

Investing In Michigan's Children:

Economic benefits of reducing lead exposure and the costs of inaction

Michigan Premier Public Health Conference

October 16, 2019



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Outline

1. Review of studies on costs of lead exposure
 - National focus
 - Michigan focus
2. Facilitated Discussion: What analyses on cost would help you?
3. Available Funding to reduce lead exposure
4. Innovative initiatives: Policies, Pilots, Commissions and Coalitions.
5. Q/A



The Cost of Lead Exposure: National Studies

The Lancet Commissions



The Lancet Commission on pollution and health

Philip J Landrigan, Richard Fuller, Nirvan A Acosta, Olusola Adegboye, Robert A Arnold, Niladri (Nil) Basu, Abdoulaye Biré Badji, Roberto Bertalan, Stephen Bose, Jeffrey Blumfeld, Patrick W Bryce, Thomas Chiles, Chikobani Mchale, Awa M Coe, Sook, Momeni, Cropper, John Faldut, Valentin Fauriol, Michael Gensini, Andy Haynes, David Henderson, David Hunter, Mukesh Khare, Alan Krupnick, Bruce Langer, Bin Li, Lohani, Keith Martin, Karen V Mathison, Maureen A McTee, Christopher J Murray, Johanna D Ndihamungu, Frederica Perera, Jesse Potocnik, Alexander S Preker, Ismail Ramesh, Johan Rodrik, Carlos Salinas, Leona D Samson, Karti Sandhya, Peter D Sly, Kirk R Smith, Achim Steiner, Richard B Stewart, William A Suk, Onno C P van Schoyck, Gautam N Yadava, Kande Yamada, Mo Zhang

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See comment page 477 and 498

This article has been corrected. The corrected version first appeared at lancet.com on November 27, 2017

See comment page 477 and 498

See comment page 477 and 498

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See comment page 477 and 498

See comment page 477 and 498

462

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A report from the Health Impact Project

| Aug 2017



HEALTHIMPACT
PROJECT

Robert Wood Johnson
Foundation

THE PEW
CHARITABLE TRUSTS

10 Policies to Prevent and Respond to Childhood Lead Exposure

An assessment of the risks communities face and key federal, state, and local solutions



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The Lancet Commission on pollution and health

- 2018 Philip Landrigan, et. al.
- Burden of disease attributable to pollution
- The economic costs of pollution and pollution-related disease
- Pollution-related disease, poverty, and the SDGs
- Effective interventions against pollution: priorities, solutions, and benefits



10 Policies to Prevent and Respond to Childhood Lead Exposure

- 2017, Pew Charitable Trusts, Robert Wood Johnson Fnd., Health Impact Project
- NHANES surveys (2011-14) for baseline childhood BLL
- Top 3 Policy Priorities
- Additional sources
- Poisoning response
- Data and research



Top 3 Policy Priorities

- Reduce lead in drinking water in homes built before 1986 and other places children frequent.
- Remove lead paint hazards from low-income housing built before 1960 and other places children spend time.
- Increase enforcement of the federal renovation, repair, and painting rule.



Table 1

Keeping Blood Lead Levels of Children Born in 2018 at Zero Would Generate \$84 Billion in Benefits

Future savings and increased earnings by source and recipient

Benefit	Value (in billions)
Increased lifetime earnings for entire 2018 cohort	\$77.2
Health savings	\$1.7
Education savings	\$1.9
Quality-adjusted life years benefits	\$3.1
Total future benefits	\$84.0
Share to the federal government	\$18.5
Share to state and local governments	\$9.6
Share to households, private sector, and other nongovernmental entities	\$55.9

Notes: Analysis is based on the 2018 birth cohort, estimated at approximately 4 million children. Future benefits are discounted at 3 percent per year to account for the changing value of money over time. Quality-adjusted life years is the number of additional healthy years of life resulting from an intervention, which the research team conservatively valued at \$50,000 for each additional year of healthy life. Total future benefits include small changes in incarceration costs, which are not itemized in the table.

