

The Costs of Lead Exposure Prevention through Local Housing Interventions

PEPH Webinar, May 7, 2014:
“The Costs and Benefits of Preventing Lead
Exposure - Putting Economics into the
Picture”

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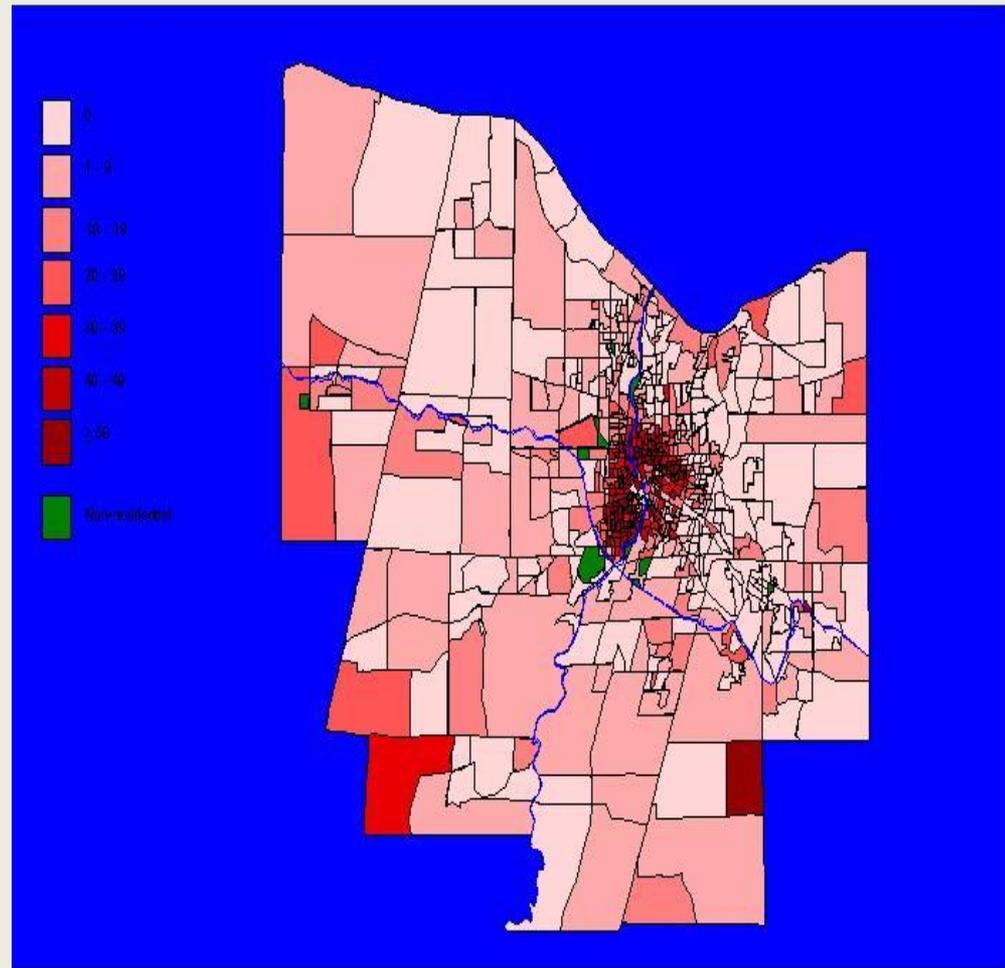
Introduction

- Dr. Reyes: Societal benefits of ending lead poisoning
- This presentation: How economics informed community's efforts to prevent lead poisoning in Rochester
- Policy science perspective
 - Role of economic information in policy process
 - Dialogue between economics and partners to inform problem solving
 - Community outreach and engagement

