Chapter 7

Environmental Assessment and Intervention for a Child with Lead Poisoning

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In Brief: Summary Recommendations for Assessment and Intervention of the Environment of a Child with Lead Poisoning

1. The major source of lead in Wisconsin children's environment is deteriorated lead-based paint (LBP). To protect children from lead exposure, it is necessary to evaluate and control their exposures to lead hazards, especially dust, soil and paint hazards.
2. Wis. Stat. 254.166(1) states that "If the department is notified that an occupant of a dwelling or premises who is a child under 6 years of age has an elevated blood lead level (EBLL), the department ***shall*** conduct a lead investigation of the dwelling or premises…"
3. Local health departments (LHDs) that contract with the Department of Health Services (DHS) to provide childhood lead poisoning prevention services are required to conduct investigations for all children with EBLLs. An EBLL is defined as one venous blood lead level (BLL) ≥20mcg/dL or two venous BLLs ≥15 mcg/dL drawn at least 90 days apart. An "EBL investigation" is described in Wis. Admin. Code DHS 163.03(39) as "environmental investigation activities conducted in response to a report of a lead poisoning and intended to identify lead hazards that may contribute to the lead poisoning." After conducting the investigation, LHDs must send a completed Property Investigation Report (F-44771C; also see Appendix A) to the Wisconsin Childhood Lead Poisoning Prevention Program (WCLPPP) and issue orders to owners to correct identified lead hazards.
4. While there is no requirement for LHDs to investigate homes of children with blood lead levels less than EBLL, LHDs ***may*** do so. LHDs can cite the Wis. Stat. 254.166 (1) as their authority to conduct environmental investigations for dwellings occupied by children with blood lead of 10 mcg/dl or more. LHDs may cite other laws such as Wis. Stat. 254.59 or 254.593 as their authority to conduct environmental investigations to evaluate lead hazards in other dwellings (such as where children have BLLs between 5 and 9 mcg/dl).
5. EBL investigations must be performed by certified risk assessors (RA) or certified lead hazard investigators (LHI). DHS describes the required work practices in Wis. Admin. Code DHS 163.14(6). Briefly summarized, RAs or LHIs must (1) examine painted or coated surfaces to identify any that are deteriorated and identify any other substances, surfaces or objects which by their location, condition or nature present hazards, then test these potential hazards for lead, (2) visually assess the exterior grounds to identify any bare soil and test bare soil for lead and (3) conduct dust wipe tests to evaluate potential lead dust hazards.
6. The RA/LHI must provide a written report of the findings of an EBL investigation to the property owner and tenant.
7. Under 254.166 (2m), if the RA/LHI finds lead hazards, the LHD ***shall*** issue an order describing the work needed to address the lead hazards, including a date when the work must be finished. If no lead hazards are found, the RA/LHI should conduct an EBL investigation in other places where the child spends a significant amount of time.
8. It is in the best interest of the child if the work to decrease lead hazards is accomplished quickly and is as long lasting as possible, given the resources available.
9. When the property owner reports that lead hazard reduction work is completed, the RA/LHI should conduct clearance including (a) visually clearing the dwelling to assure that the work to correct the hazards was done and (b) collecting dust wipe samples to assure that the dwelling is safe. Detailed work practice procedures for conducting clearance are described in Wis. Admin. Code DHS 163.14(5). Once the property meets both visual and dust wipe clearance standards, the RA/LHI must send a completed Property Investigation Closure Report (F-44771D; also see appendix A) to WCLPPP.

10. If clearance standards are not met, the RA/LHI shall inform the property owner and order further actions to correct the problems and set a deadline for completion.
11. If the property owner delays in completing orders within the time described in the orders, then the LHD should take more action. This may include posting a notice on the dwelling that lead hazards are present on the property; legal authority for this is in Wis. Stat. 254.166(2)(a). Other enforcement options are described in Wis. Stats. 254.59, 254.593 and 254.595. The LHD may also refer the case to the local legal counsel if there are relevant building codes, laws, or municipal ordinances. The LHD may also refer the case to the county district attorney as described in Wis. Stat. 254.30. (See Appendix B for a sample notice to the district attorney.) If the LHD declares the dwelling untenantable due to lead hazards, then Wisconsin landlord tenant law Wis. Stat. 704.07 may apply.

Introduction

The most effective treatment for lead poisoning is to remove the source(s) of exposure by eliminating or decreasing the lead hazards in the child's environment. Therefore, lead exposure is unlike other diseases for which medical treatments are effective; treating lead poisoning requires prompt action by public health, families, property owners and construction trades to reduce hazards from lead-based paint (LBP) and other lead-based coatings. Wis. Admin. Code DHS 163 and Wis. Stat. 254 provide the framework for the activities described in this chapter.

Lead hazard investigation activities means "any activity that determines whether LBP or lead hazards are present" [Wis. Admin. Code DHS 163.03(76)]. Elevated blood lead investigation means "the environmental investigation activities conducted in response to a report of a lead poisoning and intended to identify lead hazards that may contribute to the lead poisoning" [Wis. Admin. Code DHS 163.03(39)]. Lead risk assessments or lead hazard investigations are the appropriate methods to use when investigating dwellings of children with lead poisoning. To perform lead hazard investigation activities, an individual must be certified by the state as a lead risk assessor (RA) or lead hazard investigator (LHI).

Lead hazard reduction (LHR) activity is any action intended to permanently or temporarily reduce or eliminate human exposure to LBP hazards [Wis. Admin. Code DHS 163.03(71)]. Permanent actions such as removing all lead paint are called lead abatement activities, and must be performed by a certified lead abatement worker or supervisor. Temporary actions are non-abatement activities such as cleaning, re-painting or "stabilizing" lead painted surfaces so that the surface is clean, stable and intact. Non-abatement activities can be completed by a certified Lead-Safe Renovator.

The owner of the child-occupied dwelling, whether this is the child's parent/caregiver or a landlord, is responsible for fixing identified lead hazards to meet the clearance standards. Under state law, the RA/LHI shall use reasonable efforts to provide prior notice to the owner before investigating the dwelling or premises (property). The local tax assessor's office may assist the RA/LHI to identify and locate the property owner.

It is important to investigate the property where the child was lead poisoned, even if the child relocates. If an LHD finds lead hazards at a dwelling where a child lived when the lead poisoning was reported, the owner must correct these hazards, even if the family moves or the owner sells the property. If the family with a lead poisoned child moves, the RA/LHI should investigate the lead poisoned child's new residence to assure that the dwelling is in good condition and that lead hazards are not present. The new property may only require a visual assessment to determine age and condition, or it may require a full lead investigation (risk assessment or hazard investigation). If the RA/LHI does not find lead hazards at the primary residence of the child, then the RA/LHI should investigate secondary residences or other places where the child spends a significant amount of time.

The legal framework for environmental interventions for lead poisoned children and how to address human health hazards if a child has not yet been identified as lead poisoned is described in Wis. Stat. 254 (see 254.59 and 254.593). Lead poisoning is currently defined in statute as a BLL of 10 mcg/dL or more. Wis. Stat. 254.156 requires DHS to issue rules to correspond with the federal department of health and human services whenever that agency specifies a standard for determining lead poisoning or lead exposure that differs from Wis. Stat. 254.11. In May 2012, the federal Centers for Disease Control and Prevention defined a new "reference value" of five mcg/dl and abandoned the use of the previous term "lead poisoning,"

which meant a blood lead level of 10 mcg/dl or more. Through this action, the CDC indicated that children with blood lead levels ≥5 mcg/dL will benefit from environmental investigations and interventions that result in reduced exposure to lead hazards.

