fill in the **Date** and **Completed By** fields within the Investigation Checklist-Child form.
- 12) If an in-home EBL investigation needs to be conducted for a child (EBL investigations are not routinely conducted for an adult case), it should only be conducted by a state certified EBL investigator. If resources are limited and the LHD or family does not have access to an EBL Certified Investigator, open the In-home Interview-Child Survey (Appendix E).
- If the LHD investigator prefers, he/she can print a hard copy of the [In-home Interview-Child Survey \(Appendix E\)](#). However, he/she must enter the data into the form in EpiTrax. Data not entered in the EpiTrax form cannot be exported later for analysis.

*Note: The in-home, face-to-face interview can be conducted by any LHD staff. HOWEVER, collection of environmental samples and on-site testing in and around the home to verify lead contamination must be conducted by an EBL Certified Investigator. LHD staff should not make a visual inspection of the property or make an official declaration about the source or sources of lead exposure. The responses during the face-to-face interview should only guide a discussion about the potential sources of lead exposure in the home, the recommended cleaning and maintenance techniques, and proper nutrition and diet.*

A template report summarizing the findings from the In-home Interview can be found in the [attachments](#) of this pdf. The report reviews the potential source(s) of lead exposure based on interview responses and reviews education given to parents/guardians. It clearly states that if parents/guardians want sampling results to verify potential source(s) of lead exposure, they should have an inspection done by an EBL Certified Investigator. A list of approved professionals can be found at [www.kshealthyhomes.org/contact\\_lead\\_professionals.htm](http://www.kshealthyhomes.org/contact_lead_professionals.htm) under the [Applications / Forms](#) link.

For more information on the certification process, please contact the KDHE Healthy Homes and Lead Hazard Prevention Program at (866) 865-3233 or email at [KDHE.lead@ks.gov](mailto:KDHE.lead@ks.gov).

- Fill in the **Date** and **Completed By** fields within the Investigation Checklist-Child form.
- 13) For any child with a venous sample  $\geq 15$  ug/dL, you should consult with the child's primary care provider immediately to determine clinical management steps and schedule follow-up testing. Providers may contact the Poison Control Center for further guidance. If the local health department is not able to determine the source(s) of lead exposure and an EBL home investigation is needed, then the case can be referred to the Children's Mercy Hospital Kansas City (CMH) Pediatric Environmental Health Specialty Unit (PEHSU). The PEHSU is **not** primarily responsible for case investigation and management. **The LHD investigator is responsible for monitoring cases until they can be closed to ensure proper medical management of cases.** Which includes retesting of elevated children (see [Elevated Blood Lead Case Investigation and Management Algorithm \(Appendix B\)](#))
- PEHSU can be contacted by calling the Poison Control Center (800-222-1222) and a referral can be made through [Make a Referral | Children's Mercy Kansas City \(childrensmercy.org\)](#)



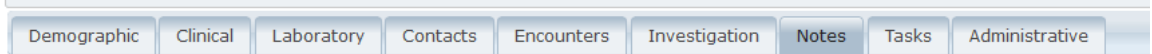
**Case notes should be included in the [Notes] tab.**

- In situations where an in-home EBL investigation is needed but the LHD does not have access to an EBL Certified Investigator, the LHD can discuss with Children's Mercy Hospital Kansas City (CMH) staff the feasibility of conducting the investigation on behalf of the LHD. CMH's

ability to conduct in-home investigations is limited by geographic area, as well as the resources available at CMH. LHD investigator should attend home inspection and continue to follow the case until the child no longer has an elevated blood lead level.

- When a referral to CMH has been made and an EBL investigation is scheduled, fill in the **Referred to Date** and **Completed By** fields within the Investigation Checklist-Child form.

14) Record actions completed on the checklist and any recommendations that were made in the **[Notes]** tab of the case in EpiTrax.



