The focus in childhood lead-poisoning policy should shift from case identification and management to primary prevention, with a goal of safe housing for all children and adults (251). With this in mind, we suggest that the Galveston community, at high risk for lead exposure, work together to become a prototype for small cohesive community seeking to eliminate/eliminating a severe public health problem. We conclude by offering several specific recommendations, based primarily on initiatives in place elsewhere that are making a measurable difference:

**RECOMMENDATIONS**

- Appoint a “lead czar” and lead-elimination task force that would include representatives from public health, area residents, the Galveston Historical Foundation, the Galveston Board of Realtors, developers, the Galveston Independent School District, daycare centers, and others as appropriate. This formal collaboration is especially important in a smaller community such as Galveston, which may not be eligible for some federal funding based on number at risk. Such collaboration is therefore especially important not only for obtaining funding from multiple sources but also for putting in place a comprehensive and consistent lead-elimination plan and making it well known throughout the community. Ideally, this would be in the context of a Healthy Homes Initiative, of which lead-safe housing would be a key component.

- Institute an intensive media awareness campaign to ensure that all Galveston residents are fully aware of the problem and have easy access to fact sheets on testing, including a list of certified inspectors and interim controls. This information should be made available via television, radio, newspapers, clinic and physician offices, flyers sent home from schools, buses and other approaches as appropriate. Awareness should be the number one immediate goal. The majority of people simply do not yet know about the seriousness of lead exposure in general or the level of contamination in most of Galveston.

- Require blood-lead screening of all children within the city as a prerequisite for enrolling in day care or kindergarten, with all data made available to parents, the school system and the GCHD. Educational and psychosocial help should be available for all children with BLLs ≥ 5 µg/dL, possibly through volunteer organizations, and a list of investigative resources and actions to identify and reduce exposure should be provided to parents along with the blood-lead results. We would suggest that the screening be done at local schools and that a donation of $20 be suggested for those able to pay. Our conversations with area residents suggest that most would welcome easy mandatory screening and most would be willing to pay.

- Require testing by a certified inspector of all residential buildings (exterior and interior), tap water and surrounding soil, with the results made available, along with the “Addendum for Seller’s Disclosure of Information on Lead-Based Paint and Lead-Based Paint Hazards as Required by Federal Law” and an approved brochure on lead exposure before selling or renting any residential property.

- Phase-in a program that would prohibit the sale or rental of any residential property unless certified lead-safe by a reputable laboratory. Sales could also be conditional on establishment of an escrow account with lead-abatement within a certain period after sale, usually six months, with no habitation until certified lead-safe.

- Require testing by a certified inspector of all schools, daycare centers, playgrounds and other areas where children spend large amounts of time as part of the permitting process. Such facilities would have to be certified lead-safe before use.

- Increase awareness and enforcement of the City of Galveston's current “Lead Abatement” regulations, which apply to all pre-1978 residential and commercial buildings and require a number of measures—including extensive use of dropcloths and restrictions on the use of power-assisted equipment—to protect soil and neighborhoods from lead contamination during exterior paint removal. The regulation includes up to a $2,000 per day fine for noncompliance.

- Expand the City of Galveston’s “Lead Abatement” regulations to include interior lead-abatement activities, based on regulations in place elsewhere, which generally include pre-renovation testing by a certified laboratory; use of workers certified in lead-abatement activities or completion of a lead-abatement course by homeowners doing their own work; protection of workers and residents from exposure during interior paint removal, which generally includes prohibiting habitation in a structure during lead-abatement (children especially should not be in a home during renovation); written information on lead poisoning for workers, residents and neighbors for any pre-1978 renovation; and post-renovation certification by a qualified inspector that the structure is lead-safe before habitation.

- Add the City of Galveston’s lead abatement regulations to its “Design Standards for Historic Properties of Galveston, Texas” (67) and to its website for easy access.

- Create several lead-safe houses, possibly in collaboration with the Galveston Historical Foundation or Section 8 public housing, where families can move during lead-abatement in their homes or apartments.

- Require testing by a certified inspector of all residential buildings (exterior and interior), tap water and surrounding soil, with the results made available, along with the “Addendum for Seller’s Disclosure of Information on Lead-Based Paint and Lead-Based Paint Hazards as Required by Federal Law” and an approved brochure on lead exposure before selling or renting any residential property.

- Phase-in a program that would prohibit the sale or rental of any residential property unless certified lead-safe by a reputable laboratory. Sales could also be conditional on establishment of an escrow account with lead-abatement within a certain period after sale, usually six months, with no habitation until certified lead-safe.

- Require testing by a certified inspector of all schools, daycare centers, playgrounds and other areas where children spend large amounts of time as part of the permitting process. Such facilities would have to be certified lead-safe before use.

- Increase awareness and enforcement of the City of Galveston's current “Lead Abatement” regulations, which apply to all pre-1978 residential and commercial buildings and require a number of measures—including extensive use of dropcloths and restrictions on the use of power-assisted equipment—to protect soil and neighborhoods from lead contamination during exterior paint removal. The regulation includes up to a $2,000 per day fine for noncompliance.

- Expand the City of Galveston’s “Lead Abatement” regulations to include interior lead-abatement activities, based on regulations in place elsewhere, which generally include pre-renovation testing by a certified laboratory; use of workers certified in lead-abatement activities or completion of a lead-abatement course by homeowners doing their own work; protection of workers and residents from exposure during interior paint removal, which generally includes prohibiting habitation in a structure during lead-abatement (children especially should not be in a home during renovation); written information on lead poisoning for workers, residents and neighbors for any pre-1978 renovation; and post-renovation certification by a qualified inspector that the structure is lead-safe before habitation.