Details of certification and work practice standards are defined by Wis. Admin. Code DHS 163. Questions about certification issues should be addressed to the Wisconsin Asbestos and Lead Section, by phone at 608-261-6876; or by email to dhsasbestoslead@wisconsin.gov or by fax at 608-266-9711.

When to Do an Elevated Blood Lead Investigation

Wisconsin law (Wis. Stat. 254.166) requires intervention when a child's blood lead level (BLL) reaches an "elevated blood lead level (EBLL)." The statutory definition of an EBLL is a venous BLL ≥20 mcg/dL or two venous BLLs ≥15 mcg/dL drawn at least 90 days apart. Local health departments are *required* to do environmental investigations for EBL children.

- ✓ Wisconsin law states that DHS "*shall* conduct a lead investigation of the dwelling or premises or ensure that a lead investigation of the dwelling or premises is conducted" for all children less than 6 years of age with an EBLL [Wis. Stat. 254.166(1)].
- ✓ Local health departments (LHDs) under contract with DHS must comply with Wisconsin Statute by providing a lead hazard investigation for all children with an EBLL.

The CDC-recommended timeframe for environmental investigation based on the child's blood lead level is in Table 7.1.

Table 7.1 CDC-Recommended Timeframe for Environmental Investigation According to a Child's Blood Lead Level

Blood Lead Level (mcg/dL)	Timeframe for Environmental Investigation
10 – 14	Within 30 days
15 – 19	Within 2 weeks
20 – 44	Within 1 week
45 – 70	Within 48 hours
70 or Higher	Within 24 hours

The Wisconsin Medicaid Program will reimburse LHDs for an environmental inspection of a lead poisoned or lead exposed child's home and a follow-up inspection to determine clearance of the property after work has been done if the child is enrolled in Medicaid. (See Chapter 12 for detailed information about the Medicaid reimbursement process.)

LHDs *may* do environmental investigations for children with lower blood lead levels. Wisconsin law (Wis. Stat. 254.166) supports action to prevent lead hazards for children with lower blood lead levels (lead poisoning or lead exposure is a BLL ≥10 mcg/dL). The department "*may*" conduct an investigation in these cases. Wis. Stat. 254.166(1) permits an inspection of the dwelling of any child under 6 years of age with a BLL ≥10 mcg/dL.

Furthermore, Wis. Stat. 254.59 states that local health officers who find human health hazards shall order the abatement or removal of the human health hazard. Wis. Stat. 254.59(4) also specifically permits local health officers, in cities under general charter, to enter a dwelling to ascertain health conditions at any place or at any time. Wis. Stat. 254.593 declares housing that is dilapidated, unsafe or unsanitary to be a human health hazard. LHDs have broad authority to address human health hazards. Wis. Stat. 254.595 establishes the authority for municipal building codes and allowing municipalities to declare properties with lead hazards to be a nuisance. Cities, towns or villages may issue orders or regulations and may commence an action to declare a property to be a human health hazard.

There is widespread consensus that BLLs below 10 mcg/dL have negative cognitive, behavioral and lifelong health effects on children. The Center for Disease Control and Prevention (CDC) acknowledged this in 2012 when they established 5 mcg/dl as the new "reference value." Although CDC has urged that homes be evaluated for lead hazards before children are known to be exposed, the CDC also indicates that an investigation should be conducted to identify sources of lead in the homes and environments of children with venous BLLs $\geq$ 5 mcg/dL. CDC stated that this reference level may change in the future. Currently 97.5 percent of children in the U.S. aged 1-5 years have BLLs less than 5 mcg/dL. Because no level of lead in the body is safe, CDC will continue to monitor population BLLs and, using the 97.5 percent indicator, may further reduce the reference value should population-based national surveys (such as NHANES) show that U.S. children's BLLs continue to decline.

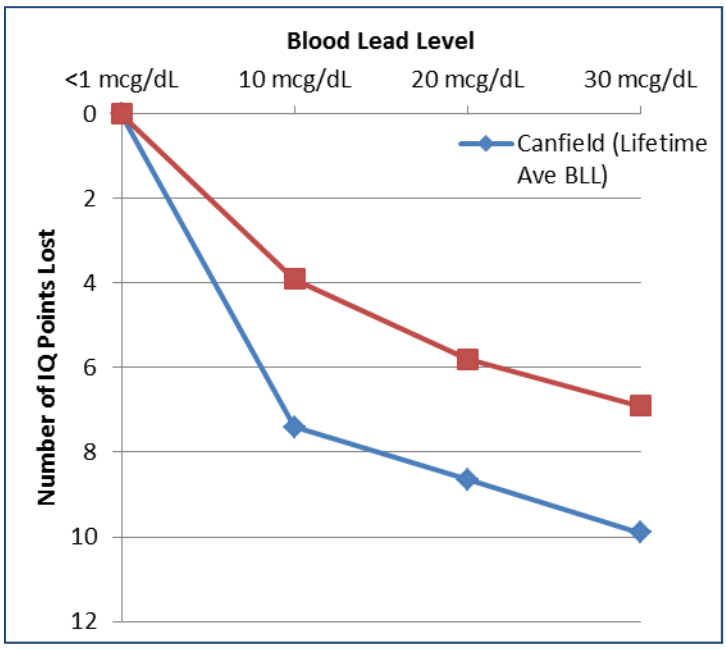

Figure 7.1. Lost IQ points as BLL rises.

There is strong evidence that the damage that happens as a child's blood lead rises from 0 to 9 mcg/dL is more severe than the changes that occur as a child's blood lead rises from 10 to 19 mcg/dL (see Figure 7.1, (Canfield et al., 2003; Lanphear et al., 2005; Jusko et al., 2008). These are compelling reasons for LHDs to do whatever they can to protect children from lead exposure.

Many LHD policies in Wisconsin support the CDC recommendations as a best practice since they have set goals to provide services for families with children whose BLL is $\geq$5 mcg/dL. At this time, due to limited resources most LHDs cannot investigate all dwellings occupied by children with BLLs $\geq$ 5 mcg/dL and thus cannot meet the standard of care that CDC has recommended. It is the goal of WCLPPP to encourage best practice. Therefore WCLPPP encourages LHDs to seek the resources necessary to investigate homes of children with BLLs $\geq$5 mcg/dL, to identify and evaluate potential lead hazards and to encourage families and property owners to correct these conditions safely and quickly.

Elevated Blood Lead Investigation Activities

Stopping the exposure of a child to lead hazards is the most important treatment for lead poisoning. Other interventions, such as nutritional support and treatment of anemia may help to reduce lead absorption and can be monitored by the child's health care provider. Assessment of the environment is the first step in identifying the source(s) of lead exposure and activities to control or eliminate the exposure. The EBL investigation has six major components: (1) pre-investigation preparation, (2) interview, (3) visual assessment to determine the locations of deteriorated paint and lead paint hazards, (4) collection of samples to measure lead in the environment, (5) identifying and evaluating non-paint lead hazards, and (6) written report to the property owner and tenant. These are covered in detail in certification training and in administrative rules and will be summarized briefly here and in Table 7.1.