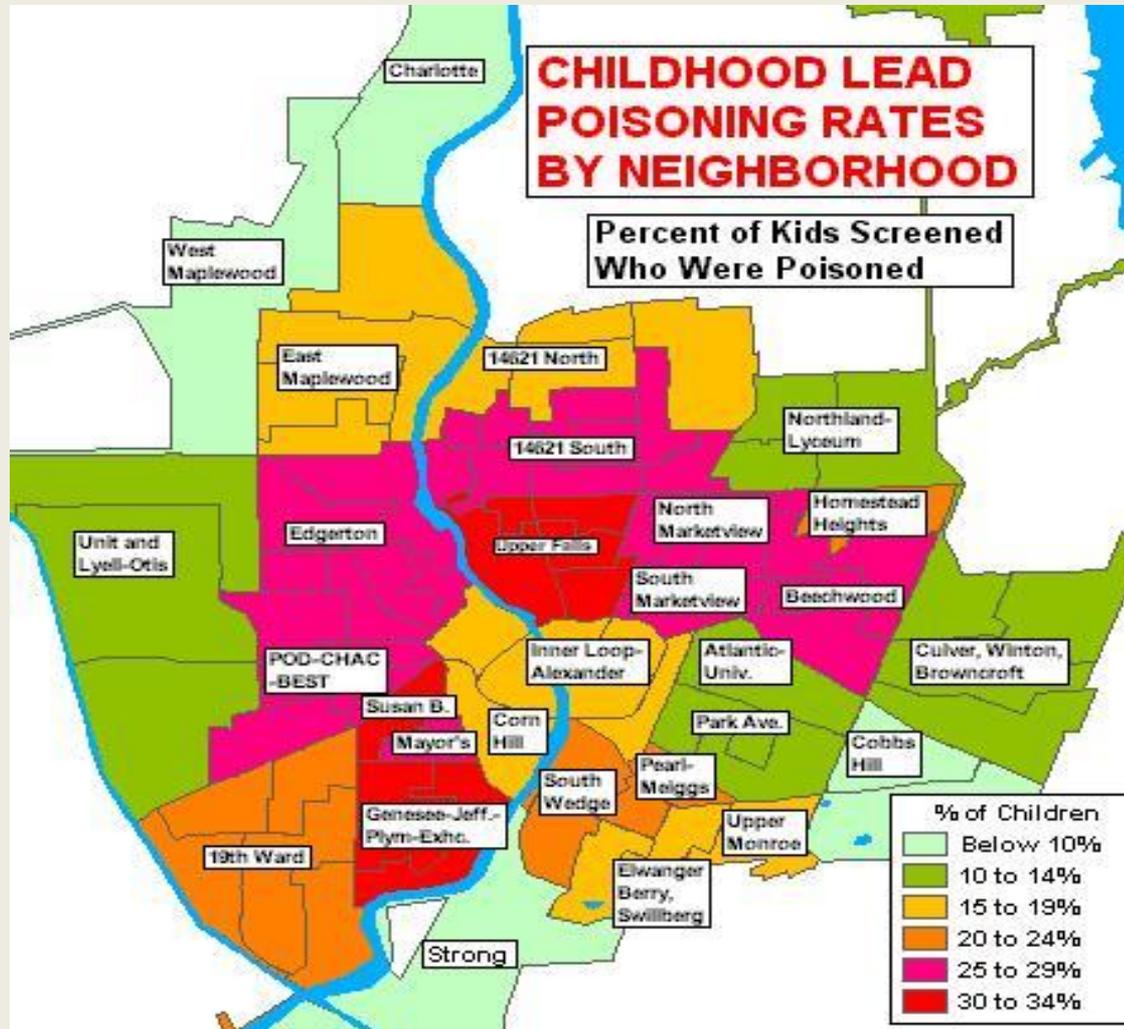
Lead Poisoning in Rochester (2000)

- 2% of U.S. children had elevated blood lead levels
- In New York State, 5% of children
- In Monroe County, 7.4%
- In City of Rochester high risk areas, nearly 25%
- Some neighborhoods exceeded 30%

EBL rates in Monroe County



Lead Poisoning in Rochester (2000)



Why is lead a problem in Rochester?

- High-risk housing stock
- 87% of housing built prior to 1970
- High poverty rate – 38% of children in poverty
- Many low-value properties (mean value \$53,000)
- Many low-income owner occupants
- In high-risk areas, 85% rent homes
- Housing stock in poor condition

Coalition to Prevent Lead Poisoning

- **Formed** in 2000
- **Membership:** educators, doctors, community groups...
- **Goal:** Eliminate lead poisoning in Rochester by 2010
- **Focus:** PROTECT CHILDREN BEFORE they are poisoned (primary prevention)
- **Manta:** Make childhood lead poisoning “economically, politically, and morally unacceptable...”
- **Method:** Focus on “science-based systems change”
- **Problem definition:** Lead is a health problem with a housing solution
- **Need local lead law...but what will it cost?**

Questions about costs

1. How much does it lead poisoning cost our community?
2. How much does it cost to make a house lead safe (lead hazard control)?
3. How much does it cost to make the community lead safe?