- Add the City of Galveston’s lead abatement regulations to its “Design Standards for Historic Properties of Galveston, Texas” (67) and to its website for easy access.

- Create several lead-safe houses, possibly in collaboration with the Galveston Historical Foundation or Section 8 public housing, where families can move during lead-abatement in their homes or apartments.
• Increase funding for the GCHD, as outlined in “Childhood Lead Poisoning Prevention: A Program Plan for Galveston County” (154), to enable the GCHD to do more outreach, blood-lead screening and environmental inspections, as well as to participate fully in the CDC’s STELLAR and the TX CLPPP’s surveillance programs.

• Require prenatal screening of blood-lead for pregnant high-risk women, with recommendations for reducing current exposure and bone-leaching.

• Consider legal action against makers of lead-based paint as has been done in a number of other communities with less of a lead-poisoning problem than Galveston. St. Louis, Milwaukee, Philadelphia, New Orleans, Chicago, Oakland, San Francisco and the New York Housing Authority have pending lawsuits and Rhode Island settled in 1998 with three paint companies for $206 million to remove lead-paint hazards from public buildings accessible to children. Most of the lawsuits seek to recover public money spent on screening, education and lead abatement.

• Encourage federal funding support of smaller communities with demonstrated lead remediation needs.

We recommend that the Galveston community begin immediately to implement programs aimed at eliminating lead exposure in home, public space and work environments, using this public health emergency as a rallying point for the community and to create an example that will generate positive publicity for Galveston and possibly serve as a prototype for other similar communities in the U.S. This is a preventable disease and the cost of lead abatement is dramatically lower than the health, social and human cost of continuing, knowingly, to poison our children. By the time a child is identified as having elevated lead levels, irrevocable damage has been done that will exist throughout that child’s lifetime and is likely to affect his or her children as well. Screening for elevated lead—although still needed—is too late. Prevention is key.


REFERENCES


REFERENCES*


REFERENCES


REFERENCES


154. Lamb ST. 2007. Childhood Lead Poisoning Prevention: A Program Plan for Galveston County [Thesis in Partial Fulfillment of the Requirements for an MPH]. Graduate School (Capstone Program), The University of Texas Medical Branch at Galveston, Galveston, TX.


REFERENCES


REFERENCES


231. Rezende VB, Barbosa F, Jr., Montenegro MF, Sandrim VC, Gerlach RF, Tanus-Santos JE. 2007. Haplotypes of vitamin D receptor modulate the circulating levels of lead in exposed subjects. Archives of Toxicology.


REFERENCES*


REFERENCES*


* Website addresses are given as a convenience to the reader and were functional at the time of publication.
USEFUL RESOURCES

(alphabetical)

Agency for Toxic Substances & Disease Registry
1600 Clifton Road NE
Atlanta, GA 30333
1.888.42.ATSDR (1.888.422.8737)
www.atsdr.cdc.gov
Description: Provides health information to prevent harmful exposures and diseases related to toxic substances.
Documents of Particular Interest:
• ToxFAQs for Lead
  www.atsdr.cdc.gov/ftfacts13.html
• 2005 Toxicological Profile for Lead
  or www.atsdr.cdc.gov/toxprofiles/tp13.html

Galveston County Health District, Epidemiology Services
(Blood Lead Screening)
PO Box 939
La Marque, TX 77568
409.938.2322 or 800.705.8868
www.gchd.org/epidemiology/bloodlead.htm
Description: Provides guidance for blood lead screening in Galveston.

Galveston Historical Foundation
1861 Custom House
502 20th Street
Galveston, TX 77550
409.765.7834
www.galvestonhistory.org
Description: One of the nation’s largest local preservation organizations. The foundation also addresses community redevelopment and public education.
Documents of Particular Interest:
• Preservation links:
  www.galvestonhistory.org/Preservation_Links.asp
• Places to visit map:
  www.galvestonhistory.org/plc-map.asp

Harris County Hospital District: Health Fairs
Phone: 713.566.6718
Fax: 832.487.2081
www.hchdonline.com/health/healthfairs.htm
Description: Provides information regarding health fairs in Harris County.

Houston Department of Health and Human Services (HDHHS)
Childhood Lead Poisoning Prevention Program (CLPPP)
Phone 713.794.9349
www.houstontx.gov/health/Environmental/childhood.html
Description: Provides blood lead testing for children, community outreach and education, environmental investigation and case management.
Documents of Particular Interest:
• The ABC’s of Lead Screening for Children: A Quick Reference for Medical Providers
  www.houstontx.gov/health/Community/abcART.pdf

National Center for Healthy Housing (NCHH)
10320 Little Patuxent Parkway, Suite 500
Columbia, MD 21044
www.centerforhealthyhousing.org
Description: Promote practical methods to protect children from environmental hazards while preserving affordable housing.
Documents of Particular Interest:
• Links to latest lead research and program evaluations:
  www.centerforhealthyhousing.org/html/research.htm
• The following are some of the publications are available at
  www.centerforhealthyhousing.org/html/info_for_you.htm
  Lead Paint Can Poison: Tenants at Risk
  Lead Paint Can Poison: Is Your Family at Risk?
  How to Check for Lead Hazards in Your Home
  Finding a Qualified Lead Professional
  Lead Paint Can Poison: Protect Your Family When You Repaint or Remodel
  Cleaning Lead-Contaminated Dust
  Selecting a Lead Laboratory