Table 7.2 Summary Steps of an Elevated Blood Lead Property Investigation

EBL Investigation Activities	Detailed Description of Activities
Pre-Investigation Activities	Review lead-based paint hazards and data collection forms.
Interview	From the tenant and property owner, collect background information about the age, physical characteristics, and use patterns of the dwelling, to identify non-paint lead hazards.
Look at the property	Do a visual assessment to evaluate (a) the condition of painted and varnished surfaces, (b) the extent and causes of any deteriorated coatings, and (c) identify other potential lead hazards. Sketch the floor plans. Take photographs to show all exterior views and any obvious hazards or deteriorated coatings.
Collect environmental samples and send to the Wisconsin State Laboratory of Hygiene for analysis	Conduct a lead risk assessment using procedures described in Wis. Admin. Code DHS 163.1; collect dust wipes in areas where children are likely to come into contact with dust; collect paint or varnish chips to identify lead in coatings; collect soil samples where soil is bare. Typically RAs and LHIs take at least eight wipe samples (from four floors and four window sills). In multi-family dwellings, also collect samples from common areas where children are likely to be exposed.
Identify non-paint hazards	Determine if non-paint lead hazards may be causing exposure and conduct testing as needed to evaluate exposure. Consult the Wisconsin State Laboratory of Hygiene to clarify how to collect and submit unusual environmental samples for analysis.
Write a summary report and work orders for LHR	When lab analyses are completed, write a summary report of the lead hazard investigation, including the results of the property investigation and work orders for LHR. Specify in the work orders what work needs to be done, the certification needed for those who will do the work, the due date for completing the work, and the owner's rights to appeal the order. If work ordered by LHDs to reduce lead hazards is considered abatement, it must be performed by a state certified lead abatement contractor. If the work involves temporary measures such as cleaning and stabilizing lead hazards, the work may be done by a state certified lead safe renovator or a lead abatement contractor.

EBL Investigation Activities	Detailed Description of Activities
Deliver report and work orders to the property owner and tenant	Provide copies to the property owner and tenant family.
Submit Property Investigation Report (F-44771C)	Complete the form with the results of the summary report and submit to the WCLPPP.
Monitor the LHR work that is ordered	If staff resources are available, monitor the work in progress to assure the contractors are trained and certified and that they follow correct lead-safe work practices.
Clear the property through visual assessment and clearance dust wipe samples **Determine that non-paint hazards have been removed or addressed.**	Conduct a follow-up visual assessment to determine that lead hazards have been remediated and non-paint hazards have been removed. For interior lead-based paint hazards, collect clearance dust wipe samples to verify safe completion of the work ordered. See Table 7.6 for guidance on sample collection for clearance.
Submit Property Investigation Closure Report (F-44771D)	If clearance is achieved, complete and submit the property closure report to WCLPPP.
Enforcement Activities	Detailed Description of Activities
Initiate Enforcement Actions	If the property owner does not comply with LHR orders, the LHD should take action. For example, the LHD may placard the dwelling as described in Wis. Stat. 254.166(2)(a). Other enforcement options are described in Wis. Stat. 254.59, 254.593 and 254.595. The LHD should refer enforcement cases to the County District Attorney as described in Wis. Stat. 254.30 or to another local legal authority for enforcement.

(1) Pre-investigation Preparation – Before visiting a dwelling to evaluate the sources of lead in a child's environment, it may be helpful for the investigator to review some images showing causes of paint failure, such as those in HUD's online Visual Assessment Training.

Chttp://www.hud.gov/searchauses of paint failure include moisture, aging, temperature extremes, sunlight, mechanical damage (such as impact or friction), chemical incompatibility, poor surface preparation, and damage to the substrate. These causes should be noted during the investigation, and correcting the underlying causes of paint failure should be included as part of the LHR orders.

It may also be useful to review and print HUD's suggested forms for recording the data collected during the investigation. See the HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing (2012 Edition) for the following forms:

Form 5.0 Resident Questionnaire
Form 5.1 Building Condition Form
Form 5.2 Report of Visual Assessment
Form 5.3 Paint Chip Sampling
Form 5.4 Dust Sampling

Form 5.5 Soil Sampling
Form 5.6 Management Data for Rental Dwellings
Form 5.7 Maintenance Data for Rental Dwellings

(2) Interview the Family and Property Owner – An interview with the family of the lead poisoned child is the first step in identifying sources of lead exposure. This part of the property investigation is vital to determine the child's habits and locations the child frequents, both in and outside of the home. It is also the time when questions can be asked about non-LBP hazards and exposures and other properties the child visits frequently. The RA/LHI should conduct the interview using HUD Form 16.1 "Resident Questionnaire for Investigation of Children with Elevated Blood Lead Levels." See 2012 HUD Guidelines Forms. It is helpful if the RA/LHI can interview the property owner about the history and uses of the property. It also allows the RA/LHI to provide information to the owner about lead poisoning, including any preliminary findings from the EBL investigation, lead-safe maintenance practices, and the owner's legal responsibilities.

(3) Visual Assessment – A visual assessment quickly identifies deteriorated surface coatings, the most widespread and dangerous sources of lead in the environments of children. Whether a lead-based surface coating becomes a hazard depends on several factors:

- ✓ The condition of the paint or coating;
- ✓ The location, such as on friction or impact surfaces;
- ✓ The concentration (parts per million) or loading (milligrams per square centimeter as measured by XRF or micrograms per square foot as measured by dust wipes) of lead in the paint or coating; and
- ✓ The accessibility of the paint or coated surface to children.

Bathtubs

Note that the 2012 HUD Guidelines omitted a question about deteriorated surfaces on bathtubs that was included in the earlier (1995-2011) version of the Guidelines. Based on experience in Wisconsin, it is appropriate to consider bathtubs as a source of lead exposure, so DHS recommends including the question from the original version of the Guidelines: "Does the child take baths in an old bathtub with deteriorated or nonexistent glazing?"

DHS also encourages RAs/LHIs to evaluate potential lead dust hazards by taking dust wipe samples from glazing on older bathtubs. Although HUD has stated that the lead coatings on tubs does not meet HUD's interpretation of LBP coatings because of the way the lead coating was originally applied to the substrate, the lead dust that is generated when lead on bathtub glazing deteriorates can cause lead exposures that can harm children regardless of the application method.

In Wisconsin, RAs/LHIs from LHDs in Dane and Washington counties have documented two cases of children whose primary source of lead exposure was deteriorated lead coatings on bathtubs.

If lead is present in paint or other surface coatings that are intact (i.e., in good condition and not chalking, cracking, chipping, peeling, flaking), the lead may not present a hazard and should not be disturbed. However, if LBP is "present in accessible surfaces, friction surfaces, or impact surfaces that would result in adverse human health effects," then these coatings meet the definition of a lead-based paint hazard. Table 7.2 provides definitions and examples for friction, impact and accessible surfaces. RAs/LHIs should exercise judgment and consider background information such as environmental lead dust sampling data, building history, component location and occupant use patterns to determine if intact coatings on surfaces listed in Table 7.3 require treatment to protect occupants from lead exposure.