“As long as attention focuses on the costs of lead-paint abatement and ignores the costs of not abating and as long as people add up the costs of removing paint but not the costs of medical care, compensatory education, and school dropouts, substantial action is unlikely.”

- Joel Schwartz (1994, p. 105)

1. How much does lead cost our community?

- Societal costs (lost future income) not meaningful to local decision makers
- Local costs that matter in Rochester:
 - 46% graduation rate from city schools
 - High rates of violence
 - High medical (Medicaid) costs born by public
- Individual costs disproportionately borne by low-income, minority families
- Key information to build support for lead prevention efforts

Costs of childhood lead poisoning in Monroe County (2003)

	Annual cost
Medical Costs	\$407,844
Special Education	\$985,534
Criminal Justice	(11% reduction)
Lost future earning potential	\$132,844,920

Unquantified costs likely outweigh costs calculated; impossible to estimate local criminal justice costs. SOURCE: Unpublished paper (2003), method shared as “lead costs calculator

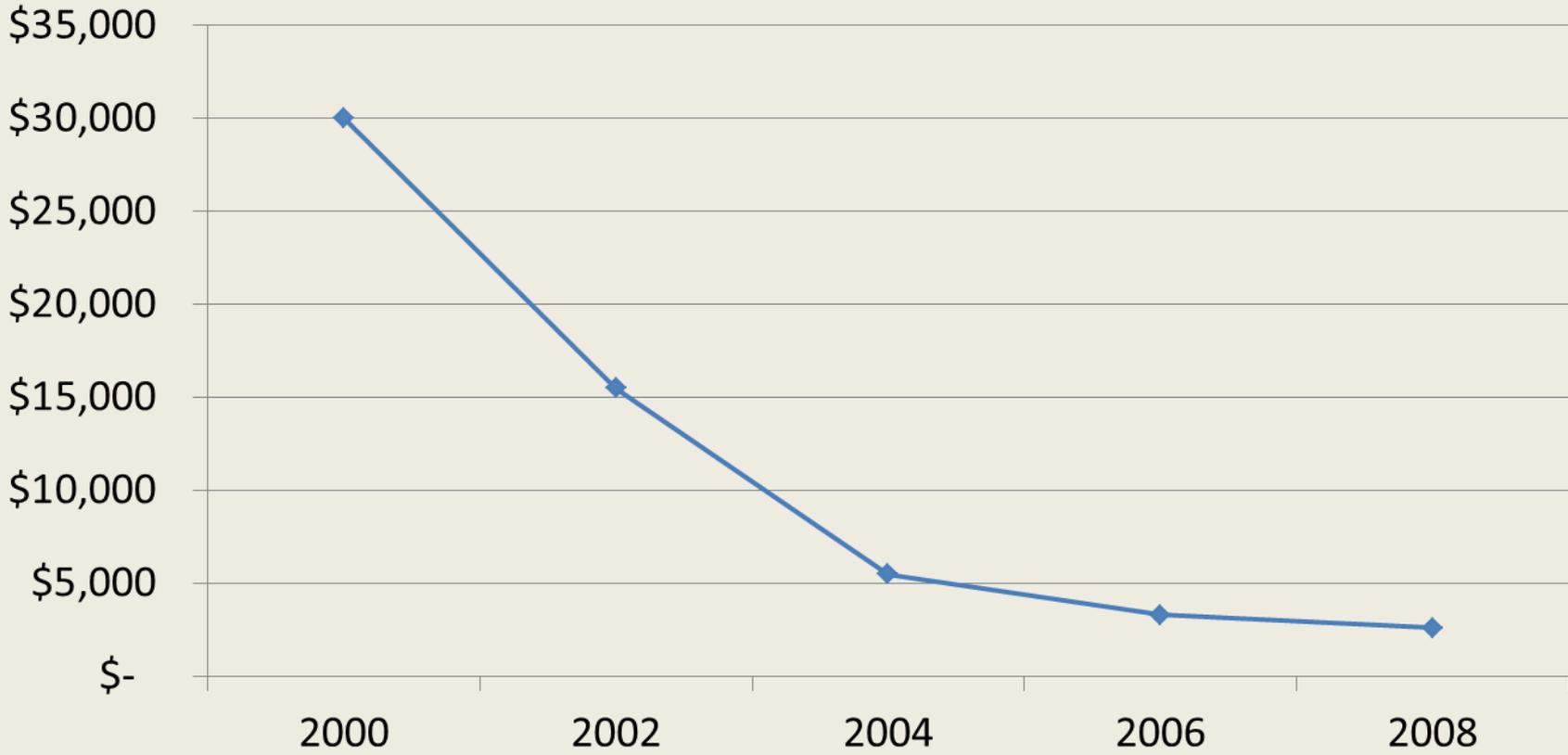
Policy implications of lead costs

- “Wow” factor – these are huge costs! Helped ‘paint the picture’ of scope/nature of impacts
- But...did not tell us what to do, or how
- Also, concerns about overemphasizing costs:
 - “Overpromising” for lead reduction efforts?
 - Underestimates – do more harm than good?
 - Benefits do not accrue to those who pay costs