National Conference of State Legislatures Lead Statutes Database
Interactive legal database by state and legal topic (e.g., property maintenance, certification and licensing, enforcement, abatement, and screening/reporting) that allows one to easily find the lead legislation in place in each state.
www.ncsl.org/programs/enviro/envhealth/leadStatutesdb.cfm

National Environmental Education Foundation (NEEF)
4301 Connecticut Avenue NW, Suite 160
Washington, DC 20008
Phone: 202.833.2933
Fax: 202.261.6464
www.neefusa.org/index.htm
Description: NEEF works with a network of health professionals, weathercasters, land managers and teachers to create and leverage public-private partnerships and to promote daily actions for helping people live well while protecting and enjoying nature.
Documents of Particular Interest:
• A one-page Pediatric Environmental History form for children:
  www.neefusa.org/pdf/PedEvnHistoryScreening.pdf. See Appendices.
• A three-page “Pediatric Environmental History” form with additional categories and questions to supplement the first form:
  www.neefusa.org/pdf/PEH1history.pdf
USEFUL RESOURCES

National Register of Historic Places, National Park Service
1201 Eye Street, NW
Washington, DC 20005
202.354.2213
www.nps.gov/nr/index.htm
Description: Has a complete “official list of cultural resources worthy of preservation.” Included in the list are districts, sites, buildings, structures, objects significant in American history, architecture, archeology, engineering, and culture.
Documents of Particular Interest:
• A searchable database that includes all of Galveston’s historic areas: www.nr.nps.gov/nrloc1.htm (select “State and City” and enter TX, Galveston).

National Register of Historic Places:
TEXAS – Galveston County – Historic Districts
www.nationalregisterofhistoricplaces.com/TX/Galveston/districts.htm
Description: Lists the historic districts of Galveston, with architectural and historically significant details.

Southwest Center for Pediatric Environmental Health (SWCPEH)
The University of Texas Health Center at Tyler
11937 U.S. Highway 271
Tyler, TX 75708-3154
Toll-free: 888.901.5665 (AR, LA, NM, OK, and TX only)
Administrative number and calls from outside the region: 903.877.5884
www.swcpeh.org
Description: Based in Tyler, Texas, SWCPEH aims to educate pediatric health care providers and the general public to better serve the health needs of children affected by environmental exposures through education programs and 24-hour telephone consultation. Services are offered at no charge. A list of services is located at www.swcpeh.org/home_services.asp.

Texas Department of State Health Services
Childhood Lead Poisoning Prevention Program (CLPPP)
1100 W. 49th Street
Austin, Texas 78756
800.588.1248
www.dshs.state.tx.us/lead
Description: The TX CLPPP’s mission is to partner with local and regional health departments; city, state, and federal agencies; and other community organizations to protect Texas children from lead poisoning. The website provides numerous materials for physicians, parents and others, as well as contact information for local CLPPP programs.
Documents of Particular Interest:
• Pb-110 Risk Assessment for Lead Exposure
  www.dshs.state.tx.us/lead/pdf_files/pb_110_parent_questionnaire.pdf
• Pb-101: Request for Environmental Investigation
  www.dshs.state.tx.us/lead/pdf_files/pb_101_ei_request.pdf
• Pb-104: Physician Checklist for Parent Education Topics
  www.dshs.state.tx.us/lead/pdf_files/pb_104_phychecklist.pdf
• 1-313: Childhood Blood Lead Testing: Getting a Good Specimen
  www.dshs.state.tx.us/lead/pdf_files/specimen_poster.pdf
• Protect Your Children From Lead Poisoning
  www.dshs.state.tx.us/lead/pdf_files/1_26_eng.pdf [English]
  www.dshs.state.tx.us/lead/pdf_files/1_26a_spn.pdf [Spanish]
• Lead in the Workplace and at Home
  www.dshs.state.tx.us/lead/pdf_files/1_309_eng.pdf [English]
  www.dshs.state.tx.us/lead/pdf_files/1_309_spn.pdf [Spanish]
• Toward a Lead-Safe Texas: Texas Strategic Plan to Eliminate Child Lead Poisoning By 2010
  www.dshs.state.tx.us/lead/pdf_files/tx_clppp_sp_07.pdf

Texas Department of State Health Services
Environmental Lead Program (ELP)
1100 W. 49th Street
Austin, TX 78756-3199
Toll-free in Texas: 1.888.778.9440 ext 2434
Outside of Texas: 512.834.6773 ext 2434
www.dshs.state.tx.us/elp
Description: Oversees procedures for lead inspections, lead risk assessments, and lead abatement in pre-1978 buildings. Provides downloadable forms and information regarding requirements, certification, and exams.
Documents of Particular Interest:
• Guidelines for Remodeling a Home
  www.dshs.state.tx.us/elp/pdf/Renovation.pdf
• Texas Rules and HUD Rehab Projects
  www.dshs.state.tx.us/elp/pdf/HUDRehabProjects.pdf
• Certification Requirements
  www.dshs.state.tx.us/elp/pdf/certreq.pdf
• List of Lead Inspectors
  www.dshs.state.tx.us/elp/PDF/PB_INSPECTION.pdf
• List of Lead Risk Assessors
  www.dshs.state.tx.us/elp/PDF/PB_RISKA.pdf