Table 7.3 Definition and Examples of Friction, Impact and Accessible Surfaces

Definition	Examples in the home
Friction Surfaces: ". . . an interior or exterior surface that is subject to abrasion or friction. . ."	✓ Door systems where painted parts rub against other surfaces ✓ Window sashes and jambs ✓ Floors or stairs, especially in high traffic areas, such as entrance areas and hallways ✓ Cabinet drawers and their openings ✓ Pantry shelf surfaces where food containers or dishes may scrape the shelves
Impact Surfaces: ". . . an interior or exterior surface that is subject to damage by repeated impacts . . "	✓ Doors, doorknobs and latches that strike door stops, walls or strike plates ✓ Cabinet doors that strike cabinets or walls ✓ Drawers that contain sharp objects (such as knives or tools) ✓ Baseboards that may be struck by objects such as vacuum cleaners, boots, shoes or riding toys ✓ Stair risers and stair stringers that may be struck by the toe/tip of shoes
Accessible Surfaces: "… an interior or exterior surface painted with lead-based paint that is accessible for a young child to mouth or chew."	Window sills Porch railings Stair railings and balusters Furniture

Source: Residential LBP Hazard Reduction Act of 1992, Public Law 102-550, Section 1004, Definitions (2)

(4) Collect Environmental Samples

Lead in coatings: Two methods are available for measuring LBP on coatings: (1) test onsite with an X-ray fluorescence (XRF) instrument; or (2) collect samples for a laboratory to analyze off-site. The XRF instrument measures the lead loading (lead per area) in the coat of paint or varnish while laboratories typically report concentration values or lead by weight.

Many private RAs/LHIs collect paint chips or varnish samples and send these to private laboratories that analyze environmental lead samples and have been recognized by the Environmental Protection Agency (EPA) as having the capacity to do these tests through the National Lead Laboratory Accreditation Program. Wisconsin LHDs can use the Wisconsin State Laboratory of Hygiene (WSLH) Occupational Health Laboratory to analyze these samples from homes of lead-exposed children. A sample of the form used to submit environmental samples to the WSLH can be found In Appendix A.

Another method is to use XRF instruments to measure lead loading on coated surfaces. The WCLPPP staff maintains XRF instruments that certified RAs can use to investigate dwellings where lead-exposed children reside. To borrow these instruments, the RA must have

appropriate training and up-to-date certification credentials. Under the terms of the DHS radioactive materials license, all XRF instrument users must also have U.S. Department of Transportation hazardous materials training.

The specific procedures for how to test paint or varnish by collecting samples for lab analysis or with an XRF instrument are covered in the RA/LHI and Lead Inspector training and are not described in detail in this handbook. These procedures are also summarized in the 2012 HUD Guidelines. The condition, location and accessibility of potential lead hazards can be evaluated visually. Measuring lead on coatings requires testing as described above. Other surfaces or substances may also need to be tested to evaluate potential lead exposure sources in the child's environment.

Home test kits indicate the presence of lead by showing a color change, but they do not quantify the amount or the concentration of lead. They can be used on many products, including paint, pottery, and mini-blinds.

Lead in dust: In all cases, the RA/LHI shall take dust wipe samples to measure the lead that is present in surface dust on floors and window surfaces. Wis. Admin. Code DHS 163.14(9) states that the risk assessor shall take wipe samples from each floor and each window sill where a child under the age of six is likely to come into contact with dust, and from common areas in the building where the risk assessor determines that a child under age six is likely to come into contact with dust. Practically speaking, risk assessors typically take floor and window sill wipe samples from a minimum of four rooms such as the main entrance areas to the dwelling, play areas such as living rooms, and the kitchen and bedrooms. The RA/LHI may also take wipe samples to evaluate lead dust on other non-conventional surfaces such as painted toys or bathtubs. If an RA/LHI is concerned about a parent or guardians' potential to bring home lead dust from exposure to lead at work, the RA/LHI may take wipe samples from sources such as work shoes, clothing, tools or vehicles.

The benefits and drawbacks of different ways to measure lead on coatings and different sampling methods are covered in the training required for certification in a profession that can perform a lead hazard investigation. In general, XRF instruments are useful in that they produce results quickly and non-destructively. However, taking samples for laboratory analysis may provide more sensitive measures of lead in the environment.

(5) Assess for Non-paint Lead Hazards – While painted surfaces introduce the most lead into an average child's environment, other potential sources of lead exposure should also be assessed. As RA/LHI investigate dwellings associated with increasingly lower blood lead levels, it is likely that they will identify more exposure sources (Levin et al, 2008). These include parental occupations or hobbies, pottery, traditional medicines or cosmetics, candies, chalk, toys, vinyl mini or vertical blinds, candles, and pool chalk. (See Chapter 3 for more details on lead sources.) New sources of lead continue to emerge. Staff at the WSLH can usually provide advice on how to collect valid samples for testing unusual sources.

The WCLPPP attempts to notify all LHDs of newly identified sources of lead. Another useful resource to check for products recalled due to containing dangerous levels of lead is www.saferproducts.gov (click on the search tab and see the lower right-hand corner for products containing lead). The National Center for Healthy Housing sends notifications of newly identified lead sources through their Lead and Healthy Homes email listservs. (Send a blank message to Leadnet-on@mail-list.com or Healthyhomesnet-on@mail-list.com to subscribe.)

These email listservs are also good sources of information on current legislation, litigation, and other program activities aimed at eliminating lead hazards throughout the U.S.

(6) Written Report to Property Owner and Tenant – The RA/LHI must provide a written report summarizing the risk assessment/lead hazard investigation to the owner and tenant within 10 working days after the assessment or when results of laboratory samples are received. The content of the written report is described by Wis. Admin. Code DHS 163.14(9)(k) and DHS 163.14(6) to include:

- ✓ Date of risk assessment (or lead hazard investigation);
- ✓ Address of each building assessed;
- ✓ Date of construction of buildings;
- ✓ Apartment number of units assessed, if applicable;
- ✓ Name, address and telephone number of each current owner of each building;
- ✓ Name, address, telephone number, certification number and signature of each certified individual participating in the risk assessment/lead hazard investigation;
- ✓ Name, address, telephone number and certification number of the certified lead company conducting the risk assessment/lead hazard investigation;
- ✓ Name, address, and telephone number of each recognized laboratory conducting analysis of collected samples;
- ✓ Results of the visual inspection;
- ✓ Description of testing method and sampling procedure used for paint analysis;
- ✓ Specific locations of each painted component tested for the presence of lead;
- ✓ All data collected from onsite testing, including quality control data and, if used, the serial number of any XRF;
- ✓ All results of laboratory analysis on collected paint, soil and dust samples;
- ✓ Any other sampling results;
- ✓ Any background information on the physical characteristics of the residential dwelling or child-occupied facility and occupant use patterns that may cause LBP exposure to a child under 6 years of age;
- ✓ If used, the results of any previous inspections or analyses for the presence of LBP hazards or other assessment of LBP-related hazards;
- ✓ A description of the location, type and severity of identified LBP hazards and any other potential lead hazards; and
- ✓ A description of LHR options for each identified LBP hazard and a suggested prioritization for addressing each hazard. If the use of an encapsulant or enclosure is recommended, the report shall recommend a maintenance and monitoring schedule for the encapsulant or enclosure.

LHR work orders from LHDs to property owners must specify the level of training and certification that is required for those who will do the work, and the date when the work must be completed.

To facilitate writing the risk assessment/lead hazard investigation report, the RA/LHI should collect and record the field data in a systematic fashion to keep the EBL investigation organized and thorough. Careful data collection helps to document findings and to communicate clearly with property owners and occupants. Several tools to be used for data collection can be found in Appendix C: Samples. The 2012 HUD Guidelines also provide examples of forms that can be used for this purpose. Investigators can use or adapt any data collection form or tool as long as they meet the requirements of Wis. Admin. Code DHS 163. Examples of a risk assessment report and a work order are also shown in Appendix B.

Under Wisconsin Law, reports of investigations conducted in response to a child with lead poisoning shall be made available to the public and therefore should be written to withstand public scrutiny. The DHS and LHDs acting under the authority of the Department "shall prepare and file written reports of all risk assessments conducted under this section and shall make the contents of these reports available for inspection by the public, except for medical information..." [Wis. Stat. 254.166(1)].

