Child Lead Poisoning Elimination in Michigan

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for

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for the:

MOEMA’s 92nd Annual Scientific Meeting

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Putting people first, with the goal of helping all Michiganders lead healthier and more productive lives, no matter their stage in life.
Disclosures

Martha Stanbury and Eden Wells have no financial interest, or any conflicts of interest, regarding the material provided in the presentation today.
Lead helps to guard your health

You wouldn't live today in a house without an adequate plumbing system. For without modern plumbing, sickness might endanger your life. Lead concealed in the walls and under the floors of many modern buildings helps to give the best sanitation.

Lead pipe centuries old

Lead, therefore, is contributing to the health, comfort, and convenience of people today as it did when Rome was a center of civilization. Lead water and drainage pipes more than 1800 years old

Portant ingredients in making the glossy white enamel covering the iron bodies of tub and basin and the glazed tile walls.

Lead in paint

While lead is invaluable in assuring comfort and proper sanitation, its best-known and most widespread use is in white-lead in paint. Such materials as wood would soon deteriorate unless protected with paint. And the paints that give the most thorough protection against the weather are based on white-lead.
Public Health Then and Now

Warnings Unheeded: A History of Child Lead Poisoning

RICHARD RABIN, MSPH

Abstract: Child lead poisoning has been a major public health issue only for the last 20–25 years. However, awareness that lead-based paint is a source of lead poisoning in children dates back to the first few years of the twentieth century. Articles in medical journals and textbooks appeared in the United States and elsewhere, recounting cases of children poisoned by the lead paint in their homes on woodwork, baby cribs, and other furniture. The number of positively diagnosed cases was limited both by the imprecision of diagnostic tools and physicians’ lack of familiarity with the signs and symptoms of plumbism in children. Nevertheless, a number of hospitals and at least one large city health department recorded numerous cases of child lead poisoning in the 1920s and 1930s.

The mounting evidence in those years made it clear that child lead poisoning was a serious public health hazard. And the activities and statements of the lead industry’s representatives left little doubt that they were aware of the dangers of lead paint. Nevertheless, the lead paint companies continued to manufacture and sell their product well past 1940. (Am J Public Health 1989; 79:1668–1674.)

- Licensing/Certification of lead abatement workers/jobs
- Accreditation of contractor training programs
- Powers of enforcement to ensure safe lead abatement
- Establishment of Childhood Lead Poisoning Prevention (CLPP) program
  - Mandatory lab blood lead test reporting/surveillance
  - “Comprehensive lead poisoning prevention plan”
2 Programs established at State Heath Department

“Healthy Homes”

• Implements EPA and MI requirements for contractor training, risk assessment and abatement
• Provides funding for home abatements, based on need.

❖ Funding:
  • General Funds, HUD, EPA
  • 2017: Large increase in funds from Medicaid

“CLPPP”

• Maintains surveillance system based on lab reporting
• Oversees LHD nursing case management for children with elevated blood leads levels
• Provides education, technical assistance to providers /public

❖ Funding: General Funds, CDC, HRSA, Medicaid
  ➢ CDC funding ended 2012; resumed 2014 with much less $
Blood lead Surveillance Data: Some Background

- Michigan is targeted screening state.
  - Medicaid requires all young children to be tested.
  - Providers advised to screen those in high risk areas (e.g. Detroit) or who have risk factors (e.g. living in older home)

- Since 2012: “Elevated Blood Lead Level (EBLL)”: Result at or above the “reference range” value of 5 micrograms/deciliter
  - Based on 97.5th percentile for the blood lead distribution in children from NHANES data.