2. How much does it cost to make a house lead safe?

Estimated lead hazard control costs in Rochester over time

Cost per unit



2000: \$30,000 - \$70,000

- Based on local grant programs' experience using HUD lead abatement criteria
 - Risk Assessment
 - Permanent controls for all hazards
- City Housing Director: “Don’t ask about lead – you can’t afford to!”
- Predictions of bankrupting city

“To make all City of Rochester housing stock lead safe could require as much as \$605 million to \$5.6 billion in funding”

http://www.cgr.org/reports/02_R-1342_MonroeLeadPoisoning.pdf Page 1

2002: \$15,700

- Center for Governmental Relations “Monroe County Needs Assessment”
- Based on pre-HUD regulation experience by Rochester Housing Authority (\$7557) plus \$7000 in relocation costs
- Modeled ‘high risk’ neighborhoods in City

National Research on Lead Hazard Controls

- National Evaluation of HUD grant programs
- Interim controls (less expensive, but need monitoring) versus full abatement (permanent removal/encapsulation of lead)
- Increasing evidence for efficacy of lower cost interim controls

Door - Interim Control

Before



After



Door - Permanent Control

Before



After



2004: \$5,500

- Monroe County Department of Health HUD Lead Hazard Control grant program
- Based on full Risk Assessment
- Standard treatments (Interim Controls)
- EPA certified workers
- \$5,500 mean for units with windows replaced, \$3,500 without

2006: \$3,300

- “Get the Lead Out” community project
- Private funding to inspect 70 homes in high-risk neighborhood, 2003-2005
- Based on risk assessment and estimated costs to address all lead hazards
- Hazards found in 95% of units



Lead hazard control and Rochester's 2005 Lead Law

- Amendment to Municipal Property Maintenance Code
- Added lead to “Certificate of Occupancy” inspections
- Applied to pre-1978 rental housing
- Started July 1, 2006
- Targeted “high risk” housing



Implementation details

- Visual inspection of all properties, presuming deteriorated paint = lead
- Dust wipes in “high risk areas” if PASS visual inspection
- All violations must be addressed
- Does NOT require abatement (removal) of lead
- Workers must have lead safe work practices training (owners could do work themselves)
- Clearance by private firm

2008: \$2600

- Survey of 200 landlords after first inspection under Rochester lead law
- Those who had to make repairs reported mean cost of \$2600
- 34% reported NO costs (not included in mean)
- Median cost = \$300
- Significantly higher costs in units assessed at under \$40,000 than in higher-value properties

2010: Postscript

- Repeated Landlord Survey (Robert Wood Johnson Public Health and Law Research)
- \$4300 mean, \$1200 median
- One owner reported \$80,000 repair costs on a property valued at \$28,400 (what 'counts' as lead hazard control'?)
- Anecdotally, more owners replacing windows

Rochester landlord on choosing to replace windows:

“I have a personal belief system that replacing the windows is not just about lead. It’s curing four problems at the same time. I’m recapturing the value of the property on a resale. Bigger than lead? Energy conservation! A tenant comes in and sees new windows? I’ve got that tenant – versus a place with old windows. So there’s three, four, or five different factors with lead being just one of them. Lead isn’t my driving force.”

How much does it cost to make a house lead safe?

...it depends

- What counts as 'control'?
- What counts as a 'lead hazard'?
- Who is doing the controlling and how?

3. How much does it cost to make a *community* lead safe?

Implementation of Rochester's lead law...

- Non-permanent controls require monitoring (inspections) and maintenance (training)
- How many houses inspected at what cost?
- How many fail inspection? Resulting costs?
- What other costs (education) are there?

Number and costs of inspections

- City of Rochester inspects 15,000 units year
- Annual implementation costs: \$600,000
- Adjustments to law to reduce implementation costs (no dust wipes in larger units, etc.)