Property owners must provide these reports to future tenants and buyers under U.S. federal law governing real estate transactions. This requirement is regulated and enforced by HUD and EPA. To comply with federal law, the report to the owner should include the following paragraph:

> *The federal Residential Lead-Based Paint Hazard Reduction Act, 42 U.S.C. 4852d, requires sellers and landlords of most residential housing built before 1978 to disclose all available records and reports concerning lead-based paint and/or lead-based paint (LBP) hazards, including the test results contained in this notice, to purchasers and tenants at the time of sale or lease or upon lease renewal. This disclosure must occur even if hazard reduction or abatement has been completed. Failure to disclose these test results is a violation of the U.S. Department of Housing and Urban Development and the U.S. Environmental Protection Agency regulations at 24 CFR Part 35 and 40 CFR Part 745 and can result in a fine of up to $11,000 per violation. To find out more information about your obligations under federal LBP requirements, call 1-800-424-5323.*

A sample letter written to a property owner to summarize a lead risk assessment/hazard investigation in the case of a lead poisoned child can also be found in the Appendix B.
LHD staff must report risk assessments/lead hazard investigations of the residence(s) of children with EBLLs to WCLPPP on the Property Investigation Report (F-44771C; see Appendix A). This information allows program staff to conduct surveillance of causes of childhood lead poisoning and to effectively target resources to assist in education, environmental investigations and primary prevention activities.

Lead Hazard Reduction Activities

An important role of the RA/LHI is to assure that property owners address the identified lead hazards that threaten children's health. The RA/LHI working for an LHD typically writes orders that direct owners' actions and should, if possible, also refer property owners to agencies that offer financial assistance (loans or grants) to support the cost of the LHR work. (See the section in this chapter on funding for LHR for suggestions, page 7.21.) The RA/LHI should monitor the LHR work and must document that the hazards have been successfully treated (see Table 7.1).

The RA/LHI can exercise professional discretion in choosing whether to order abatement or interim control activities, and in setting the amount of time allowed for the owner to complete the orders and fix the hazards. The state law, Chapter 254.166(2m), describes several different timelines depending on the severity of the hazard and acknowledging the difficulty of completing exterior work in winter. The RA/LHI's goal is to get the owner to fix the lead hazards quickly, and permanently if possible, and thus protect children from lead exposure.

Analysis of Wisconsin data of children with diagnostic BLLs between 20 and 40 mcg/dL has shown that it takes about 2.2 years for the BLL to drop below 10 mcg/dL. Another Wisconsin study found that it took most property owners 465 days (median value) to correct lead hazards in dwellings where children were identified with an elevated blood lead (Zierold et al., 2007). Additional analysis found a faster decline in the child's BLL when the LHR on the property was completed within six months. Based on these data, it is important to set realistic expectations for work to reduce lead hazards that can be accomplished quickly.

Work Orders for Lead Hazard Reduction Should Address Priority Hazards – LHR should be prioritized to most effectively decrease exposure to children. Since there is more lead on exterior surfaces than interior surfaces in US homes (Jacobs, et al, 2002), it is especially important to address exterior lead paint hazards. Variations in children's blood lead levels often reflect their exposure to exterior hazards. So for example, children's blood lead levels generally increase in summer when exposure to exterior sources increase (Levin, Brown, et al. 2008). Children's blood lead levels decrease when exterior hazards are corrected. Children living in homes where exterior lead hazards have been addressed showed lower blood lead after a year than children without these exterior interventions (Clark, Galke, et al., 2011).
Priority should be given to areas where children play, eat, and sleep. Where lead paint or varnish has been documented, priority attention should be given to areas that present a high risk of exposure:

- Floors, stairs and porches that have deteriorated coatings (such as visible paint chips), or are located in areas where active disturbance of the paint or varnish has occurred and the disturbed coatings have fallen and accumulated;
- Windows that have visible paint chips, dust or glazing debris accumulating on the stool or in the trough;
- Deteriorated exterior surfaces likely to contribute to children's exposure; (Note that there is more lead paint on the exterior surfaces of a typical house than on the interior surfaces. Note also that exterior painted surfaces are subject to greater weather variability extremes of temperature and moisture.)
- Exterior child play areas with bare soil contaminated with visible paint chips;
- Toys, beds, and other furniture in the child's usual activity areas.

RA/LHI can exercise considerable discretion as they describe work methods for the owner to use to address the lead hazards. Lead hazards can be controlled temporarily, through interim controls, or permanently, through abatement. The RA/LHI can exercise his/her judgment about which hazard reduction measures are best suited for a given situation. Any LHR work, whether interim controls or abatement, can create exposure hazards if the person doing the work is not properly trained, if dust created during work is not minimized, or if proper clean-up of lead dust and debris is not done. Depending on the hazards found and the type of work to be done, the occupants may need to be relocated until the hazards are controlled.

Abatement Measures for Lead Hazard Reduction – While permanent measures (abatement) tend to be costly, they do produce long-term safety for children and greater liability protection for the property owner. Abatement means "any measure or set of measures intended to permanently eliminate LBP hazards" [Wis. Admin. Code DHS 163.03(1)]. The four types of abatement techniques commonly used are encapsulation, enclosure, removal, and replacement. The definition and application of each is fully described in Table 7.4.

Table 7.4. Lead-Based Paint Abatement Techniques

Method/Definition	Description	Application
Encapsulation ". . . the process of making LBP inaccessible by the application of an encapsulant." DHS 163.03(42)	Provides a barrier between LBP and the environment.	A barrier, formed by applying a liquid coating or adhesive bond specifically labeled as an encapsulant, is used to cover LBP. The area to be treated is first tested to determine if the encapsulant will hold to the surface. Not for use on friction or impact surfaces. When complete, encapsulation should leave an easy-to-clean surface.
Enclosure ". . . the use of rigid, durable materials . . . that act as a dust-tight barrier between LBP and the environment." DHS 163.03(44)	A barrier is attached to building components with all edges and seams sealed. Examples are sheet rock, wood or wood paneling on walls, exterior siding, vinyl/metal sash tracks for windows, linoleum, or wood over floors.	The enclosed area must be able to support the added weight of the enclosure material. Enclosure material is nailed or screwed into wood rafters or studs; caulk or some type of sealant is applied to the back of the surface to create an airtight barrier to lead dust. When complete, enclosure should leave an easy-to-clean surface.
Removal	The removal of all LBP from building components. Can be done on- or off-site. Removal can be conducted on the entire surface or just at the friction points where LBP rubs together.	The following methods **cannot** be used for onsite removal: [DHS 163.14(3) and (4)]: ✓ Open flame burning or torching ✓ Machine sanding or grinding, abrasive blasting or sandblasting, or planing **unless** contained and a HEPA attachment is used. ✓ Uncontained high pressure water blasting or "hydroblasting." ✓ Paint strippers containing methylene chloride. ✓ A heat gun at $\geq$ 1100^{0}F. ✓ Dry scraping <u>except</u> around electrical outlets or on spots totaling no more than 2 square feet in any one interior space or 20 square feet on exterior surfaces. When complete, removal should leave an easy-to-clean surface.
Replacement ". . . removing building components that have surfaces coated with LBP and installing new components free of LBP. DHS 163.03(101)	The building component contaminated with LBP is replaced with a new component.	Cost effective for wood trim (baseboards), replacing doors and windows with energy efficient ones. When complete, replacement should leave an easy-to-clean surface.