U.S. Centers for Disease Control and Prevention (CDC)
Childhood Lead Poisoning Prevention Branch
4770 Buford Highway
Atlanta, GA 30341
770.488.3300
www.cdc.gov/nceh/lead
Description: Provides funding, support and training to state and local lead-poisoning prevention programs and collects childhood blood lead surveillance data. The CDC website also posts the latest childhood lead threats, along with screening and case management guidelines.
Documents of Particular Interest:
- Preventing Lead Poisoning in Young Children
- Building Blocks for Primary Prevention: Protecting Children from Lead-Based Paint Hazards
- Screening Young Children for Lead Poisoning: Guidance for State and Local Public Health Officials
  www.cdc.gov/nceh/lead/publications/ScreeningYoungChildren.pdf
- Preventing Lead Poisoning in Young Children
- Managing Elevated Blood Lead Levels Among Young Children: Recommendations from the Advisory Committee on Childhood Lead Poisoning Prevention
  www.cdc.gov/nceh/lead/CaseManagement/caseManage_chap1.htm
- Lead Poisoning Prevention Program: State and Local Programs
  www.cdc.gov/nceh/lead/grants/contacts/CLPPP%20Map.htm

U.S. Consumer Product Safety Commission (CPSC)
4330 East West Highway
Bethesda, MD 20814
Phone: 1.800.638.2772; TDD: 1.800.638.8270
www.cpsc.gov
Description: Provides information on unsafe products

Documents of Particular Interest:
- Searching for the key word “lead” will yield the latest articles and information regarding lead in consumer products.

U.S. Department of Housing and Urban Development (HUD) Office of Healthy Homes and Lead Hazard Control (OHHLHC)
422 South Clinton Avenue
Rochester, NY 14620
www.hud.gov/offices/lead
Description: The OHHLHC provides public outreach and technical assistance, enforcement of HUD’s lead-based paint regulations, examples of successful lead-reduction case histories, and funding to state and local governments to reduce lead-based paint hazards.

Documents of Particular Interest:
- HUD Technical Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing
  This resource includes chapters on inspections, interim controls, encapsulation, renovation of historic structures and other useful information.
  www.hud.gov/offices/lead/guidelines/hudguidelines
- Lead-Safe Housing Rule
  This rule applies to all housing that is federally owned and housing receiving Federal assistance.
  www.hud.gov/offices/lead/leadsaferule
- Dr. Edward Pringle, Field Office Director
  1301 Fannin, Suite 2200
  Houston, TX 77002
  Hours: 7:45 am to 4:30 pm, Monday – Friday
  713.718.3199
  TTY: 713.718.3289

U.S. Environmental Protection Agency (EPA)
Office of Pollution Prevention & Toxics
1200 Pennsylvania Avenue, NW
Washington, DC 20460
202.566.0500
www.epa.gov/lead
Description: Provides numerous resources online, including publications in English and Spanish with suggestions on how to protect children from exposure.

Resources of Particular Interest:
- U.S.EPA National Lead Information Center (NLIC Lead Hotline) 1.800.424.LEAD [5323].
  Speak with a lead specialist Monday through Friday, 8:00 am to 6:00 pm eastern time (except Federal holidays).
  Recorded message system available in English and Spanish 24 hours a day, seven days a week
- Testing Your Home for Lead in Paint, Dust And Soil
- Lead Paint Safety: A Field Guide for Painting, Home Maintenance, and Renovation Work
  www.epa.gov/lead/pubs/leadsafety/bk.pdf
### Abbreviations

(alphabetical)