- Before 2012: 10 µg/dL considered “level of concern”.
- EBLL counts: highest venous =>5 µg/dL or highest capillary if no confirmatory venous.
Number of Children under Age Six tested for Lead, by Medicaid Enrollment Status, 1998-2016

Source: MDHHS Data Warehouse
Percent of children ever tested: 2 age cohorts - 2016

- For children age one to six
  - All: 54%
  - Medicaid-enrolled: 79%

- For children age one and two
  - All: 47%
  - Medicaid-enrolled: 66%
% Tested Children under Age Six with Elevated Blood lead Levels (EBLL) ($\geq 5\mu g/dL$), 1998 - 2016

Source: MDHHS Data Warehouse

September 25, 2017
Children less than Six years of Age with Blood Lead Levels (BLL) >= 5 μg/dL Calendar Year 2014

2014

Number of Children with
BLL >= 5 μg/dL
in CY2014 = 5,058

No. of Children w/BLL >= 5
in each ZIP Code Area
(circles are proportional to
the number of children)

Childhood lead poisoning is preventable.

In 2015, boosting PREVENTION education and TARGETED IN-HOME INTERVENTIONS like safe cleaning techniques and temporary fixes is our #1 goal.
2004 Amendment to Lead Abatement Act

• Childhood Lead Poisoning Prevention and Control Commission (sunset provision for 2007)
Lead Poisoning Prevention in Michigan: The 2004 Commission

• Mission: “Integrate the capacity and effects of public and private sector strategies to prevent and control childhood lead poisoning through public awareness, testing and treatment of lead poisoned children, and prevention and remediation of lead hazards.”
Aiming for Primary Prevention

<table>
<thead>
<tr>
<th></th>
<th>Primary Prevention</th>
<th>Secondary Prevention</th>
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<tr>
<td></td>
<td>Proactive</td>
<td>Reactive</td>
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<tr>
<td>Focuses on exposure</td>
<td></td>
<td>Focuses on poisoning</td>
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<tr>
<td>All children</td>
<td></td>
<td>At-risk children only (typically those poisoned)</td>
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<td>Emphasizes testing environments for hazards (testing houses)</td>
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<td>Emphasizes testing children’s blood</td>
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<td>Stops the problem</td>
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<td>Chases the problem</td>
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Commission’s 2007 Report

✓ Focus was on *Primary Prevention*

✓ Long Term Recommendations related to following objectives:
  
  • Increase Capacities in Local Public Health Agencies to Conduct Lead Hazard Assessment
  
  • Enhance Local Capacity to Prosecute Rental Property Owners
  
  • Enhance Financial Incentives for Property Owners to Remediate Lead Hazards
  
  • Enhance the Statewide Housing Registry Containing Information on Lead Hazards
  
  • Develop Sustainable Funding Streams to Support These Efforts
MDHHS CLPPP in 2014

• Funding from CDC just restored, but at much lower level, after 2 years of no funding
• CLPPP staff down to 3 staff
Number of Homes Abated with MDHHS Support 1998-2017
WHEREAS, Section 1 of Article V of the Michigan Constitution of 1963 vests the executive power in the Governor; and

WHEREAS, Section 4 of Article V of the Michigan Constitution of 1963 authorizes the establishment of temporary commissions or agencies for special purposes; and

WHEREAS, under Section 1 of 1931 PA 195, MCL 10.51, the Governor may, at such times and for such purposes as the Governor deems necessary or advisable, create special advisory bodies consisting of as many members as the Governor deems appropriate; and

WHEREAS, Section 17 of Article V of the Michigan Constitution of 1963 empowers the Governor to present to the Legislature information as to the affairs of the state and recommend measures that he considers necessary or desirable; and

WHEREAS, the issue of child lead poisoning in Flint has highlighted the prevalence of child lead poisoning throughout the state of Michigan; and
Child Lead POISONING ELIMINATION Board

• Lt. Governor Calley, Chair

➢ Aspirational
➢ Primary Prevention
➢ Secondary Prevention

Members and staff
Non-department members
Lieutenant Governor Brian Calley, Chair

Dr. Mona Hanna-Attisha
Director of the Pediatric Public Health Initiative at Michigan State University and Hurley Children’s Hospital

Paul Haan
Executive Director of Healthy Homes Coalition of West Michigan, Inc.

