Chapter 1

Wisconsin Childhood Lead Poisoning Prevention Program and Public Health Improvement Initiatives

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Introduction
Childhood lead poisoning is an environmental disease, whose treatment and prevention requires the collaboration of the affected family with private and public health professionals. Public health is central in addressing all components of this childhood disease, including prevention of exposure, treatment, and surveillance. This chapter describes the functions of the state and local public health departments in Wisconsin, as well as federal agencies closely aligned with public health interests. It is the role of public health departments to mobilize resources at the local, county, state and national level to increase community resources to prevent childhood lead poisoning. The Wisconsin Childhood Lead Poisoning Prevention Program (WCLPPP) is organizationally located within the Department of Health Services (DHS), Division of Public Health (DPH), Bureau of Environmental and Occupational Health (BEOH).

Core Functions of Wisconsin Public Health Departments
Wisconsin state and local public health department activities in childhood lead poisoning are best described within the framework of the core public health functions of assessment, policy development and advocacy/assurance. These functions are defined in Wis. Stat. 250. The core public health functions as defined by statute, and specific public health practices and activities that clarify the role of the state and local health departments (LHDs) in childhood lead poisoning prevention (CLPP) and treatment, are summarized below in Tables 1.1 Public Health Assessment, 1.2 Public Health Policy Development, and 1.3 Public Health Advocacy/Assurance. The extent to which state and local public health agencies can fulfill these core functions may vary based on resource availability.

Table 1.1 Public Health Assessment

<table>
<thead>
<tr>
<th>State Department of Health Services</th>
<th>Local Health Department</th>
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<tbody>
<tr>
<td>&quot;Assess the health needs in the state based on statewide data collection.&quot; Wis. Stat. 250.03(1)(c)</td>
<td>&quot;A local board of health shall: assess public health needs and advocate for the provision of reasonable and necessary public health services.&quot; Wis. Stat. 251.04(6)(a)</td>
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</tbody>
</table>
| Assessment of childhood lead poisoning:  
  - Collect, consolidate, evaluate, and disseminate data/information pertaining to the incidence and prevalence of lead poisoning in populations at risk.  
  - Maintain a central case registry of children with reported blood lead levels.  
  - Submit reports to appropriate federal, state, and local agencies/organizations.  
  - Provide technical assistance to LHDs for local forecasting, interpretation, planning, and evaluation. | LHD shall: "regularly and systematically collect, assemble, analyze, and make available information on the health of the community, including statistics on health status, community health needs, and epidemiological and other studies of health problems." Wis. Stat. 251.05(3)(a) |
| Assessment of childhood lead poisoning:  
  - Establish and maintain a local surveillance system to track blood lead levels (BLLs), incidence and prevalence of lead poisoning, trends in testing, and identify high risk populations.  
  - Conduct timely investigations and interventions for children with lead exposure.  
  - Maintain a tracking system of children at risk or diagnosed with lead poisoning that allows for timely follow-up of interventions and referrals.  
  - Submit reports to DHS via WCLPPP.  
  - Coordinate program efforts with local laboratories and health care providers to assure timely and accurate reporting of blood lead tests and to assure that appropriate medical follow-up is provided.  
  - Analyze data in conjunction with DHS/DPH to determine local trends and effectiveness in lead poisoning prevention and control efforts. | }
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<tr>
<td>&quot;Develop policy and provide leadership in public health throughout the state that fosters local involvement and commitment, that emphasizes public health needs and that advocates for equitable distribution of public health resources and complimentary private activities commensurate with public health needs.&quot; Wis. Stat. 250.03(1)(g)</td>
<td>&quot;A local board of health shall: develop policy and provide leadership that fosters local involvement and commitment, that emphasizes public health needs and that advocates for equitable distribution of public health resources and complimentary private activities commensurate with public health needs.&quot; Wis. Stat. 251.04(6)(b)</td>
</tr>
<tr>
<td>&quot;Distribute state and federal public health funds under its control in a manner that will promote the development and maintenance of an integrated system of community health services.&quot; Wis. Stat. 250.03(1)(h)</td>
<td>&quot;LHD shall: develop public health policies and procedures for the community.&quot; Wis. Stat. 251.05(3)(b)</td>
</tr>
</tbody>
</table>

Policy Development for CLPP:
- Advise and carry out state statutes, administrative rules, and federal policy as it pertains to lead poisoning prevention and control.
- Establish program standards and guidelines for community lead poisoning prevention programs that include screening, follow-up, lead hazard identification and reduction.
- Collaborate with LHDs, community organizations, and health care providers in delineating respective roles and responsibilities for prevention and control.
- Facilitate the development of contemporary prevention and control policies and practices.
- Work collaboratively within DPH and with other agencies to foster program linkages and to implement state and federal policies.
- Inform LHDs of resources for prevention services including Medicaid and housing rehabilitation funds.