Inspection results

- In the first four years of implementation...
 - 6% failure rate for visual inspections
 - 11% failure rate for dust wipe tests
 - Total hazards found/year = 1423
- Average cost of \$420 for city to find a hazardous home
- GLO predicted up to 95% failure rate...major impact via changing maintenance practices BEFORE properties inspected
- Other costs?

Other costs?

- “Making community lead safe” requires that:
 - Home owners/landlords know about law
 - Training to make lead safe repairs
 - Residents know how to maintain, report problems
 - Doctors know to test kids...

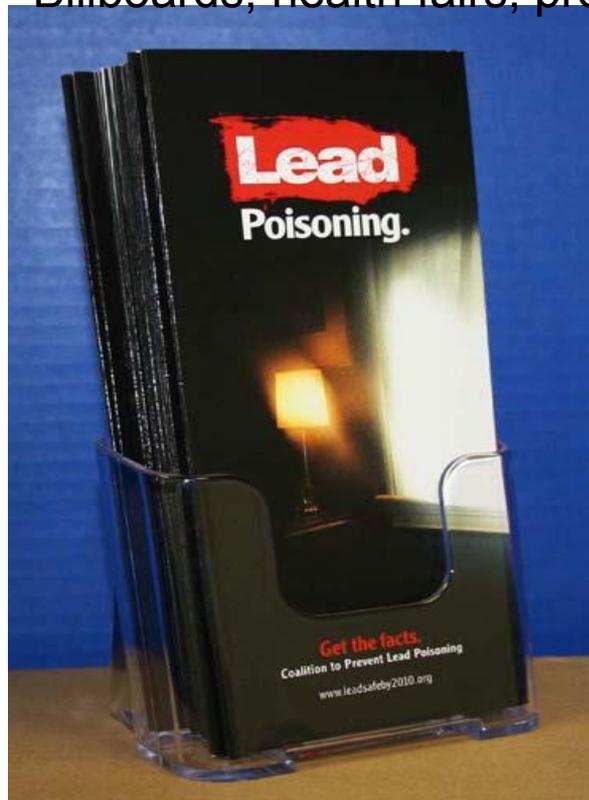
COMMUNITY EDUCATION EFFORTS

Tens of thousands of local lead resource brochures distributed (English, Spanish, Burmese, Nepali, Somali).

Thousands of copies of *Healthy Home/Lead Awareness for Parents* DVD (English, Spanish & ASL, also on YouTube) distributed.

Billboards, health fairs, presentations.

Let's
**MAKE
LEAD
HISTORY**



Community Outreach and Education by City, County, CPLP and many, many friends....

Let's
**MAKE
LEAD
HISTORY**



Economics = Cost Benefits Analysis?

- Tempting, but remember:
 - Benefits calculations incomplete
 - Cost estimates are complicated
- *“Make childhood lead poisoning economically, politically, and **morally unacceptable...**” not “cost effective”*
- Economic analysis can highlight distribution of benefits and burdens, inform cost-effective solutions, and monitor impacts
- Helps reframe the key questions...

Economic/community dialogue to reframe “Questions about costs”