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AAP</td>
<td>American Academy of Pediatrics</td>
</tr>
<tr>
<td>ALAD</td>
<td>delta-aminolevulinic acid dehydratase</td>
</tr>
<tr>
<td>ATSDR</td>
<td>U.S. Agency on Toxic Substances and Disease Registry</td>
</tr>
<tr>
<td>B cells</td>
<td>B lymphocytes (a type of white blood cell)</td>
</tr>
<tr>
<td>BCM-EHS</td>
<td>Baylor College of Medicine Environmental Health Section</td>
</tr>
<tr>
<td>BLL</td>
<td>blood lead level</td>
</tr>
<tr>
<td>CDC</td>
<td>U.S. Centers for Disease Control and Prevention</td>
</tr>
<tr>
<td>CI</td>
<td>confidence interval</td>
</tr>
<tr>
<td>CNS</td>
<td>central nervous system</td>
</tr>
<tr>
<td>CPSC</td>
<td>U.S. Consumer Product and Safety Commission</td>
</tr>
<tr>
<td>CLPPP</td>
<td>Childhood Lead Poisoning and Prevention Program</td>
</tr>
<tr>
<td>DHHS</td>
<td>U.S. Department of Health and Human Services</td>
</tr>
<tr>
<td>EDTA</td>
<td>ethylene diamine tetra-acid</td>
</tr>
<tr>
<td>EHNCG</td>
<td>Environmental Health Notifications Group in Austin, TX</td>
</tr>
<tr>
<td>ELP</td>
<td>Texas Environmental Lead Program</td>
</tr>
<tr>
<td>EPA</td>
<td>United States Environmental Protection Agency</td>
</tr>
<tr>
<td>ESRD</td>
<td>end-stage renal disease</td>
</tr>
<tr>
<td>GCAD</td>
<td>Galveston Central Appraisal District</td>
</tr>
<tr>
<td>GCHD</td>
<td>Galveston County Health District</td>
</tr>
<tr>
<td>GFAAS</td>
<td>graphic furnace atomic absorption spectroscopy</td>
</tr>
<tr>
<td>GLMM</td>
<td>generalized linear mixed model</td>
</tr>
<tr>
<td>GSH</td>
<td>tripeptide glutathione</td>
</tr>
<tr>
<td>GSSG</td>
<td>glutathione disulfide</td>
</tr>
<tr>
<td>H-GAC</td>
<td>Houston-Galveston Area Council</td>
</tr>
<tr>
<td>HCPHES</td>
<td>Harris County Public Health and Environmental Services Department</td>
</tr>
<tr>
<td>HDHHS</td>
<td>City of Houston Department of Health and Human Services</td>
</tr>
<tr>
<td>HIPAA</td>
<td>Health Insurance Portability and Accountability Act</td>
</tr>
<tr>
<td>HUD</td>
<td>U.S. Department of Housing and Urban Development</td>
</tr>
<tr>
<td>IAARC</td>
<td>International Agency for Research on Cancer</td>
</tr>
<tr>
<td>ICP-MS</td>
<td>inductively coupled plasma/mass spectrometry</td>
</tr>
<tr>
<td>IgG, IgM, IgA</td>
<td>immunoglobulins important in immune response</td>
</tr>
<tr>
<td>IRB</td>
<td>Institutional Review Board</td>
</tr>
<tr>
<td>KXRF</td>
<td>K X-ray fluorescence [for bone-lead testing]</td>
</tr>
<tr>
<td>LA-ICP-MS</td>
<td>laser ablation-inductively coupled plasma-mass spectrometry</td>
</tr>
<tr>
<td>LOD</td>
<td>Level of detection</td>
</tr>
<tr>
<td>µg/dL</td>
<td>micrograms per deciliter</td>
</tr>
<tr>
<td>MDDI</td>
<td>Many Diversified Interests superfund site in the 5th Ward, Houston, TX</td>
</tr>
<tr>
<td>MMWR</td>
<td>Morbidity and Mortality Weekly Report</td>
</tr>
<tr>
<td>MRI</td>
<td>magnetic resonance imaging</td>
</tr>
<tr>
<td>MRS</td>
<td>magnetic resonance spectroscopy</td>
</tr>
<tr>
<td>NEEF</td>
<td>National Environmental Education Foundation</td>
</tr>
<tr>
<td>NHANES</td>
<td>National Health and Nutrition Examination Survey</td>
</tr>
<tr>
<td>NK cells</td>
<td>natural killer cells, a type of white blood cell</td>
</tr>
<tr>
<td>NLMS</td>
<td>National Longitudinal Mortality Study</td>
</tr>
<tr>
<td>NPL</td>
<td>National priority listing [superfund site]</td>
</tr>
<tr>
<td>OSHA</td>
<td>U.S. Occupational Safety and Health Administration</td>
</tr>
<tr>
<td>PCL</td>
<td>protective critical levels</td>
</tr>
<tr>
<td>PBG</td>
<td>porphobilinogen</td>
</tr>
<tr>
<td>pRBCs</td>
<td>packed red blood cells</td>
</tr>
<tr>
<td>ROS</td>
<td>reactive oxygen species</td>
</tr>
<tr>
<td>SF1</td>
<td>Summary File 1 from the U.S. Census (actual count data)</td>
</tr>
<tr>
<td>SF3</td>
<td>Summary File 3 from the U.S. Census (extrapolation from 1 in 6 sample)</td>
</tr>
<tr>
<td>SMR</td>
<td>standardized mortality ratio</td>
</tr>
<tr>
<td>STAR*Map</td>
<td>Southeast Texas Addressing and Referencing Map</td>
</tr>
<tr>
<td>SWCPHEH</td>
<td>Southwest Center for Pediatric Environmental Health</td>
</tr>
<tr>
<td>T cells</td>
<td>T lymphocytes (a type of white blood cell)</td>
</tr>
<tr>
<td>TCEQ</td>
<td>Texas Commission on Environmental Quality</td>
</tr>
<tr>
<td>TDSHS</td>
<td>Texas Department of State Health Services</td>
</tr>
<tr>
<td>TELRR</td>
<td>Texas Environmental Lead Reduction Rules</td>
</tr>
<tr>
<td>TRRP</td>
<td>Texas Risk Reduction Program</td>
</tr>
<tr>
<td>UTMB</td>
<td>University of Texas Medical Branch</td>
</tr>
<tr>
<td>U.S.</td>
<td>United States</td>
</tr>
<tr>
<td>WIC</td>
<td>Special Supplemental Nutrition Program for Women, Infants, and Children</td>
</tr>
<tr>
<td>WML</td>
<td>white matter lesions</td>
</tr>
<tr>
<td>XRF</td>
<td>X-Ray fluorescence [for testing paint]</td>
</tr>
</tbody>
</table>
DANGER
US ENVIRONMENTAL PROTECTION AGENCY

CONTAMINATED
NO TRESPASSING
VIOLATORS WILL BE PROSECUTED

CONTAMINADA
NO TRASPASAR
VIOLADORES SERAN PROCESADOS

1-800-EPA-SPIL

SITE ID# TXD008083404
Appendix 1
This one-page Pediatric Environmental History screening form from the National Environmental Education Foundation can be downloaded from [www.neefusa.org/pdf/PedEnvHistoryScreening.pdf](http://www.neefusa.org/pdf/PedEnvHistoryScreening.pdf) and is designed to be administered in less than 5 minutes. A two-page form that includes several questions about lead exposure can be downloaded from [www.neefusa.org/pdf/PEHLhistory.pdf](http://www.neefusa.org/pdf/PEHLhistory.pdf).