Source: Altarum Institute Value of Prevention Tool calculation. See the appendix for details on the model methodology and underlying data sources.

© 2017 The Pew Charitable Trusts

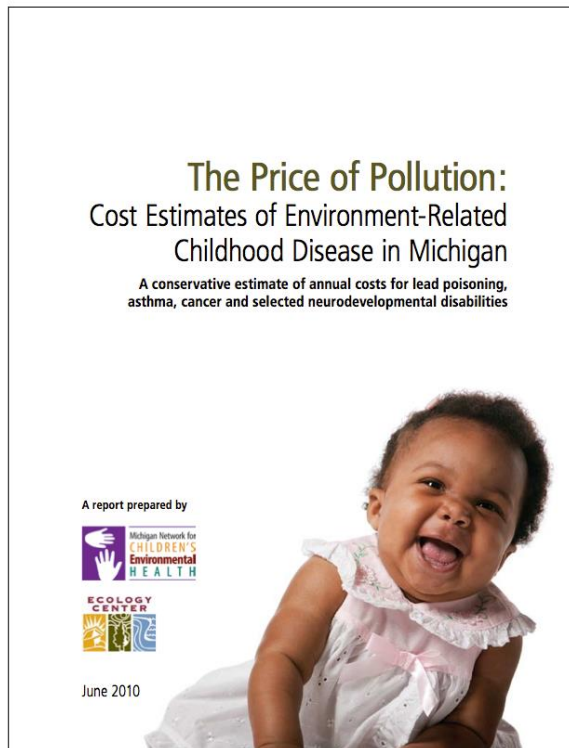
The Cost of Lead Exposure: Michigan Studies

- Price of Pollution, 2010 – Ecology Center & Michigan Network for Children's Environmental (MNCEH)
- Health Economic Impacts of Lead Exposure and Remediation in Michigan, 2014 – UM Risk Science Center & MNCEH
- Health Economic Impacts of Lead Exposure and Remediation in Michigan: Update, 2016 – Ecology Center & MNCEH
- Valueofleadprevention.org – Altarum 2019



Earlier Michigan Studies

Total Lead Cost \$3.2-4.85 Billion/yr – looks at all EBLLs, uses means from MI and CDC