Data indicate that permanent measures are more effective at reducing lead dust levels and protecting children than temporary measures (Wilson J, et al., Dixon SL, et al., 2007; Dixon SL, et al., 2012). However, studies that demonstrated greater effectiveness of permanent interventions, such as replacing components (windows and doors) and installing siding, in comparison to temporary measures such as re-painting, were funded with federal grants. When such funding is not available, property owners often find less expensive temporary options more attractive. If permanent measures are too expensive for a given situation, it is appropriate to write orders for temporary measures. Children benefit from rapid control of lead hazards. It is appropriate to write orders that are achievable and that match the resources available to the property owners. (See Table 7.5 for the differences between lead-safe renovation and lead abatement activities.)The studies listed above provide good recent evaluations of what methods work to reduce lead hazards in housing. Earlier studies offer some useful historical evidence. For earlier reviews on evaluating lead hazard control measures, see: Does Residential Lead-Based Paint Hazard Control Work? A Review of the Scientific Evidence (National Center for Lead-Safe Housing, 1995); and Review of the Studies Addressing Lead Abatement Effectiveness (EPA, 1998).

Table 7.5 Lead-safe renovation activities versus lead abatement

Issue	Lead-Safe Renovation Activities	Lead Abatement
Who may conduct	• Certified Lead Safe Renovator (LSR) • Certified Lead Abatement Supervisor • Certified Lead Abatement Worker • Employees trained and supervised by a certified renovator, etc. • Must be affiliated with a Certified Lead-Safe Company or Lead Company	• Certified Lead Abatement Supervisor • Certified Lead Abatement Worker • All must be affiliated with a certified Lead Company
Certification card	Must have card ***on site*** when at renovation project site	Must have card ***on site*** at all times
Project Notification	***Not*** required	Required
Information to occupants/owners	Distribute the “Renovate Right” pamphlet to owners and occupants	Prepare and post an occupant protection plan
Work methods	Follow documented lead-safe methodologies	Follow documented abatement methodologies
Responsibilities of a certified person	Certified Lead-Safe Renovator: • Provides on the job training to untrained workers • Must be on site to ensure signs posted and work area contained • Must be on site during final cleaning • Must conduct the final Cleaning Verification protocol LSR is ***not*** required to be on site all other times during renovation	Certified Supervisor: • Must provide ***direct*** onsite supervision to certified workers at all times during abatement work, from containment set- up to final cleaning • Ensures proper containment, work practices and cleaning methods are used

Issue	Lead-Safe Renovation Activities	Lead Abatement
Containment	Interior: Minimum 6 feet Exterior: Minimum 10 feet Containment must prevent distribution of dust and debris outside of the ***renovation*** work area	Containment of work area. Must prevent the distribution of dust and debris outside of the ***abatement*** area
Protect property	Must protect personal property	**Must protect personal property**
Restrict access	Restrict access to renovation areas	Restrict access to abatement areas
Cleaning/final cleaning	Clean work area each day and at the end of the project LSR is on site to ensure proper cleaning	Clean work area each day and at the end of the project Certified supervisor on site
Visual inspection	LSR conducts visual inspection of work area (interior and exterior) to ensure all dust and debris have been removed	Certified supervisor conducts visual inspection of work area (interior and exterior) to ensure all dust and debris have been removed
Cleaning verification/ Clearance	LSR personally conducts the final Cleaning Verification protocol	Certified supervisor arranges for post-abatement clearance to be conducted by a certified lead inspector, hazard investigator or risk assessor
Report	Provides written report to the owner and person contracting for the renovation within 10 days after completion of renovation project	Provides written report to person contracting for abatement within 10 days after receiving clearance report, but no later than 20 days following completion of the abatement project

Non-abatement Measures for Lead Hazard Reduction – Non-abatement activities are "any measures or activities intended to temporarily but not permanently reduce exposure to LBP hazards" [Wis. Admin. Code DHS 163.03(c)]. Cleaning, wet scraping and repainting can be economical and cost-effective for some interior or exterior wall surfaces. Cleaning can inexpensively and rapidly reduce lead dust levels, but lead hazards addressed by cleaning only have failed dust tests more often and more quickly than surfaces treated by more thorough methods. Cleaning alone does not address the source(s) of the lead dust hazards.

Examples of temporary measures that parents and property owners can take quickly to clean and control access to hazards are listed below.

- ✓ Wash pacifiers and toys that are mouthed frequently during the day;
- ✓ Block access to areas where paint is not intact (e.g., with heavy pieces of furniture);
- ✓ Wet-clean window sills and window wells at least twice a week using soap and water;
- ✓ Wet mop all floors with soap and water at least twice a week and as needed; and
- ✓ Use a vacuum with a HEPA filter to clean areas of paint dust and chips.

These temporary measures are most effective when the area is well circumscribed, such as a window well, a porch, floors, etc., but they are not a substitute for long-term or permanent LHR.

Interim controls, such as cleaning and re-painting, require continuous and frequent monitoring because it is unclear how long they will effectively control lead hazards. They offer limited long-term protection for current or future occupants. Whenever possible, LHDs are advised to order cleaning only for immediate and very short-term efforts to reduce lead exposure. LHDs should require work that is more protective than cleaning. For example, LHDs can order stabilization (cleaning, preparing the surfaces for re-painting) for some limited temporary control of lead hazards. Limited wet scraping and wet sanding may be considered interim control methods if the goal is to prepare surfaces for re-painting and to stabilize and make intact those surfaces coated with old lead paint rather than the permanent removal of LBP.

LHDs can also order more long-term permanent abatement measures for sustained LHR at the property. For building components subject to friction and impact (Table 7.3), permanent (abatement) measures are more cost effective than interim controls at reducing lead dust levels long term. If orders allow the owner to conduct non-abatement work such as painting, the LHD should emphasize to the owner that the dwelling must pass wipe tests to ensure that the property meets clearance dust standards. (See Table 7.5 for the differences between lead-safe renovation activities and lead abatement.) This independent third party testing to achieve numerical lead dust standards is more strict (and more protective to occupants) than the "visual clearance tests" that contractors do for their other lead-safe renovation work.

Setting a Completion Date for Orders for Lead Hazard Reduction Activities – Wisconsin law [Wis. Stat. 254.166(2m)] provides LHDs guidance in setting time limits for property owners to conduct this work (Table 7.6). LHDs shall issue orders (to the owner) to reduce or eliminate imminent hazards within five days. For non-imminent lead hazards, LHDs shall order owners to reduce or eliminate lead hazards within 30 days of the order's issuance. For orders issued to address non-imminent hazards on the exterior of the dwelling during the cold weather period of October 1 to May 1, orders may require a deadline of no earlier than June 1 immediately following the order's issuance. LHDs can extend the time period to comply with the orders if the agency determines that the property owner has good cause for not complying.

Table 7.6 Deadlines for Ordering Lead Hazard Reduction

Type of hazard	**Time Limit**
Imminent hazards [Defined in Wis. Stat. 254.11(7g)]	5 days
Non-imminent hazards	30 days
Non-imminent exterior hazards found October 1 through May 1	After the next June 1

Source: Wis. Stat. 254.166(2m)

State law uses two different verbs ("will" and "may") to define imminent lead hazards and lead hazards. *An imminent lead hazard* **will** *place a child under six years of age at risk of developing* lead poisoning or lead exposure while *lead hazards* **may** *contribute* to lead poisoning or lead exposure of a child under six years of age. From a practical perspective, if an EBL investigation finds lead dust above the legal limits, this would be appropriate to describe as an imminent lead hazard since dust is acknowledged to be the major source of childhood lead exposure. If an EBL investigation finds deteriorated paint, this would often be appropriate to describe as a lead hazard. Deteriorated paint, if uncorrected, will typically create lead dust or lead soil hazards.