- Develop protocols and procedures for assuring and monitoring the screening of children less than six years of age within their jurisdiction based on federal and state guidelines.
- Establish program protocols and procedures for clinical, educational, and environmental services that incorporate federal, state, and local laws, standards, and guidelines that assure quality programming.
- Provide leadership to develop a coordinated local system to prevent childhood lead poisoning for the population served.
- Pursue and secure resources, including housing funds, to provide prevention services to target populations.
- Work with local officials to develop, revise, and implement local ordinances to prevent lead poisoning.
- Carry out state statutes and administrative rules if designated to do so by DHS, Wis. Stat. 254.015
- Work collaboratively with other organizations, health care providers, and individuals in the public, private, and voluntary sectors.
Table 1.3 Public Health Advocacy/Assurance

<table>
<thead>
<tr>
<th>State Department of Health Services</th>
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<tbody>
<tr>
<td>“Advocate for the provision of reasonable and necessary public health services.” Wis. Stat. 250.03(1)(j)</td>
<td>“A local board of health shall assure that measures are taken to provide an environment in which individuals can be healthy.” Wis. Stat. 251.04(7)</td>
</tr>
<tr>
<td>Advocacy for CLPP:</td>
<td>“LHD shall: involve key policy makers and the general public in determining a set of high priority public health services and assure access to these services to every member of the community.” Wis. Stat. 251.05(3)(c)</td>
</tr>
<tr>
<td>• Develop and carry out strategies that focus on high risk sub-population groups in the state.</td>
<td>Advocacy for CLPP:</td>
</tr>
<tr>
<td>• Provide data, consultation and technical assistance to LHDs, community organizations, and health care providers.</td>
<td>• Provide family-centered public health nursing follow-up for families with lead poisoning.</td>
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<tr>
<td>• Provide education, training, and related resources to LHDs as requested.</td>
<td>• Provide environmental investigation and follow up for lead hazard reduction by a certified risk assessor.</td>
</tr>
<tr>
<td>• Provide information and develop and disseminate education resources to public, private, or volunteer organizations and individuals as appropriate and as requested.</td>
<td>• Provide education, training, and related resources to the community as appropriate.</td>
</tr>
<tr>
<td>• Provide federal, national, and state materials and literature to LHDs for distribution within their communities.</td>
<td>• Develop and carry out primary prevention strategies that focus on high-risk groups in the community.</td>
</tr>
<tr>
<td>• Sponsor educational seminars for LHDs, community organizations, and health care providers.</td>
<td>• Disseminate national, federal, and state information and resources to health care providers, organizations, and the general community, as appropriate.</td>
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<tr>
<td>• Develop or provide multi-lingual and culturally appropriate educational materials as needed.</td>
<td>• Provide leadership that fosters coordination of public health nursing, environmental health, and medical services for children with lead poisoning.</td>
</tr>
<tr>
<td>• Coordinate program efforts with the Wisconsin State Laboratory of Hygiene and the State Occupational Health Laboratory to assure provision of analytical services.</td>
<td>• Collaborate with local health care providers in delineating roles and responsibilities regarding the health and medical management of children with lead poisoning.</td>
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<tr>
<td>• Identify resources to sustain laboratory analysis, reporting, and prevention programming.</td>
<td>• Evaluate local program effectiveness and participate in state level program evaluation.</td>
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<tr>
<td>• Evaluate effectiveness of state and local prevention and control programs.</td>
<td>• Seek consultation from DPH as appropriate.</td>
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Wisconsin Childhood Lead Poisoning Prevention Program

The WCLPPP works collaboratively with other programs within DPH, and public health nurses, nutritionists, educators, epidemiologists and environmental health specialists/sanitarians. The WCLPPP staff also works with the DHS Office of the Inspector General, Division of Enterprise Services, Division of Health Care Access and Accountability, and Division of Information Technology, the Department of Administration, including the Division of Housing and the Weatherization Programs, the University of Wisconsin-Madison School of Medicine and Public Health, Wisconsin State Laboratory of Hygiene, Department of Children and Families, Department of Public Instruction, and other state and local agencies and organizations.
The WCLPPP is committed to developing partnerships with public health programs, and to expanding collaboration between public sector agencies and private and voluntary sectors to eliminate childhood poisoning by controlling lead hazards in the environment. The roles and functions of WCLPPP are to:

- Implement Wisconsin statutes, especially Wis. Stat. 254, and to develop and implement administrative rules, as needed.
- Develop and implement a comprehensive statewide lead poisoning or lead exposure prevention and treatment program.
- Provide consultation, technical support, recommendations and standards of practice for preventing childhood lead exposure, treatment of lead-exposed children and control of lead hazards.
- Develop and support efforts by LHDs and other entities to identify sources of lead exposure and to reduce lead exposure and resultant morbidity.
- Develop local lead poisoning prevention programs that afford opportunities for employing residents of communities and neighborhoods affected by lead exposure.
- Seek funding for lead poisoning prevention activities.
- Develop educational programs to communicate to parents, educators, officials of local boards of health and others the health dangers of lead exposure from lead-bearing paint.

The WCLPPP is funded by the state general purpose revenue fund and the federal Maternal and Child Health Block Grant. The following are services and activities conducted by program staff:

- Collect and analyze data to track statewide lead poisoning patterns.
- Support laboratory analysis of environmental and biological lead samples, with priority given to those who are uninsured.
- Provide consultation and technical assistance to LHDs in managing difficult cases/investigations.
- Provide information and training to the public, LHDs and health care providers regarding current guidelines and recommendations.
- Assure compliance with Wisconsin's statutes as they pertain to lead poisoning prevention and control.
- Provide education and training in screening, nursing practice, environmental lead hazard investigations, recommendations for controlling lead hazards, and assistance with certification and training for lead-related disciplines.
- Contract with LHDs to provide local childhood lead poisoning prevention services and activities.

**Consolidated Contracts with Local Health Departments for Childhood Lead Poisoning Prevention Activities**

Wis. Stat. 254.151 requires that DHS shall designate LHDs as agents in administering and enforcing the statute and award grants sufficient to carry out these responsibilities. DHS contracts with LHDs via an annual consolidated contract to procure key public health services at the local level.

Some of the elements of the consolidated contract are:
- Data-driven allocation of funds based on population, housing and epidemiological risk factors.
• Programs focused on local needs and objectives that are locally defined.
• Fiscal responsibility provided by LHD, along with a wide variety of options for involvement and management of all public health programs in its jurisdiction.
• Funding structure with outcomes that are clearly defined, measurable, and of value to the local community.
• Increased financial efficiency at the state and local level.

Criteria for the delivery of high quality and cost-effective administration of health care programs are required in each LHD program to be operated under the terms of this consolidated contract. The WCLPPP Consolidated Contracts Advisory (CCA) Committee, consisting of state and local health department staff, developed program-specific criteria for each of the nine Program Quality Criteria categories (see Table 1.4). The program quality criteria are considered essential for delivery of effective services in a local childhood lead poisoning prevention program. LHDs contracting for funds from DHS are expected to be able to achieve these criteria.

Table 1.4 Program Quality Criteria for the DHS WCLPPP Consolidated Contracts

<table>
<thead>
<tr>
<th>Program Quality Criteria</th>
<th>Childhood Lead Poisoning Prevention Activities</th>
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<tr>
<td><strong>Assessment and surveillance of public health</strong> to identify community needs and to support systematic, competent program planning and sound policy development with activities focused at both the individual and community levels.</td>
<td>Contractees must assess local blood lead surveillance data for lead poisoning prevalence and risk factors.</td>
</tr>
</tbody>
</table>
| **Delivery of public health services** to citizens by qualified health professionals in a manner that is family centered, culturally competent, and consistent with best practices; and delivery of public health programs for communities for the improvement of health status. | Contractees must provide services that support the elimination of childhood lead poisoning, and the early detection and treatment of children with lead poisoning, including compliance with: (1) Wis. Statute and Administrative Rules:  
  • Wis. Stat. 254  
  • Wis. Admin. Rule DHS 181  
  • Wis. Admin. Rule DHS 163  
  (2) Practice standards presented in Low Level Lead Exposure Harms Children: A Renewed Call for Primary Prevention  
  Contractees must assure the availability and accessibility of blood lead tests for children ages 0-5 years at high risk for lead poisoning. |
| **Record keeping** for individual-focused services that assure documentation and tracking of client health care needs, response to known health care problems on a timely basis, and confidentiality of client information. | Maintain a central case registry to track follow-up of children with blood lead levels >5 mcg/dL and of properties where a lead hazard investigation was performed, including findings, interventions and outcomes. |
| **Information, education, and outreach** programs intended to address known health risks in the general and certain target populations to encourage appropriate decision making by those at risk and to affect policy and environmental changes at the community level. | Provide information to one or more target audiences within the community about lead hazards, lead hazard reduction methods, primary prevention of lead poisoning, and blood lead testing, as referenced in the boundary statement, which sets the parameters of the program within which the LHD/tribe/agency needs to set its objectives. |
### Table 1.4 Program Quality Criteria for the DHS WCLPPP Consolidated Contracts