**Total Lead Cost \$330 Million/yr
Looks at EBLL > 5μ/dL**

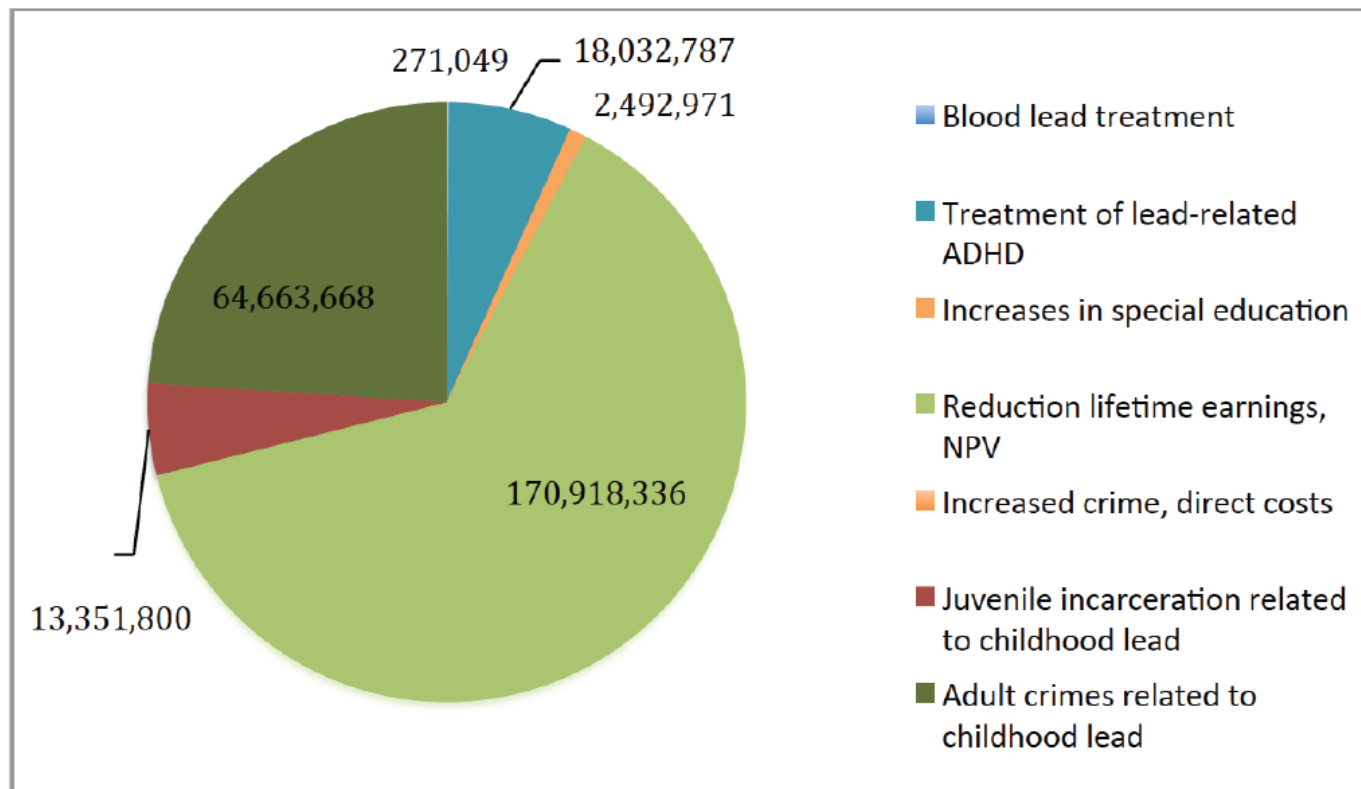


2016 Economic Impacts of Lead Exposure in MI

Total Cost 270 million/yr

- Decreased lifetime earnings \$171M
- Increased lead associated crime and juvenile delinquency \$77M
- Increased health care costs \$18M
- Increased special education costs \$2.5M

Summary of Costs Associated with Lead Exposure, 2014



ValueOfLeadPrevention.org – MI

Michigan

[Estimate Exposure Burden](#) [Calculate Intervention Impacts](#)

Total Cost

\$2.3B

Lifetime economic burden of childhood lead exposure in Michigan.

Calculated for the 2019 birth cohort. Includes costs of reduced lifetime productivity; increased health care, education, and social assistance spending; and premature mortality.

Number of Children Exposed ?

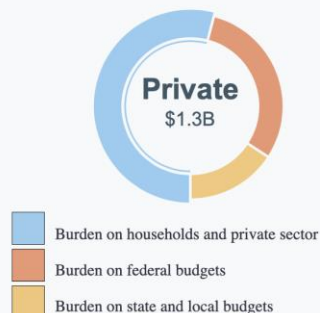
12,161

Blood levels >2 µg/dL

Children in the 2019 birth cohort predicted to have blood lead levels >2µg/dL. This is 11% of all births in Michigan.