## Pediatric Environmental History (0-18 Years of Age)
*The Screening Environmental History*

For all of the questions below, most are often asked about the child’s primary residence. Although some questions may specify certain locations, one should always consider all places where the child spends time, such as daycare centers, schools, and relative’s houses.

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
<th>Not sure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Where does your child live and spend most of his/her time?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What are the age, condition, and location of your home?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Does anyone in the family smoke?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you have a carbon monoxide detector?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you have any indoor furry pets?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What type of heating/air system does your home have?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Radiator</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forced air</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gas stove</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wood stove</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What is the source of your drinking water?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Well water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottled water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is your child protected from excessive sun exposure?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is your child exposed to any toxic chemicals of which you are aware?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What are the occupations of all adults in the household?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have you tested your home for radon?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Do you have any other questions or concerns about your child’s home environment or symptoms that may be a result of his or her environment?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Follow up/Notes

---

This screening environmental history is designed to capture most of the common environmental exposures to children. The screening history can be administered regularly during well-child exams as well as to assess whether an environmental exposure plays a role in a child’s symptoms. If a positive response is given to one or more of the screening questions, the primary care provider can consider asking further questions on the topic provided in the Additional Categories and Questions to Supplement the Screening Environmental History.

The Screening Environmental History is taken in part from the following sources:
Appendix 2

Texas Department of State Health Services Form Pb-100: Lead Assessment Interview Tool to be used with parents of a child with elevated lead levels. This form and other useful forms for physicians, educators and parents are available for downloading from www.dshs.state.tx.us/lead/providers.shtm.

<table>
<thead>
<tr>
<th>Child's Name:</th>
<th>DOB:</th>
<th>Medicaid No:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Address:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Informant's Name and Relationship:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Home Phone:</td>
<td>Work Phone:</td>
<td></td>
</tr>
<tr>
<td>Provider Address:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provider Phone:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interviewer:</td>
<td>Date of Interview:</td>
<td></td>
</tr>
</tbody>
</table>

1. Was your home probably built before 1978?  
   ¿Se construyó su casa probablemente antes de 1978?
   □ Yes □ No

2. How long have you lived at this address?  
   ¿Cuánto tiempo ha vivido en esta dirección?
   [Blank]

3. What was your previous address?  
   ¿Cuál era su dirección anterior?
   [Blank]

4. Is there any peeling paint on the outside or inside of your home?  
   ¿Hay pintura desprendida en las paredes al interior o exterior de su hogar?
   □ Yes □ No

5. Has any recent remodeling of your home involved paint removal or the use of old or recycled lumber?  
   ¿Ha habido renovaciones recientes de su hogar que hayan involucrado el remoción de pintura o el uso de maderas viejas o recicladas?
   □ Yes □ No

6. Does your child spend time at any other building (daycare center, Grandparent's house, neighbor's house, etc.) that was probably built before 1978 or that has had recent renovations?  
   ¿Pasa su niño o niña tiempo en algún otro edificio (centro de guardería, casa de abuelos, casa de vecinos, etc.) que probablemente halla sido construido antes de 1978 o que haya tenido renovaciones recientes?
   □ Yes □ No

7. Does anyone in your family use alternative, traditional, or home remedies, such as Greta, Azarcon, Maria Luisa, or Pay-loo-ah?  
   ¿Hay alguno de su familia que use remedios alternativos, tradicionales, o caseros, como Greta, Azarcon, Maria Luisa, o Pay-loo-ah?
   □ Yes □ No
### Appendices

8. Does your child put non-food items, like paint or dirt, in his or her mouth?  
   ¿Se lleva a la boca, su niño o niña, cosas no comestibles (como pintura o tierra)?
   - [ ] Yes  
   - [ ] No

9. If your house is heated by a wood-burning stove or fireplace, is painted  
   wood burned as fuel?  
   Si calienta usted su casa con estufa de leña o chimenea ¿Quema usted madera  
   recubierta de pintura como combustible?  
   - [ ] Yes  
   - [ ] No

10. Does anyone in your home make bullets, make fishing weights, make stained glass,  
    make or glaze pottery, or work on autos near the house?  
    ¿Alguien en su hogar manufactura balas, pesas para cañas de pescar, vidrio de colores;  
    que manufacture o aplique vidriado a la cerámica o que arregle autos cerca de la casa?  
    - [ ] Yes  
    - [ ] No

11. Where are members of your household employed?  
    ¿En dónde trabajan los miembros de su familia?  
    - What is their main job?  
    - [ ] Principalemente en qué trabajan?

12. Are acid-containing foods like fruit juices stored in pottery, porcelain, pewter,  
    leaded crystal, or cans?  
    ¿Almacena usted comida de alto contenido de ácido, como jugos de fruta, en  
    recipientes de barro, porcelana, peltre, cristal de plomo, o en latas?  
    - [ ] Yes  
    - [ ] No

13. Do you cook or store food in a bean pot or in pottery that is glazed?  
    ¿Cocina o guarda usted comida en olla para frijoles, en allarería recubierta con  
    vidriado que contenga plomo?  
    - [ ] Yes  
    - [ ] No

14. Are there factories near the place where your child spends most of his time?  
    ¿Se encuentran fábricas cerca del lugar en donde su niño o niña pasa la mayor  
    parte del tiempo?  
    - [ ] Yes  
    - [ ] No

15. Have other members of the family or any of your child’s friends had  
    high blood lead levels?  
    ¿Han tenido otros miembros de la familia o cualquiera de los amigos de sus niños  
    altos niveles de plomo en la sangre?  
    - [ ] Yes  
    - [ ] No

   If yes, who?  
   ¿Si su respuesta fué sí, quienes?