1. How much does it lead poisoning cost our community?

*What is the scope of this problem **HERE**? Who is affected? Who should care?*

2. How much does it cost to make a house lead safe?

*What is the most cost-effective way to make **THIS** house lead safe?*

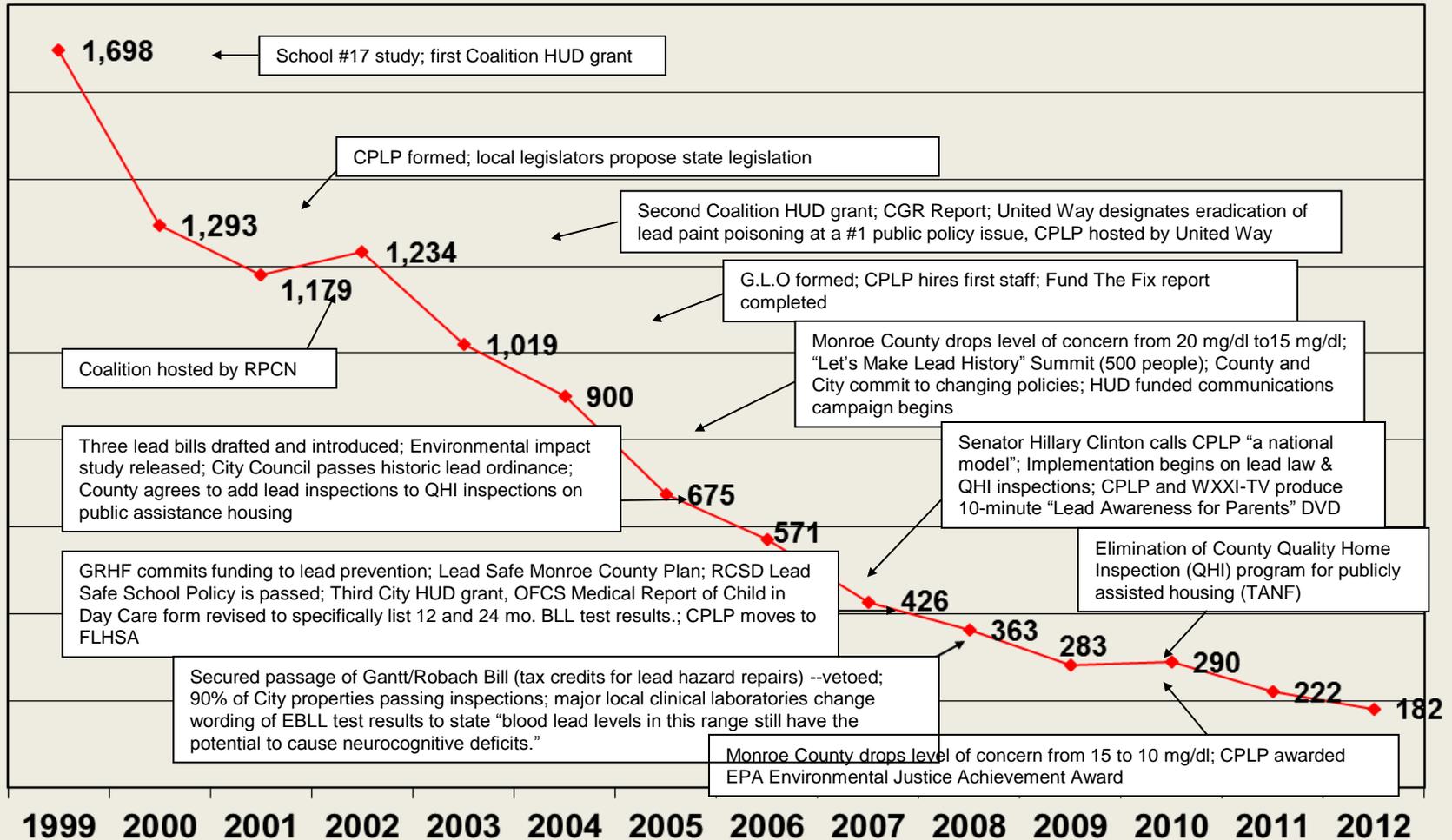
3. How much does it cost to make a community lead safe?

How can we incentivize and support maintenance of lead safe housing over time?

Acknowledging 15 years of partnership with...

- Center for Governmental Research
 - City of Rochester
 - Monroe County Department of Public Health
 - National Center for Healthy Housing
 - Rochester Coalition to Prevent Lead Poisoning
- ...and many others!

Number of Children Poisoned / Lead Poisoning Prevention Efforts Timeline



◆ 1999-2012

For more information on lead in Rochester...

www.leadsofby2010.org

- [Kennedy BS](#), [Doniger AS](#), [Painting S²](#) [Houston L](#), [Slaunwhite M](#), [Mirabella F](#), [Felsen J](#), [Hunt P](#), [Hyde D](#), [Stich E](#). 2014. Declines in elevated blood lead levels among children, 1997-2011. [Am J Prev Med](#). 2014 Mar;46(3):259-64. PMID: 24512864.
- **Korfmacher, K.S.** 2008. Collaborating for primary prevention: Rochester's new lead law. *Journal of Public Health Management and Practice*. 14(4): 400-406. PMID:18552653
- **Korfmacher, K.S.** 2010. Boundary networks and Rochester's "smart" lead law: The use of multidisciplinary information in a collaborative policy process. *New Solutions*. 20(3):317-36. PMCID:PMC3779540
- **Korfmacher, K.S.**, M. Ayoob, R.L. Morley. 2012. Rochester's lead law: Evaluation of an environmental health policy innovation. *Environmental Health Perspectives*. 120(2):309-315. PMCID:PMC3279433
- **Korfmacher, K.S. and M. Hanley.** 2013. Are local laws the key to ending childhood lead poisoning. *Journal of Health Politics, Policy and Law*. 38(4):757-814. PMID:23645870