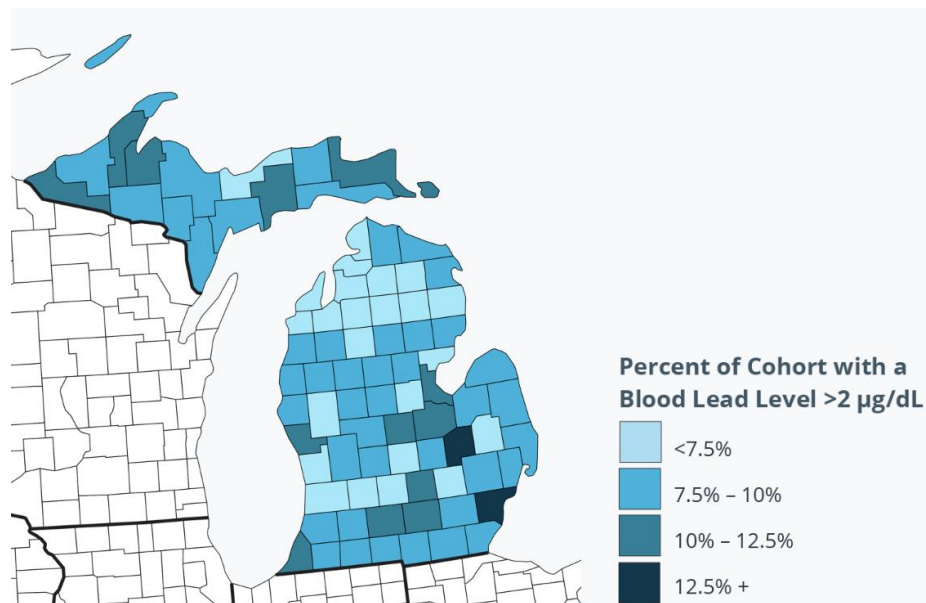
Cost Breakdown ?

Hover for additional detail



Map of Current Exposure Risks ?

Lead exposure risks for children born in 2019, shown as the estimated percent of children who will have blood lead levels above 2 µg/dL for each county in the State of Michigan. Darker shades indicate greater risks of lead exposure for children.



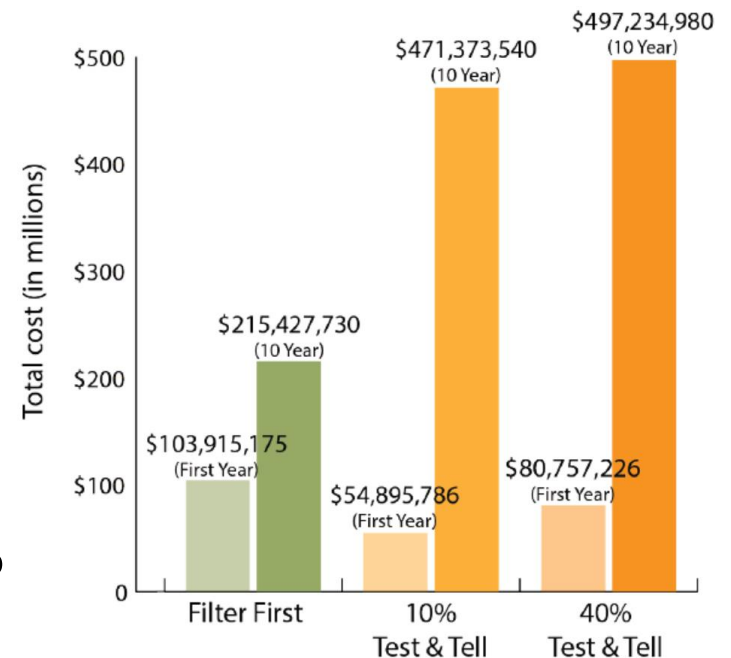
Discussion:

What cost estimates do you need?

What is most compelling to you?

- Costs of specific policies?
 - see example on re: lead in school water
- Cost comparison of different types of remediation?
- Primary prevention, estimated abatement, case management?
- Annual costs?
- Per child costs?
- Community level (county, city, zip, etc)?