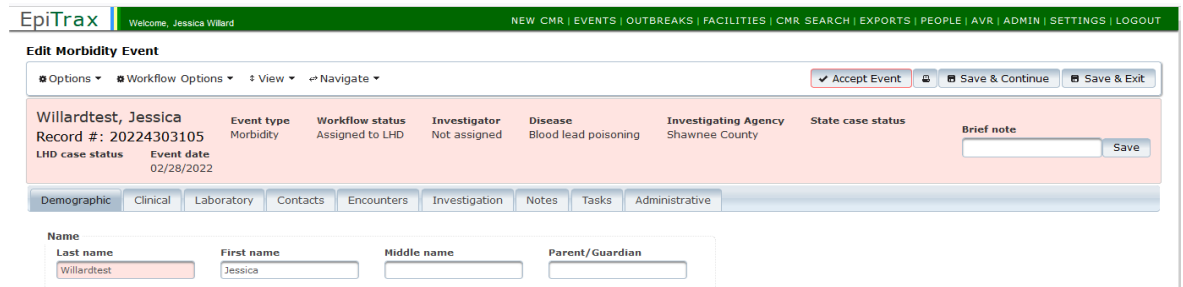
- Cases can be [closed](#) once a child has two non-elevated (< 3.5 ug/dL) venous test results within 12 weeks.
- Once a case is closed, it is recommended that the child be screened using the Lead Risk [Questionnaire \(Appendix A\)](#) annually to make sure that he/she is no longer exposed to lead.

### Elevated Blood Lead Level, Adult

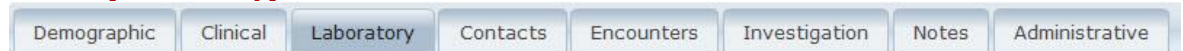
**Definition:** Blood lead test result greater than or equal to 3.5 micrograms per deciliter (µg/dL) for persons 16 years of age or older on the day the sample was drawn.

Upon notification of an elevated blood lead test result for an adult, the local health department (LHD) investigator should:

- 1) [Accept](#) the case in EpiTrax within 3 business days.
- 2) Assign the case to appropriate LHD Investigator
- 3) Accept the case by the assigned LHD Investigator, which will show “Under Investigation” in Workflow Status.

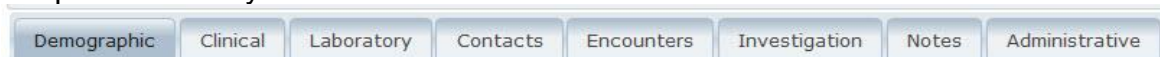


4) In the **[Laboratory]** tab, note the result value and the source.

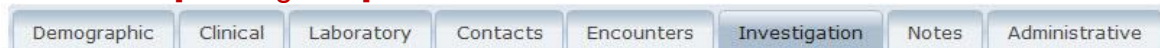


- Note: the address in this tab is the current residential address at the time of this test and should be reflected as the current address in the Demographic page.
- 5) Refer to the [Elevated Blood Lead Case Investigation and Management Algorithm \(Appendix B\)](#) for an Adult ≥16 years old.

- Note that all capillary results should be confirmed by a venous sample before any case investigation or management occurs.
- 6) Choose the **[Demographic]** tab and find the patient phone number. Contact the patient directly.



- 7) Choose the **[Investigation]** tab:



- 8) Open the **[Investigation Checklist-Adult]** tab



- Make sure you are in **Edit** mode
  - Use this checklist to keep track of other actions taken by the LHD
  - LHD investigator should make a minimum of 3 attempts to contact the patient at different times of day. Use the checklist to document attempts.
  - Adult checklists shall be completed in full.
- 9) All adults with a blood lead result  $\geq 3.5$  shall have a Short Telephone Interview completed. Open the **[Investigations]** tab.
- **Use the Blood Lead Poisoning Form v2019.**  
Note: If the form is not present in the forms list use the “Manage” button to add the correct version of the form.

- 10) Open the **[Short Telephone Interview - Adult]** tab



- If the LHD investigator prefers, he/she can print a hard copy of the [Short Telephone Interview-Adult \(Appendix F\)](#). However, he/she must enter the data into the form in EpiTrax. Data not entered in the EpiTrax form cannot be exported later for analysis.
- 11) After the Short Telephone Interview-Adult, the investigator should discuss the potential source(s) of the lead exposure. Tell the respondent that you will mail him/her an educational packet.
- Discuss with the patient and physician when the adult should be re-tested. Refer to the [Elevated Blood Lead Case Investigation and Management Algorithm \(Appendix B\)](#). The physician discussion is only required for non-occupational exposures.
  - The LHD investigator should mail the [Elevated Blood Lead Informational Packet-Adult \(Appendix G\)](#) to BOTH the patient and the ordering physician. The physician mailing is only required for non-occupational exposures.