It is harmful to children when owners delay completing LHR work because it extends the child's exposure time to sources of lead. Research shows that longer exposures are more damaging to the brain.

LHD staff can assist property owners to obtain financial resources by referring them to the Wisconsin Department of Administration Division of Housing website. LHD staff can also help owners find lead-certified contractors by referring them to the DHS "Lead-Safe Wisconsin" website. By providing these connections, public health staff can help owners take steps to fix lead hazards and thus expedite completion of LHR orders.

Monitor Certification and Work in Progress – Lead abatement work must be done by a certified lead abatement contractor. However, if the LHD allows the property owner to do non-abatement work to reduce lead hazards, such as re-painting, then either the owner must be certified as a lead-safe renovator or the owner must hire a certified lead-safe renovator. DHS maintains lists of currently certified lead-safe renovators and lead abatement contractors. This information is maintained by the Wisconsin Asbestos and Lead Section, 608-261-6876, and is posted on the Lead-Safe Wisconsin web page.

If staff resources are sufficient and available, then LHD RA/LHI should find out the work schedule and arrange to visit the work site to assure that the workers hold the appropriate level of certification for the required work. The work orders can be written to require that the owner provide notice to the LHD when the work will be done. Similarly, if possible, the LHD staff should monitor the work in progress to assure that contractors use proper dust control methods and that no new lead hazards are created.

Disposal of Lead-Contaminated Materials – In Wisconsin, "lead paint waste from residential projects is considered household waste for disposal purposes and is not subject to hazardous waste regulation. 'Household waste' includes waste from single and multifamily residences, hotels, motels, bunkhouses, ranger stations, crew quarters, picnic grounds and day-use recreational areas. Lead paint waste from households should be collected in plastic bags, sealed and placed in the household trash, or taken to a household hazardous waste collection facility or event."

For more information, consult the Wisconsin Department of Natural Resources (DNR) Bureau of Solid and Hazardous Waste Management. The DNR regulates lead removal and disposal. The publication entitled Commercial and Residential Paint Removal and Disposal includes information about paint removal and disposal and has phone numbers of the regional DNR offices. To ask questions or obtain further information, contact a DNR regional office or the DNR Waste and Materials Management Program at 608-266-2111 or DNRWasteMaterials@Wisconsin.gov.

Clear the Property – When the due date for completion of LHR orders arrives, the certified RA/LHI must conduct a follow-up visit to the site to assure that the work was done safely, that no new lead hazards were created, and that the property meets both visual and dust test clearance standards. Details of the clearance protocol can be found in Wis. Admin. Code DHS 163.14(5).

The first step in clearing the property is to do a visual inspection. The RA/LHI must visually check the job to determine and document that lead hazards were addressed as ordered, that no visible dust, dirt or debris is present and that no new lead hazards were created by the work.

The next step is to collect dust wipe samples from areas where LHR work was ordered. There are rules about timing for clearance wipe samples. A minimum of one hour must pass after the certified contractor does final cleaning activities before the RA/LHI may take dust wipe samples for clearance. See Table 7.7 for guidance about sampling for clearance.

Table 7.7 Sample collection guide for clearance investigations

Interior work with Dust Containment separating work areas from non-work areas	Interior work with No Dust Containment to separate work and non-work areas	Exterior paint disturbing work
Visually inspect entire dwelling to assure that the contractor has addressed all lead hazards, completed the required work, and left no visible paint chips, dust, construction waste or debris. Do not collect wipe samples until dwelling and job site have been visually cleared. If snowfall prevents you from inspecting exterior ground, repeat exterior clearance when snow melts.		
Collect a floor and a window (sill or trough) wipe sample from at least four rooms*. If dwelling has less than four rooms, collect two samples (floor and window sill or trough) per room.	Collect a floor and a window (sill or trough) wipe sample from at least four rooms. If dwelling has less than four rooms, collect two samples (floor and window sill or trough) per room.	Conduct a visual inspection. Look for visible dust or debris on horizontal surfaces in outdoor common area close to work area such as porch, patio, deck, sidewalk or stoop.
Collect at least one floor sample per 2000 sq. ft. of floor from a common area inside the containment.	Collect at least one floor sample in common area per 2000 sq. ft. of floor.	Look for paint chips on the dripline, next to the foundation or any other surface below any exterior work areas.
Collect at least one floor sample outside the containment but within 10 feet of the containment boundary. HUD recommends collecting a floor wipe sample from each walkway used to enter or exit the work area.		Chip, soil or wipe samples are discretionary. If exterior work may have contaminated exterior porch floors or stairs, collecting dust samples is advisable.

* The term room includes hallways, stairwells and any other living areas.

DHS 163.14(5) requires a minimum of four floor dust wipe samples and four window dust wipe samples from four different rooms for clearance. These samples must meet clearance dust standards for the component before the property can be considered cleared and safe for re-occupancy. Current Wisconsin standards for single surface dust sampling are provided in Table 7.8. If the results exceed these standards, LHDs must order additional work and re-investigate when the work is done until clearance standards are met.

Table 7.8 Wisconsin Standards for Single Surface Dust Sampling

Surface	Leaded Dust Loading (mcg/dL)
Floors	40
Interior window sills/stools	250
Window wells/troughs	400

Source: Wis. Admin. Code DHS 163.14(5) clearance.

If the work orders address exterior soil hazards only, dust samples may not be required. If, for example, the only corrective action is to cover bare soil with mulch or new grass, then a visual assessment is sufficient for clearance. In any case, the RA/LHI conducting the clearance must provide a written clearance report to the property owner and tenant within 10 working days of the field investigation or within 10 days of when the laboratory reports results of their analysis of the environmental samples sent to the laboratory for analysis. Contents of the written clearance reports activities are detailed in Wis. Admin. Code DHS 163.14(5).

When the property is cleared, the RA/LHI must complete and submit the Property Investigation Closure Report (F-44771D; also see Appendix A) to inform WCLPPP of the status of the property.

Enforcement of Lead Hazard Reduction

The property owner is responsible for reducing identified lead hazards as ordered by the LHD. The property owner's responsibility to correct identified lead hazards remains even if the lead poisoned child living there at the time of diagnosis moves out and is no longer in occupancy.

For communities without a local ordinance, Wis. Stat. 254 provides several tools to enforce the statute when property owners are not compliant (see Table 7.2). For example, LHDs can post notices on the property in a conspicuous place indicating that a lead hazard is present under the authority of Wis. Stat. 254.166(2)(a). Many LHDs have used this strategy with productive results. Examples of such placards are shown in the Appendices.

Local health departments, under Wis. Stat. 254.59, may choose to pay for the correction of human health hazards (including lead) and then seek repayment for these costs from the property owner through local municipal property taxes.

In addition, under Wis. Stat. 254.59, an owner who maintains a human health hazard may be fined up to $300 or imprisoned for up to 90 days or both.

Racine has used some of the additional enforcement authority described in Wis. Stat. 254.595 to file "lis pendens" to motivate owners to comply with their local housing code. Essentially this ensures potential buyers find out that repairs are required when they do a title search.