Michigan Projected Costs
Filter First versus Test & Partial Fixture Replacement



Available Resources

[HH & CLPPP Dollars](#)

[CHIP \\$](#)

[GF \\$](#)

[HUD \\$](#)

[DUFB](#)

[Lead & Cu Rule/A.L.E](#)

Other



Innovative Initiatives

MIALSH policy priorities

\$ to local communities

daycare pilot

Essential Local Public Health Service

CLEEC









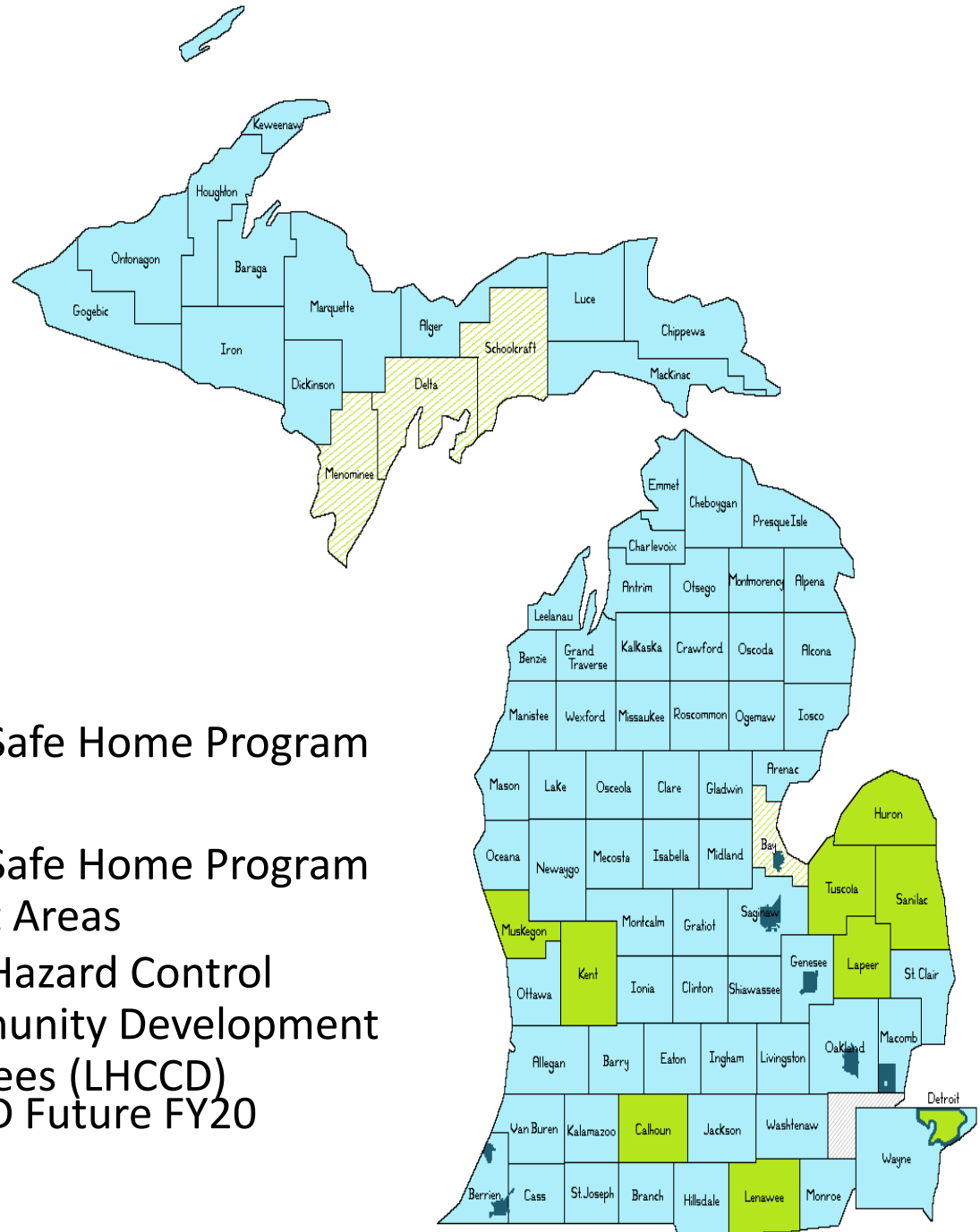
Policy Priorities

- **Universal lead testing**
- Require a lead-based paint **inspection**
- **Shift the burden of proof to landlords**
- Alert prospective buyers or renters to **Repeat Homes**
- Identify and **secure a dedicated funding**
- Have the state of Michigan takeover the **federal RRP program**
- Support **workforce development** efforts
- Get match for Michigan's federal Children's Health Insurance Program (**CHIP**)



