Data Matters: Childhood Lead Poisoning in our Community

Federal Reserve Bank of Cleveland
Addressing the Impacts of Lead Exposure: Moving toward Prevention
Friday, November 18, 2016

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Objectives

• Define the scope of the problem
• Review relevant data on progress over time
• Describe where our community stands against national data on lead poisoning rates
What wrong with these pictures?
Compounding Disadvantages

- Minority children on Medicaid and living in poverty disproportionately at risk
- Children may need speech therapy and special education services.
- Deficits in reading, writing, drawing and construction skills
- Emerging difficulty at critical transition points including first, fourth, and sixth/seventh grades.
- Behaviors such as: inattention and distractibility interfere with learning.
- Needleman et al, found children with elevated lead levels seven times as likely to drop out of school.
Defining Lead Poisoning

- Since 2007: Cuyahoga County Board of Health, Cleveland Department of Public Health and Shaker Heights Health Department: 5 μg/dL

“New Level of Awareness”

There is NO SAFE LEVEL OF LEAD.
2014: 4,596 children had lead levels ≥ 5 µg/dL in Ohio

49% (2278) of those children live in Cuyahoga County, and of those 75% (1,744) live in Cleveland.
2004 - 10 ug/dl

Cuyahoga County, Ohio
Percentage of Elevated Blood Lead levels (>= 10 ug/dl) Among Tested Children (0-71 Months Old)
By Cleveland Neighborhood/Suburban Municipality 2004
2011 - 10 ug/dl
Cuyahoga County, Ohio
Percentage of Elevated Blood Lead Levels (>= 10 ug/dl) Among Tested Children (0-71 Months Old) By Cleveland Neighborhood/Suburban Municipality 2011
2004 - 5 ug/dl

Cuyahoga County, Ohio
Percentage of Elevated Blood Lead levels (>= 5 ug/dl) Among Tested Children (0-71 Months Old)
By Cleveland Neighborhood/Suburban Municipality 2004

Legend:
- under 12%
- 12.0% - 19.9%
- 20.0% - 29.9%
- 30.0% and greater
- fewer than 30 test annually
Cuyahoga County, Ohio
Percentage of Elevated Blood Lead Levels (>= 5 ug/dl) Among Tested Children (0-71 Months Old)
By Cleveland Neighborhood/Suburban Municipality
2009
Cuyahoga County: 2014
Percentage of Elevated Blood Lead Levels (>=5ug/dL)
Among Tested Children (0-71 months old)

2014
5ug/dL
HISTORY OF PERCENT CHILDREN WITH EBL
CLEVELAND & CUYAHOGA COUNTY

Data from Cuyahoga County Board of Health
Cuyahoga County: Percentage of Elevated Blood Lead Levels (EBLs) Among Tested Children (less than 6 years old)

- EBL >=5ug/dl
- EBL >=10ug/dl

City of Cleveland

Map created and analysis performed by Epidemiology, Surveillance and Informatics at the Cuyahoga County Board of Health, August 2016.
Data Source: The Ohio Department of Health Ohio Healthy Homes and Lead Poisoning Prevention Program (OHHLPP)
Cuyahoga County: Percentage of Elevated Blood Lead Levels (EBLs) Among Tested Children (less than 6 years old)

**EBL >=5ug/dl**

<table>
<thead>
<tr>
<th>Rate Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;= National Rate</td>
<td>(0.0 - 0.50)</td>
</tr>
<tr>
<td>1 to 2 times National Rate</td>
<td>(0.51 - 1.00)</td>
</tr>
<tr>
<td>2 to 3 times National Rate</td>
<td>(1.01 - 1.50)</td>
</tr>
<tr>
<td>3+ times National Rate</td>
<td>(1.51 and greater)</td>
</tr>
</tbody>
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**EBL >=10ug/dl**

<table>
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<th>Rate Description</th>
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<tbody>
<tr>
<td>&lt;= National Rate</td>
<td>(0.00 - 4.00)</td>
</tr>
<tr>
<td>1 to 2 times National Rate</td>
<td>(4.01 - 8.00)</td>
</tr>
<tr>
<td>2 to 3 times National Rate</td>
<td>(8.01 - 12.00)</td>
</tr>
<tr>
<td>3+ times National Rate</td>
<td>(12.01 and greater)</td>
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City of Cleveland neighborhoods were rezoned in 2012. Comparisons to the previous neighborhoods should be made with caution as boundaries may have changed.
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Children Under 6 Estimated Lead-poisoned in "Hot" Census Tract Areas in Cleveland and Northern Cuyahoga County

Source: Ohio Healthy Homes and Lead Poisoning Prevention Program, Ohio Department of Health. ODH defines a "hot" census tract as one where the estimated percentage of children lead-poisoned (5 ug/dL blood) is 12% or greater. Map by The Kirwan Institute.
Barriers to Testing

A study of barriers to testing in Ohio found conflicts between the reasons cited by healthcare providers vs. reasons cited by parents on why lead testing is not performed.

<table>
<thead>
<tr>
<th>Reasons cited by HCPs</th>
<th>Reasons cited by Parents</th>
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</thead>
<tbody>
<tr>
<td>Parents not following through with blood lead testing</td>
<td>Providers did not make parent aware that lead test was needed</td>
</tr>
<tr>
<td>Parents refusing the test</td>
<td>Not living in an older home</td>
</tr>
<tr>
<td>Parents not seeing the importance of testing</td>
<td>Not knowing the test was important</td>
</tr>
<tr>
<td>Children tested elsewhere</td>
<td>Not being told where to go for the test</td>
</tr>
<tr>
<td>Not seeing enough EBL children in practice to justify testing</td>
<td>Parent afraid of being evicted</td>
</tr>
<tr>
<td>Parents not requesting testing</td>
<td>Parent did not have transportation</td>
</tr>
</tbody>
</table>
In Memoriam:
Congressman Louis Stokes