Riley Alley
Great Start Collaborative Director for St. Clair County Regional Education Service Agency

Rosalynn Bliss
Mayor of Grand Rapids

Rebecca Meuninck
Deputy Director of the Ecology Center

Dr. Abdul El-Sayed
Executive Director and Health Officer for the Detroit Health Department

Dr. Lyke Thompson
Director of the Center for Urban Studies at Wayne State University

Department members and designees
Deborah MacKenzie-Taylor, Ph.D.
Toxicologist, Hazardous Waste Section
Office of Waste Management and Radiological Protection
Michigan Department of Environmental Quality

Eric Wildfang, Ph.D.
Toxicologist
Remediation and Redevelopment Division
Michigan Department of Environmental Quality

Wesley Priss
Healthy Homes Section Manager
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Dr. Eden Wells
Chief Medical Executive
Michigan Department of Health and Human Services

Shelly Edgerton
Director
Michigan Department of Licensing and Regulatory Affairs

Dan Linco, Vice Chair
Environmental Manager
Rental Development Division
Michigan State Housing Development Authority

Michael Vollick
Environmental Officer
Rental Development Division
Michigan State Housing Development Authority
2016 Board Focus

- Testing of children for elevated blood lead
- Follow-up monitoring and services, including case management
- Environmental lead investigations
- Remediation and abatement
- Dashboards and reporting
Board Considered Estimated of Costs of Lead Exposure: $270,000,000

Figure 1: Summary of costs associated with lead exposure in 2014. Source: Costs of Lead Exposure and Remediation in Michigan: Update, Ecology Center and the Michigan Network for Children’s Environmental Health (2016).
Board’s November 2016 Final Report

• Approx. 100 Recommendations
• Assure ongoing permanent Lead Commission for implementation
MOEMA’s Recommendation Included!

Reduce lead exposures in occupational spaces to protect children, pregnant mothers, and the unborn by encouraging MIOSHA to lower blood lead levels to below 10 μg/dl in occupational lead standards or the most stringent scientifically accepted standard...
Executive Order 2017

EXECUTIVE ORDER
No. 2017 - 2

CREATION OF THE
CHILD LEAD EXPOSURE ELIMINATION COMMISSION

DEPARTMENT OF HEALTH AND HUMAN SERVICES

ABOLISHMENT OF THE CHILD LEAD POISONING ELIMINATION BOARD

WHEREAS, Section 1 of Article V of the Michigan Constitution of 1963 vests the executive power of the state of Michigan in the Governor; and

WHEREAS, Section 8 of Article V of the Michigan Constitution of 1963 provides that each principal department shall be under the supervision of the Governor unless otherwise provided by the constitution; and
<table>
<thead>
<tr>
<th>Members</th>
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<tr>
<td>Riley Alley</td>
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<tr>
<td>Anne Armstrong</td>
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<tr>
<td>Kristin Benson</td>
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<td>Christine Callahan</td>
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<td>Missy Challiss</td>
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<tr>
<td>Paul Haan</td>
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<tr>
<td>Dr. Mona Hanna-Attisha (Co-Chair)</td>
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<tr>
<td>Jeffrey Harthun</td>
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<tr>
<td>Daniel Lince</td>
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<tr>
<td>Deb MacKenzie-Taylor</td>
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<tr>
<td>Rebecca Meuninck</td>
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<td>Bart Pickelman</td>
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<td>Tina Reynolds</td>
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<td>William Ridella</td>
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<td>Kimberly Rustem</td>
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<td>Jack Schinderle</td>
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<td>Carin Speidel</td>
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<td>Lyke Thompson</td>
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<td>Al Vanderberg</td>
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<tr>
<td>Mike Vollick</td>
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<tr>
<td>Dr. Eden Wells (Chair)</td>
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<tr>
<td>Taylor Whittington</td>
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<td>Eric Wildfang</td>
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Mission, Vision and Values

MISSION
• The Child Lead Exposure Elimination Commission will work collaboratively with all levels of government and stakeholders to eliminate lead exposure for Michigan’s children.

VISION
• The Child Lead Exposure Elimination Commission envisions a state free of childhood lead exposure to benefit Michigan’s children.