- Fill in the **Date** and **Completed By** fields within the Investigation Checklist-Adult form.
  - Occupational exposure interviews should focus on children in the home or that may be in close contact with the interviewee. Inquire about the children's levels and recommend testing for them.
- 12) Record actions completed and the recommendations that were made in the **[Notes]** tab of the case in EpiTrax.
- Once the above actions have been completed, the case can be [closed](#).
  - It is recommended that if an adult continues to have elevated blood lead levels ( $\geq 3.5$  ug/dL), that the LHD perform the [Short Telephone Interview-Adult \(Appendix F\)](#) annually to assess if other members of his/her household, especially children, are exposed to lead.

## DATA MANAGEMENT AND REPORTING TO THE KDHE

- A. Accept the case assigned to the LHD and record the date the LHD investigation was started on the **[Administrative]** tab.
- B. Organize and collect data, using appropriate data collection tools including, but not limited to:
- Lead Risk Questionnaire
  - In-home Interview – Child Survey
  - Short Telephone Interview – Adult
  - Alternatively, investigators can collect and enter all required information directly into EpiTrax **[Investigation]**, **[Clinical]**, **[Demographics]**, **[Epidemiological]** tabs.
- C. Report data collected during the investigation via EpiTrax.
- Verify that all data requested has been recorded on an appropriate EpiTrax **[tab]**, or that actions are completed for a case lost to follow-up as outlined below.
  - Paper report forms do not need to be sent to KDHE after the information is recorded and/or attached in EpiTrax. The forms should be handled as directed by local administrative practices.
- D. If a case is lost to follow-up, after the appropriate attempts to contact the case have been made:
- Record the attempts to contact in the **[Investigation]** tab on the appropriate Checklist form.
  - Record, at a minimum, the information that was collected from the initial reporter.
  - Record a reason for 'lost to follow-up' in **[Notes]** tab.
- E. Once the investigation is completed, the LHD investigator will record the date the investigation was completed on the **[Administrative]** tab and click the "Complete" button. This will trigger an alert to the LHD Administrator, so he/she can review the case before submitting it to the state.

- The LHD Administrator will then “Approve” or “Reject” the Confidential Morbidity Report (CMR).
- Once a case is “Approved” by the LHD Administrator, BEPHI staff will review and close the case after ensuring it is complete and that the case is assigned to the correct event, based on the reported symptoms reported.  
(Review the [EpiTrax User Guide, Case Routing](#) for further guidance.)

## **ADDITIONAL INFORMATION / REFERENCES**

Agency for Toxic Substances and Disease Registry (ATSDR). Toxicological profile for lead. Atlanta, GA: US Department of Health and Human Services, Agency for Toxic Substances and Disease Registry; 1999. Available at: [www.atsdr.cdc.gov/toxprofiles/index.asp](http://www.atsdr.cdc.gov/toxprofiles/index.asp). Accessed on: November 5, 2013.

**Appendix A: Lead Risk Questionnaire**



# Lead Risk Questionnaire

**Purpose:** To identify children who need to be tested for lead exposure

**Instructions:**

- If Yes or Don't Know, test the child immediately
- For more information, contact your county's local health department

Patient's Name: \_\_\_\_\_ DOB: \_\_\_\_\_ Medicaid #: \_\_\_\_\_

Provider's Name: \_\_\_\_\_ Administered by: \_\_\_\_\_ Date \_\_\_\_\_

**Questions:**

1. Does your child live in or visit a home, day-care or other building built before 1978?
2. Does your child live in or visit a home, day-care or other building with ongoing repairs or remodeling?
3. Does your child eat or chew on non-food things like paint chips or dirt?
4. Does your child have a family member or friend who has or did have an elevated blood lead level?
5. Is your child a newly arrived refugee or foreign adoptee?
6. Does your child come in contact with an adult whose job or hobby involves lead exposure?