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<tr>
<td><strong>Coordination</strong> with related programs to assure that identified public health needs are addressed in a comprehensive, cost-effective manner across programs and throughout the community.</td>
<td>Build partnerships with local health care providers and agencies involved in health, social services, housing, and child care to incorporate lead hazard awareness into their activities with, or services to, families living in pre-1978 housing. Provide information, consultation and technical assistance to health care providers or other programs to assure that treatment of children with lead poisoning is efficient and effective, and to assure that lead-safe environments are available to children.</td>
</tr>
<tr>
<td><strong>A referral network</strong> sufficient to assure the timely provision of services to address identified client health care needs.</td>
<td>Assess the need for, and provide referrals for, supportive services to families of lead-poisoned children.</td>
</tr>
<tr>
<td><strong>Provision of guidance to staff</strong> through program and policy manuals and other means sufficient to assure quality client care and cost-effective program administration.</td>
<td>Assure that local childhood lead poisoning prevention program staff have access to, are knowledgeable of and are in compliance with the state statutes and administrative rules and practice standards.</td>
</tr>
<tr>
<td><strong>Financial management practices</strong> sufficient to assure accurate eligibility determination, pursuit of third-party insurance and Medicaid coverage of services provided, prompt and accurate billing and payment for services provided and purchased, accurate expenditure reporting, and appropriate use of state and federal funds.</td>
<td>Pursue third party payment and/or other funding sources for service provision to children who are eligible for third party payment, except when doing so is demonstrated to not be cost effective.</td>
</tr>
<tr>
<td><strong>Data collection, analysis, and reporting</strong> to assure program outcome goals are met or to identify program management problems that need to be addressed.</td>
<td>Collect/analyze local data to determine the adequacy of blood lead testing for children, collect timely follow-up of lead-poisoned children and lead hazard reduction work and submit the necessary forms, and provide community lead poisoning prevention education.</td>
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The WCLPPP CCA Committee also developed a risk-based formula to disseminate funds from the Wisconsin Legislature for LHD childhood lead poisoning prevention activities listed in Table 1.4. The risk factors that are used to determine a local jurisdiction allocation are listed in Table 1.5.

### Table 1.5 Risk Factors for WCLPPP Funding Formula

<table>
<thead>
<tr>
<th>Risk Factor (within LHD jurisdiction)</th>
<th>Percent Apportioned to Risk Factor</th>
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<tbody>
<tr>
<td>Number of children ages 0 to 5</td>
<td>5</td>
</tr>
<tr>
<td>Number of children ages 0 to 5 enrolled in Medicaid</td>
<td>25</td>
</tr>
<tr>
<td>(3-Year average number of BLLs greater than or equal to 10 mcg/dL) plus (3-Year average number of elevated BLLs) multiplied by 3. (Elevated BLL = “one venous BLL greater than or equal to 20 mcg/dL or two venous BLLs 15-19 mcg/dL drawn at least 90 days apart)</td>
<td>25</td>
</tr>
<tr>
<td>Number of pre-1950 dwellings multiplied by the percent of children ages 0 to 5 enrolled in Medicaid</td>
<td>45</td>
</tr>
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</table>
The WCLPPP CCA Committee also developed a Boundary Statement. The boundary statement sets the parameters of the program within which the LHD/tribe/agency will need to set its objectives, including:

- **Scope of Objectives** – Local childhood lead poisoning prevention programs are to implement objectives that will protect children against lead poisoning and eliminate it as a major childhood disease. The impact of LHD/agency activities should result in decreasing lead hazards in the environment(s) of children and increasing early detection and treatment of lead poisoning in high-risk children.

- **Target Populations** – High-risk children generally include those 0-5 years of age who are enrolled in Medicaid and/or WIC or live in housing built before 1950.

- **Community Partners** – Education activities are to be targeted at community members who play a role in eliminating lead hazards, preventing lead exposure, providing blood lead testing, or providing medical or environmental follow-up to children who are lead poisoned.