VALUES
• The Child Lead Exposure Elimination Commission believes if the commission’s recommendations are adopted, it is possible to eliminate exposures to air, soil, water, products and homes. The commission will leverage policy, partnerships, programs and public engagement in a targeted approach that accounts for the inequitable burden of lead exposure among children and communities.
Values Cont’d...

- **Primary Prevention**: Stopping lead poisoning by eliminating exposure for all children.

- **Equity**: The Commission recognizes the significant disparities in how children’s lives are impacted by lead, and recognizes that targets, culturally sound approaches must be used.

- **Data-driven Decision Making**: Evidence, data, research, and the adoption of best practices shall guide our work.

- **Engagement**: Recognizing that childhood lead poisoning is a shared problem requiring collaborative solutions and resources; the mission will engage a wide diversity of partnerships with communities and families directly impacted by lead exposure.
Prioritizing 100 Recommendations

**Michigan Child Lead Poisoning Elimination Commission**

What are the essential elements of a model to eliminate lead in a community?

<table>
<thead>
<tr>
<th>Defined Mission</th>
<th>Primary Prevention</th>
<th>Stakeholder Engagement</th>
<th>Data</th>
<th>Testing</th>
<th>Funding</th>
<th>Secondary Prevention</th>
<th>People Resources</th>
</tr>
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<tbody>
<tr>
<td>Clear goals</td>
<td>Primary prevention</td>
<td>Political support</td>
<td>IT infrastructure to track progress and the establishment of metrics</td>
<td>Focus on testing of environment-not children. Primary prevention</td>
<td>A secure, codified, consistent source of funding</td>
<td>Comprehensive case management for impacted families</td>
<td>Designate staff credentialing</td>
</tr>
<tr>
<td>An evaluation plan to see how interim steps are working</td>
<td>A proactive, consistent statewide building code model that expressly addressed LBP &amp; causes</td>
<td>Education</td>
<td>Register all houses with lead</td>
<td>Policies &amp; procedures for testing water, paint, soil and surfaces</td>
<td>Money</td>
<td>Work w/ early education and schools to provide best science based learning methods for impacted kids</td>
<td>Infrastructure to remediate lead hazards</td>
</tr>
<tr>
<td>Measure and track goals</td>
<td>Require all housing with lead to abate hazards</td>
<td>Local support (buy-in) from most leaders of the community</td>
<td>Make information available</td>
<td>ID all lead in pipes and begin eliminating</td>
<td>Financial resources immediate and long term</td>
<td>Early childhood education &amp; outreach</td>
<td>Experience - people to work on model with expertise</td>
</tr>
<tr>
<td>A plan or mechanism to deal with unexpected issues/problems</td>
<td>Rental registration - LIRA</td>
<td>“Buy-in” from community</td>
<td>Centralized database</td>
<td>A broad sample of homes &amp; locations to test</td>
<td>Resources for remediation and abatement</td>
<td>Relocate families vol., if home can’t be abated</td>
<td>Skilled workforce for abatement</td>
</tr>
<tr>
<td>Consistent messages</td>
<td>LIRA’s before sale</td>
<td>Includes voice of community and children</td>
<td>Local provider ability to query database</td>
<td>Incorporates all lead sources including water</td>
<td>Funding</td>
<td>Best practices for post-exposure (nutrition, education, health)</td>
<td>Trained staff</td>
</tr>
<tr>
<td>Specific interventions</td>
<td>Bans guns (lead bullets)</td>
<td>Invested community</td>
<td>Help families with children to avoid homes with lead</td>
<td>School testing (all media)</td>
<td>Consistent resources</td>
<td>EBL Case Management</td>
<td>Professional staff (educators/med., etc.)</td>
</tr>
</tbody>
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Strategic Planning Categories

• Regulations/Law
• Funding
• Testing
• Data
• Partnerships (Government and Other)
• Education
“Top Five” for Regulations/Law

1. Require one-time lead inspection and risk assessment before the transfer or leasing of a pre-1978 home, including water testing.

2. Update “Landlord Penalty” law to allow for use when child’s blood level is \( \geq 5 \mu g/dL \)

3. Set a health-base standard based on best evidence for household action limit levels for water that should not exceed 10 parts per billion (ppb) or the current scientifically acceptable standard, if more stringent.