For further information, refer to the attached Physician Reference on Follow-up Testing and Case Management  
and/or contact the statewide Follow-Up Coordinator at 1-800-588-1248.
Appendix 3
Texas Department of State Health Services Texas Childhood Lead Poisoning Prevention Program Form #F09-11709 Childhood Blood Lead Level Report. This form must be submitted for all blood levels obtained on Texas residents. Available from www.dshs.state.tx.us/lead/pdf_files/blood_lead_report.pdf.

<table>
<thead>
<tr>
<th>TX Department of State Health Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Texas Childhood Lead Poisoning Prevention Program Form #F09-11709 Childhood Blood Lead Level Report</td>
</tr>
</tbody>
</table>

**Confidential Medical Records**

<table>
<thead>
<tr>
<th>Send to:</th>
<th>From:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Childhood Lead Poisoning Prevention Program</td>
<td>Provider Name</td>
</tr>
<tr>
<td>Texas Department of State Health Services</td>
<td>Address:</td>
</tr>
<tr>
<td>1100 West 49th Street</td>
<td>City/State/ZIP:</td>
</tr>
<tr>
<td>Austin, TX 78756</td>
<td>Phone Number:</td>
</tr>
<tr>
<td>Fax Number: (512) 458-7699</td>
<td>Phone Number:</td>
</tr>
<tr>
<td>Phone Number:</td>
<td>Fax Number:</td>
</tr>
<tr>
<td>(512) 458-7269 or (800) 588-1248</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Child Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last Name:</td>
</tr>
<tr>
<td>Date of Birth: (mm-dd-yyyy)</td>
</tr>
<tr>
<td>Age in Months:</td>
</tr>
<tr>
<td>Current Address:</td>
</tr>
<tr>
<td>City:</td>
</tr>
<tr>
<td>Ethnicity: (check one)</td>
</tr>
<tr>
<td>Hispanic</td>
</tr>
<tr>
<td>Race: (check one)</td>
</tr>
<tr>
<td>White</td>
</tr>
<tr>
<td>Asian or Pacific Islander</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Blood Lead Level Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood Lead Test Level: _____ micrograms per deciliter (µg/dL)</td>
</tr>
<tr>
<td>Type of Blood Sample: (check one)</td>
</tr>
<tr>
<td>Capillary</td>
</tr>
<tr>
<td>Testing Laboratory:</td>
</tr>
<tr>
<td>Laboratory Phone:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Attending Physician Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Last Name:</td>
</tr>
<tr>
<td>Location (City):</td>
</tr>
</tbody>
</table>

For TX CLPPP Use Only

<table>
<thead>
<tr>
<th>Report Received by:</th>
<th>Date Received: (mm-dd-yyyy)</th>
</tr>
</thead>
</table>
Appendix 4

“Addendum for Seller’s Disclosure of Information on Lead-Based Paint and Lead-Based Paint Hazards as Required by Federal Law.” All Galveston buyers, sellers and renters of pre-1978 property must receive an approved pamphlet on lead poisoning on lead as well as this disclosure and acknowledgement form. The form can be downloaded from [www.trec.state.tx.us/pdf/contracts/OP-L.pdf](http://www.trec.state.tx.us/pdf/contracts/OP-L.pdf).

### ADDENDUM FOR SELLER’S DISCLOSURE OF INFORMATION ON LEAD-BASED PAINT AND LEAD-BASED PAINT HAZARDS AS REQUIRED BY FEDERAL LAW

**CONCERNING THE PROPERTY AT**

(Street Address and City)

**A. LEAD WARNING STATEMENT:** “Every purchaser of any interest in residential real property on which a residential dwelling was built prior to 1978 is notified that such property may present exposure to lead from lead-based paint that may place young children at risk of developing lead poisoning. Lead poisoning in young children may produce permanent neurological damage, including learning disabilities, reduced intelligence quotient, behavioral problems, and impaired memory. Lead poisoning also poses a particular risk to pregnant women. The seller of any interest in residential real property is required to provide the buyer with any information on lead-based paint hazards from risk assessments or inspections in the seller’s possession and notify the buyer of any known lead-based paint hazards. A risk assessment or inspection for possible lead paint hazards is recommended prior to purchase.”

**NOTICE:** Inspector must be properly certified as required by federal law.

**B. SELLER’S DISCLOSURE:**

1. **PRESENCE OF LEAD-BASED PAINT AND/OR LEAD-BASED PAINT HAZARDS** (check on box only):
   - (a) Known lead-based paint and/or lead-based paint hazards are present in the Property (explain): 
   - (b) Seller has no actual knowledge of lead-based paint and/or lead-based paint hazards in the Property.

2. **RECORDS AND REPORTS AVAILABLE TO SELLER** (check one box only):
   - (a) Seller has provided the purchaser with all available records and reports pertaining to lead-based paint and/or lead-based paint hazards in the Property (list documents):
   - (b) Seller has no reports or records pertaining to lead-based paint and/or lead-based paint hazards in the Property.