Lead Hazard Control Programs

-  Lead Safe Home Program
-  Lead Safe Home Program Target Areas
-  Lead Hazard Control Community Development Grantees (LHCCD)
-  LHCCD Future FY20



Daycare Pilots

- Year one pilot
- In home residential child-care
- 9,222 Licensed childcare facilities in Michigan
- Outreach, education and interventions
- Goal to cover gaps & validate approach





Making Lead Response an Essential Local Public Health Service

- [Essential Local Public Health Service-](#) PA 368 of 1978
- New budget boilerplate- Sec. 1238 of PA 67 of 2019
- State- wide baseline
- Even the playing field
- Unmet need
- Supporting families
- Preparing for a bump

Child Lead Exposure Elimination Commission (CLEEC)

Established 2017 - executive order by Gov. Snyder

<https://www.michigan.gov/leadcommission>

- 15 members appointed by Governor
- Main goal: Primary Prevention of lead Exposure
- Tina and Becca proud to serve on the CLEEC!



CLEEC Policy Priorities - 2018 Action Plan

- Lead inspection, risk assessments (LIRA) before transfer or lease transfer of pre-1978 housing.
- Rental certification program for high-risk housing requiring lead inspection risk assessment until deemed lead-free.
- Require LIRA in childcare and adult-care facilities every two years in pre-1978 buildings, and require dust, soil, and water testing in post-1978 buildings.
- Update “Landlord Penalty” law: use when child’s blood level ≥ 5 $\mu\text{g}/\text{dL}$.
- Set a health-based household action limit for drinking water.
- Adopt statewide housing code enforcement addressing exposure from lead based paint.
- Require a contractor seeking a building permit on a pre-1978 home to prove Lead-Safe Certification.



CLEEC Funding Priorities



- Find adequate, dedicated, sustained funding.
- Permanent source of funding for EBLL investigations.
- Funding for Lead Safe Housing Registry.
- Incentives for local health departments to build capacity.
- Funding for follow-up when owner fails to remediate hazards.
- Funding for LIRAs in high-lead neighborhoods.
- Funding, IT, and infrastructure support to local communities.



Child Lead Exposure Elimination Commission

2018 RFP Focus: primary prevention - 11 Funded Projects, \$757,500

- City of Detroit Health Department – 1. Head Start Service Integration Project: Lead Prevention & 2. Lead Education and Prevention Service for Pregnant Women
- District Health Department #10 - Primary Lead Exposure Prevention Project for Pregnant Women and Families
- Healthy Homes Coalition of West Michigan, Inc.- Infant/Toddler Home Screening Project
- Institute for Population Health, Inc. - Protect Michigan's Children: Actions to Prevent Childhood Lead Poisoning
- Jackson County Health Department - Preventing Lead Exposure in Pregnant Women
- Michigan State University Division of Occupational and Environmental Medicine - Worksite Intervention to Mitigate Child Take-Home Lead Exposure
- National Center for Healthy Housing - Technical Assistance for Code Transformation and Innovation Collaborative
- Oakland County Health Division - Multi-Component Lead Poisoning Testing and Education Initiative for Oakland County
- Our Kitchen Table - Educate to Elevate
- Southeastern Michigan Health Association/CLEARCorps Detroit - Lead Safe Blocks: 48206 Primary Prevention Project

2019 RFP: primary prevention and universal testing - 13 Funded Projects



Questions and Discussion



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Contact us!

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Materials from our organizations are available at the Ecology Center's booth. Stop by and visit us!



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