4. Adopt a consistent, statewide building code enforcement model that is proactive and explicitly addresses exposure from lead based paint.

5. Add lead questions to the state residential builders and plumbers licensing exams.
“Top Five” for Funding

1. Find adequate, dedicated, and sustained **funding to support gamut of activities to prevent lead exposure** (testing, data, remediation and abatement, training, outreach, etc.).

2. Establish a permanent source of **funding to perform EBL environmental investigations** not covered by Medicaid, HUD, or general fund funding.

3. Provide **local health departments** with greater incentives to **build capacity to perform EBL investigations**.

4. Allocate sufficient **funding for Lead Safe Housing Registry**.

5. Allocate funding at state and local levels for **follow-up at housing units where an EBL investigation determines risk and the property owner fails to remediate the hazard**.
“Top Five” for Testing

1. Require **100% of children are tested for lead poisoning** at 9 to 12 months and at 24 to 36 months of age.

2. Recommend the utility of **routine prenatal blood lead screening for pregnant women**.

3. Design a model assigning roles to **responsible parties to ensure that 100% blood lead testing is fully implemented**.

4. Support research and development of **policy and procedures for water testing in homes** and for interpretation of test results.

5. Expand **soil testing** programs high-risk areas **before commencing urban gardening**.
“Top Five” for Data

1. Develop **single data system that captures child data** (testing, medical, info to assist EBL case management) and **housing** (lead hazards in housing units, housing status relative to the elimination of hazards, and code and law enforcement status).

2. Develop **data system to target/coordinate remediation and abatement resources, catalogue environmental tests/ home data, and ensure coordination with public health case managers.**

3. Provide funding, IT, and infrastructure **support to local departments and organizations** to encourage jurisdiction-wide **EBL case management.**

4. Create a **public dashboard to present key indicators** of the fight to eliminate lead poisoning in Michigan.

5. Develop and manage a **centralized data reporting system to track children with EBL**, to determine whether and/or which follow-up services are being provided, and to measure effectiveness of case management activities.
“Top Five” for Partnerships

1. Develop/distribute **educational toolkits to community partners**; ensure inclusion of Great Start Collaborative, Head Start, community centers, childcare centers, birthing centers, and maternal infant support programs.

2. Ensure local health departments have **infrastructure and funds** to create a **broad coalition for the case management team**.

3. Create an **interagency group to develop a voluntary relocation** option for remediation and abatement programs (particularly for high EBL cases).

4. Collaborate with identified state departments for **increasing lead abatement workforce**.

5. Meet with **EPA and HUD to discuss federal regulations** re remediation and abatement; coordinate and harmonize the requirements of both agencies.
“Top Five” for Education

1. Ensure all licensed Michigan health care providers caring for children receive professional education regarding blood lead testing and EBL management.

2. Widely disseminate blood lead testing and lead poisoning information.

3. Make blood lead data available to experts for mapping: heat maps, incident maps, times series charts and other displays by county, city, zip code, census tract.

4. Provide outreach/training to homeowners and tenants regarding lead safety on do-it yourself home renovation, lead awareness, health effects of lead exposure, and the availability of testing and remediation options.

5. Improve public availability of information on abated/lead-cleared homes; ensure that Lead Safe Housing Registry data can be linked to other publicly-available databases.
Commission’s Public Engagement

• Plan for Regional Public Hearings Fall-Winter 2017
• Encourage engagement of subject matter experts who can support the Commission’s Missions, Goals and Objectives
In summary...

• In Michigan, public health response to call for lead elimination goes back to 1990s (funding/legislation/programs)

• In spite of first lead commission report in 2007, focus and funding for lead poisoning prevention diminished.

• Attention to problem because of Flint water crisis led to State commitment for primary prevention/lead elimination.

• Child Lead Exposure Elimination Commission now beginning process of implementing recommendations of 2016 Child Lead Poisoning Elimination Board.

• Public/expert input during process strongly encouraged.
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For more information about the Commission and the calendar of public meetings etc

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