Finally, if the property owner does not comply with orders to correct lead hazards, the LHD may report the violation of the law to the district attorney of the county in which the property is located for enforcement of the statute. Violators of the law are subject to civil and criminal penalties and fines. Many communities have sought enforcement to motivate noncompliant owners in this way (through Wis. Stat. 254.30). Typically this is time consuming since it requires the involvement of three levels of government: the LHD, county district attorney, and the state

law. LHDs report varied results when using Wis. Stat. 254.30 to motivate owners to fix lead hazards.

Local Ordinances – Since it is often so time consuming to assure that property owners correct lead hazards in housing and comply with orders in a timely manner, many communities have established local housing ordinances. Local ordinances can help LHDs to expedite the resolution of cases involving property owners who do not correct lead hazards within appropriate time limits. Historically, property owners in communities with local ordinances such as Milwaukee and Racine comply more quickly with LHR orders than owners in other Wisconsin communities. Many Wisconsin communities report that lead cases can move quickly through their municipal legal systems both because the parties may be more familiar with each other and because the parties are more familiar with childhood lead poisoning as an important issue. Others have suggested that "The act of appearing before a judge in a court of law seems to have served as an incentive for many owners." (Campbell et al., 2013)

Communities where public awareness about lead poisoning is great enough to support passage of an ordinance also tend to be better educated about lead and the threat it poses to children's health. These communities respond more promptly to lead poisoning, partly because owners are educated about the need to correct hazards and partly because judges are educated about the issues and act quickly to enforce the local ordinances.

Detailed and Current Information on Lead Hazard Reduction

For a full discussion of how to conduct interim controls and lead abatement, the following are excellent resources:

- *HUD Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing, 2012 Edition*, especially Chapters 11-16.

For information presented in a simply written and well-illustrated format that emphasizes interim controls, and low cost, practical abatement measures, see:

- *Lead Paint Safety: A Field Guide for Painting, Home Maintenance, and Renovation Work*, U.S. Department of Housing and Urban Development, Office of Lead Hazard Control, June 1999. Copies are also available from the National Lead Information Center at 1-800-424-5323. Note that this booklet was published before EPA issued the Lead Safe Renovator Rule, so the text is out of date from a regulatory perspective. The building science underlying the text and illustrations remains valid.

For the most current information on federal law and regulations regarding LHR, check the following internet sites:

- HUD at www.hud.gov/offices/lead
- EPA's National Lead Information Center at www.epa.gov/lead
- National Center for Healthy Housing at www.nchh.org

For current information on Wisconsin statutes relating to childhood lead poisoning and LHR activity, see Chapter 2 or https://www.dhs.wisconsin.gov/lead/regs-state.htm.

Certification and Training of Lead Hazard Reduction Workers

Wisconsin Law requires that anyone who conducts an EBL investigation must be a certified RA/LHI [Wis. Admin. Code DHS 163.14(2)]. The Division of Public Health (DPH) in DHS is committed to facilitating training for LHD staff by providing low-cost refresher training and re-certification.

After identifying and evaluating lead hazards in dwellings occupied by children with lead poisoning, and depending on what kind of work is ordered, LHDs have some discretion about what level of trained and certified contractors they require owners to use. LHDs can order owners to use either (a) certified lead abatement contractors to permanently correct lead hazards or (b) certified lead safe renovators to temporarily and safely correct lead hazards by cleaning, safely preparing surfaces for painting and re-painting.

Lead abatement always requires certified lead abatement contractors. Lead abatement certified contractors are also required when the work is:

- ✓ Ordered by the LHD to be completed by certified lead abatement contractors
- ✓ Funded by a grant that requires the work to be completed by certified lead abatement contractors

The Wisconsin Asbestos and Lead Database Online (WALDO) is the source for information about training, certification, and work practice requirements for LHR. See https://www.dhs.wisconsin.gov/waldo/index.htm to find answers to questions about:

- ✓ How to obtain certification for various lead disciplines;
- ✓ What certification is required for persons doing LHR or lead investigation work;
- ✓ When certification is due for a refresher course in each discipline;
- ✓ Who is certified in Wisconsin;
- ✓ Which accredited training providers provide training opportunities.

The website also contains numerous links to other state and local programs with information about LHR. The program can be reached by calling 608-261-6876 or email to: dhsasbestoslead@wisconsin.gov.

Funding for Lead Hazard Reduction

Funding for LHR activities remains the primary responsibility of the property owner. This is a major challenge in bringing about the elimination of the sources of childhood lead poisoning. Federal grants that are often awarded to local government or non-profit agencies may be found by checking the internet sources for HUD and EPA. When funding opportunities are known to WCLPPP, the program attempts to notify LHDs by email with information on how to access the application materials.

In addition, LHDs are encouraged to communicate and collaborate with local funding sources (such as banks, savings and loans, credit unions) and housing agencies (such as weatherization agencies or Community Development Block Grant agencies) to assist with building the capacity for lead-safe renovation work, financing, and the improvement of quality, affordable, lead-safe housing throughout their community.

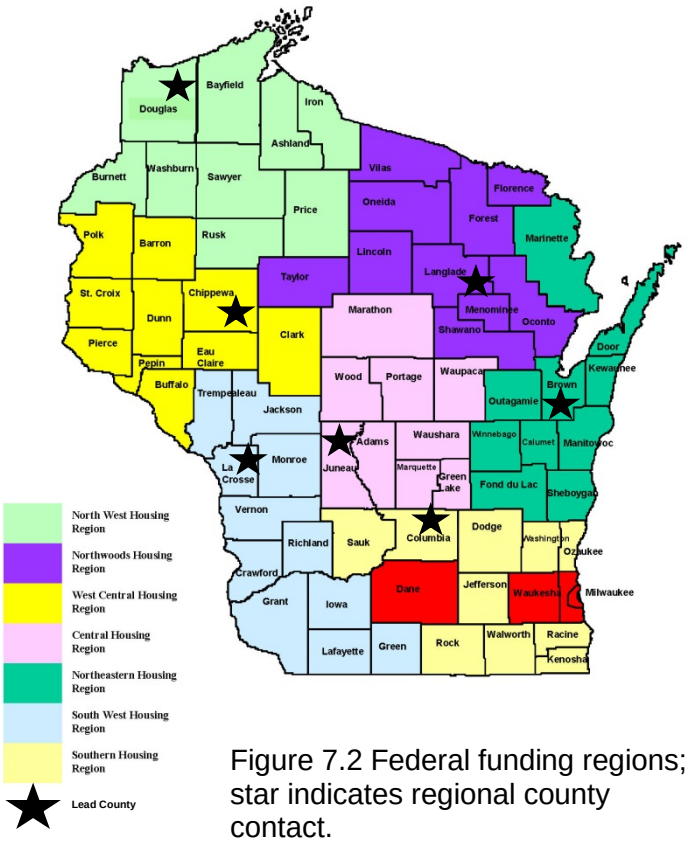

Figure 7.2 Federal funding regions; star indicates regional county contact.

The Wisconsin Department of Administration, Division of Housing, Bureau of Affordable Housing maintains lists of agencies that offer loans and grants for housing rehabilitation and LHR and posts links to these resources on their website. The Division of Housing distributes the CDBG Housing and HOME program funds that HUD allocates to Wisconsin among all Wisconsin communities except those which get their own funding directly from HUD. For purposes of distributing CDBG funds, the Division of Housing divides the state into seven regions with a principal county contact in each region (see Figure 7.2).

The Division of Housing has two other funding and resource booklets. Household Housing Guide includes a list of funding sources for low- and moderate-income owner-occupied dwellings. The Rental Housing Guide includes a list of funding sources for low- and moderate-income rental properties.

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