**C. BUYER’S RIGHTS** (check one box only):

1. Buyer waives the opportunity to conduct a risk assessment or inspection of the Property for the presence of lead-based paint or lead-based paint hazards.
2. Within ten days after the effective date of this contract, Buyer may have the Property inspected by inspectors selected by Buyer. If lead-based paint or lead-based paint hazards are present, Buyer may terminate this contract by giving Seller written notice within 14 days after the effective date of this contract, and the earnest money will be refunded to Buyer.

**D. BUYER’S ACKNOWLEDGMENT** (check applicable boxes):

1. Buyer has received copies of all information listed above.
2. Buyer has received the pamphlet Protect Your Family from Lead in Your Home.

**E. BROKERS’ ACKNOWLEDGMENT:** Brokers have informed Seller of Seller’s obligations under 42 U.S.C. 4852d to:

(a) provide Buyer with the federally approved pamphlet on lead poisoning prevention; (b) complete this addendum; (c) disclose any known lead-based paint and/or lead-based paint hazards in the Property; (d) deliver all records and reports to Buyer pertaining to lead-based paint and/or lead-based paint hazards in the Property; (e) provide Buyer a period of up to 10 days to have the Property inspected; and (f) retain a completed copy of this addendum for at least 3 years following the sale. Brokers are aware of their responsibility to ensure compliance.

**F. CERTIFICATION OF ACCURACY:** The following persons have reviewed the information above and certify, to the best of their knowledge, that the information they have provided is true and accurate.

<table>
<thead>
<tr>
<th>Buyer</th>
<th>Date</th>
<th>Seller</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Buyer</th>
<th>Date</th>
<th>Seller</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Broker</th>
<th>Date</th>
<th>Listing Broker</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The form of this addendum has been approved by the Texas Real Estate Commission for use only with similarly approved or promulgated forms of contracts. Such approval relates to this contract form only. TREC forms are intended for use only by trained real estate licensees. No representation is made as to the legal validity or adequacy of any provision in any specific transaction. It is not suitable for complex transactions. Texas Real Estate Commission, P.O. Box 112188, Austin, TX 78711-2188, 1-800-250-0782 or (512) 459-6544 (http://www.trec.state.tx.us)
Appendix 5
Simple Steps To Protect Your Family From Lead Hazards

If you think your home has high levels of lead:

◆ Get your young children tested for lead, even if they seem healthy.
◆ Wash children’s hands, bottles, pacifiers, and toys often.
◆ Make sure children eat healthy, low-fat foods.
◆ Get your home checked for lead hazards.
◆ Regularly clean floors, window sills, and other surfaces.
◆ Wipe soil off shoes before entering house.
◆ Talk to your landlord about fixing surfaces with peeling or chipping paint.
◆ Take precautions to avoid exposure to lead dust when remodeling or renovating (call 1-800-424-LEAD for guidelines).
◆ Don’t use a belt-sander, propane torch, high temperature heat gun, scraper, or sandpaper on painted surfaces that may contain lead.
◆ Don’t try to remove lead-based paint yourself.
Appendix 6
Brochure for the Essentials for Healthy Homes Practitioners Course. The City of Houston Department of Health and Human Services, in partnership with the University of Texas School of Public Health in Houston, is a training partner and offers regular courses in the Houston-Galveston area that are open to all interested individuals. For more information, visit www.healthyhomestraining.org. Lead abatement is among the subjects covered. In addition to the Essentials course, three other courses are available.
National Healthy Homes Training Center & Network

What is a Healthy Home?

A healthy home is a home designed, constructed, maintained, or rehabilitated in a manner that supports the health of residents. The concept of healthier housing is receiving considerable attention from public health and housing communities. A growing body of evidence links housing conditions to health outcomes such as asthma, lead poisoning, lung cancer, and unintentional injuries.

Any home may have health hazards. Yet, there are more than six million substandard housing units nationwide. Addressing the health hazards in these substandard units presents a significant opportunity to improve public health. Creating healthier housing promotes the growth and development of our children and can save billions of dollars in health care costs.

The National Healthy Homes Training Center & Network brings together public health and housing practitioners to promote practical and cost-effective methods for making homes healthier. It also serves as a forum for exchanging information on new research and best practices.

The Training Center is funded by a grant from the U.S. Centers for Disease Control & Prevention, with support from the U.S. Department of Housing & Urban Development, and the U.S. Environmental Protection Agency.

For more information on the course, visit www.healthyhomestraining.org or contact Susan Aceti at 410.772.2790 or saceti@centerforhealthyhousing.org

Training Center Courses

- **Half-day Healthy Homes Awareness for Policymakers** course for housing and health policy makers to help them understand the basics of healthy housing and how they can improve program services.
- **Two-day Essentials for Healthy Homes Practitioner** course for field staff who visit homes to inspect housing and/or assist residents with health or housing concerns.
- **Two-day Building Healthy Homes** course offered through the NeighborWorks Training Institute for rehabilitation specialists and those who are writing specifications and managing housing rehabilitation projects. See www.nw.org/training.

Other Partners in the National Healthy Homes Training Center & Network

- Boston University
- Johns Hopkins University
- East Central University, Oklahoma
- Alliance for Healthy Homes
- Association of Environmental Health Academic Programs
- The Coalition to End Childhood Lead Poisoning
- University of Cincinnati
- University of Washington

National Center for Healthy Housing

10227 Wincopin Circle, Suite 200, Columbia, Maryland 21044
410.992.0712 FAX 410.715.2310
www.centerforhealthyhousing.org