Yes or Don't Know    No

<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

*Examples*

- |  |                          |                           |                          |                   |                          |
|--|--------------------------|---------------------------|--------------------------|-------------------|--------------------------|
| • House construction or repair                 | <input type="checkbox"/> | • Chemical preparation    | <input type="checkbox"/> | • Radiator repair | <input type="checkbox"/> |
| • Battery manufacturing or repair              | <input type="checkbox"/> | • Valve and pipe fittings | <input type="checkbox"/> | • Pottery making  | <input type="checkbox"/> |
| • Burning lead-painted wood                    | <input type="checkbox"/> | • Brass/copper foundry    | <input type="checkbox"/> | • Lead smelting   | <input type="checkbox"/> |
| • Automotive repair shop or junk yard          | <input type="checkbox"/> | • Refinishing furniture   | <input type="checkbox"/> | • Welding         | <input type="checkbox"/> |
| • Going to a firing range or reloading bullets | <input type="checkbox"/> | • Making fishing weights  | <input type="checkbox"/> | • Other _____     | <input type="checkbox"/> |

7. Does your family use products from other countries such as pottery, health remedies, spices, or food?

*Examples*

- Traditional medicines such as Ayurvedic, greta, azarcón, alarcón, alkohl, bali goli, coral, ghasard, liga, pay-loo-ah, and rueda
- Cosmetics such as kohl, surma, and sindor
- Imported or glazed pottery, imported candy, and imported nutritional pills other than vitamins.
- Foods canned or packaged outside the U.S.

\* **Elevated blood lead level is  $\geq 3.5$   $\mu\text{g/dL}$**

**Test  
Immediately**



**Appendix B: Elevated Blood Lead Case Investigation and Management Algorithm**

## Appendix B: Elevated Blood Lead Case Investigation and Management Algorithm

Blood Lead Test Result Value	Specimen Source Type	LHD to identify and recommend additional services	Timeline for LHD to recommend retesting	LHD Mail Lead Educational Packet	LHD Conduct Telephone Interview
≥3.5 µg/dL and < 5 µg/dL	Capillary	Yes	Follow-up with confirmatory venous test within 3 months if venous testing is available for accuracy purposes. If venous test is not available, within 90 days perform a follow-up capillary test.	No	No
≥ 3.5 µg/dL and < 5 µg/dL	Venous	Yes	Venous test again within 3 months to determine if lead levels are decreasing.	No	No
≥ 5 µg/dL and < 10 µg/dL	Capillary	Yes	Venous confirmatory test within 1 to 3 months. Urgency of confirmatory test is based on test result and the higher the test results the sooner another test needs to be performed.		
≥ 5 µg/dL and < 10 µg/dL	Venous	Yes	Perform follow-up venous test within 1 to 3 months	No	No
≥ 10 µg/dL and < 15 µg/dL	Capillary	Yes	LHD to call parents and physicians and recommend confirmatory venous test in 1 week to 1 month. Urgency of confirmatory test is based on test result and the higher the test results the sooner another test needs to be performed.		
≥ 10 µg/dL and < 15 µg/dL	Venous	Yes	Venous test within 1 to 3 months	Yes	Yes
≥ 15 µg/dL and < 24 µg/dL	Capillary	Immediate confirmatory venous test	LHD to call parents and physicians and recommend confirmatory venous test in 1 week to 1 month. Urgency for the confirmatory test is based on how high the test result is.		
≥ 15 µg/dL and < 24 µg/dL	Venous	Yes	Venous test within 1 to 3 months*	Yes	Yes
≥ 25 µg/dL and < 44 µg/dL	Capillary	Immediate confirmatory venous test	LHD to call parents and physicians and recommend confirmatory venous test in 1 week to 1 month. Urgency for the confirmatory test is based on how high the test result is.		
≥ 25 µg/dL and < 44 µg/dL	Venous	Yes	Venous test within two weeks to four weeks*	Yes	Yes
≥45 µg/dL	Capillary	Immediate confirmatory venous test	Contact the Poison Control Center (Mid-America Pediatric Environmental Health Specialty Unity) and notify KDHE immediately.	Confirmatory test should be performed before EBL investigation	
>45 µg/dL	Venous	Yes	LHD to call parents and physicians and recommend confirmatory venous test within 48 hours if ≥45µg/dL and <60 µg/dL; 24 hours if ≥ 60 µg/dL and <70 µg/dL; immediately if ≥70 µg/dL.	Yes	Full EBL Investigation to determine exposure source(s)

The Kansas Department of Health and Environment is responsible for sending elevated blood lead level (EBL) notification letters to the parents or guardians of all children with elevated blood lead test results.