Each year the LHD selects a template objective(s) or creates a unique objective(s) determined by the LHD to be relevant to their community, and achievable for the amount of funding they receive. The objectives can be entered in the Grants and Contracts (GAC) system if the LHD desires, but is not required; objective negotiations are not required at this time. The objective deliverables, indicating attainment of the objective, should be kept on file in the LHD’s records. Submission of mid-year and end-of-year reports is not required at this time.

The boundary statement and template objectives are reviewed and modified annually by WCLPPP staff. The documents are housed in the DHS Grants and Contracts system.

**Federal and State Public Health Improvement Initiatives**

**Federal Public Health Improvement Plan – Healthy People 2020**

*(Healthy People 2020: National Health Promotion and Disease Prevention Objectives, DHHS/PHS)*

Reducing exposure to toxic substances and hazardous wastes is fundamental to environmental health. People spend most of their time at home, work, or school. Some of these environments may expose people to indoor air pollution, structural problems, and lead-based paint hazards. These hazards can impact health and safety. Maintaining healthy homes and communities is essential to environmental health.

Prevention of exposure to environmental hazards relies on many partners, including state and local health departments. Personnel, surveillance systems, and education are important resources for investigating and responding to disease, monitoring for hazards, and educating the public. Additional methods and greater capacity to measure and respond to environmental hazards are needed.

**Healthy People 2020 Objectives Related to Lead Exposure**

Within the context of federal health strategy, childhood lead poisoning is addressed in the objectives under [Environmental Health](https://www.healthypeople.gov/2020/topicsobjectives2020/overview/objectives-list) and [Occupational Health and Safety](https://www.cdc.gov/niosh/).

- **Environmental Health – Health Status Objective**
  
  **EH-8.** Reduce blood lead levels in children (1. Eliminate elevated blood lead levels, and 2. Reduce the mean blood lead level).

  **EH-17.** (Developmental) Increase the proportion of persons living in pre-1978 housing that has been tested for the presence of lead-based paint or related paint-lead, dust-lead, and soil-lead hazards.
EH-18. Reduce the number of U.S. homes that are found to have lead-based paint or related hazards (Reduce the number of homes with 1. Lead-based paint, 2. Paint-lead hazards, 3. Dust-lead hazards, and 4. Soil-lead hazards).

EH-20.3. Reduce exposure to lead in the population, as measured by blood and urine concentrations of the substance or its metabolites.

EH-22.1. Increase the number of states, territories, tribes, and the District of Columbia that monitor diseases that can be caused by exposure to lead.

- Occupational Safety and Health – Risk Reduction Objective
  OSH-7. Reduce the proportion of persons who have elevated blood lead concentrations from work exposures.

**Wisconsin Public Health Improvement Plan – Healthiest Wisconsin 2020**

*Healthiest Wisconsin 2020 (HW2020): Everyone Living Better, Longer* represents the third decade of statewide community health improvement planning designed to benefit the health of everyone in Wisconsin and the communities in which we live, play, work, and learn. HW2020 declares a bold vision, “Everyone living better, longer.”

This vision reflects the plan’s twin goals:
- Improve health across the life span.
- Eliminate health disparities and achieve health equity.

The plan’s mission is to assure conditions in which people can be healthy, and members of healthy, safe, and resilient families and communities. Preventing childhood lead poisoning and creating lead-safe environments for children and their families, as public health interventions, fall within the context of the plan’s mission.

HW2020 includes a focus area in environmental and occupational health. Environmental and occupational health includes the broad and diverse suite of interrelated regulatory and educational programs and services needed in every Wisconsin community to prevent, identify, and mitigate illnesses and injuries resulting from hazards in the natural, built, and work environments. Environmental and occupational health practice requires close collaboration with environmental and public health system partners to achieve and maintain the healthy places required for healthy living.

**Healthiest Wisconsin 2020 Objectives Related to Lead Exposure**

**Objective 1:** By 2020, improve the overall quality and safety of the food supply and the natural, built and work environments.

**Objective 2:** By 2020, increase the percentage of homes with healthy, safe environments in all communities. (Safe environments are free from lead paint hazards, mold or moisture damage, environmental tobacco smoke and safety hazards, and include carbon monoxide and smoke detectors, and radon testing and mitigation.) Reducing exposure to environmental lead is largely addressed in the Environmental and Occupational Focus Area of HW2020. However, preventing lead exposure in childhood or occupationally can avoid lifelong learning, behavior and health problems reflected in other health focus areas of HW2020. For example, chronic diseases – such as heart disease, stroke, cancer, diabetes, asthma and arthritis – are among the most common and costly of all health problems in the United States (National Center for Chronic Disease Prevention and Health Promotion, 2009b).