



Lead and Education Outcomes

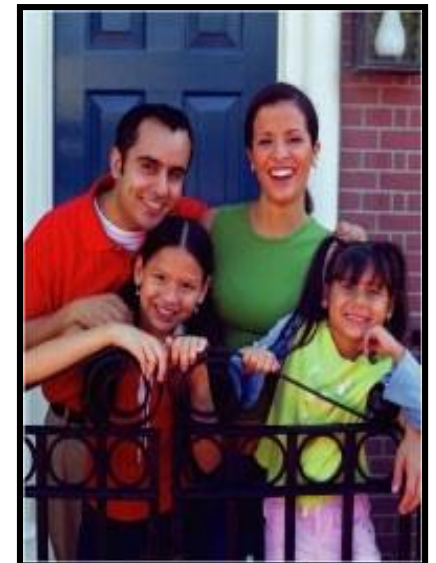
NJ Urban Mayors Education Symposium:
June 21, 2018

Elyse Pivnick, MCP
Isles



Isles' Mission

To foster self-reliant families...



Isles' Mission

and healthy, sustainable communities.



Isles' Experience with Community Health

- Compiled data for an environmental health profile of Trenton with comparisons to county and state data.
- Tested ~ 2,300 homes for hazardous lead. More than 60% had enough lead present to affect a child's IQ.
- Created the nationally-recognized ReHEET service that combines lead safety, energy efficiency and healthy homes retrofits.
- Established the Center for Energy and Environmental Job Training to train contractors, community health workers, social workers, building inspectors, energy efficiency workers, and more
- Trained teams of peer educators to visit homes and identify environmental asthma triggers and conduct sampling for lead.

NYT Quote of the Day

“If you were going to put something in a population to keep them down for generations to come, it would be lead.”

(NYT January 30, 2016)

Dr. Mona Hanna-Attisha, of Flint MI, who has studied lead poisoning and the effects of lead exposure, for which there is no cure.



NJ lead levels compared to Flint

13 NJ Cities Have More Children with Elevated Blood Lead Levels Than Flint, MI*					
City	Total Number of Children Under Six**	Children Tested***		Children with BLLs ≥ 5	
		#	%	#	%
Flint, MI	8,657	3,387	39.1	112	3.3
Atlantic City	3,677	1,676	45.6	150	8.9
Irvington	4,993	2,704	54.2	226	8.4
East Orange	5,543	2,031	36.7	132	6.5
Trenton	7,998	3,536	44.2	205	5.8
Newark	24,831	14,257	57.4	786	5.5
Paterson	13,987	6,272	44.8	334	5.3
Camden	8,525	2,086	24.5	92	4.4
Plainfield	4,961	3,101	62.5	135	4.4
New Brunswick	4,753	1,787	37.6	72	4.0
Jersey City	20,393	8,806	43.2	353	4.0
Elizabeth	11,792	5,233	44.4	201	3.8
Passaic	8,226	4,457	55.2	162	3.6
Edison	7,774	1,791	23.0	62	3.5
<p>* Children defined as under six years of age (most susceptible to harmful effects of lead) EBLLs defined as greater than or equal to 5 mg/dL (the national lead reference level)</p> <p>** US Census 2010</p> <p>*** New Jersey data from SFY 2015 (July 2014 through June 2015, latest available data for 12 months) http://www.state.nj.us/health/childhoodlead/documents/reports/childhoodlead2015.pdf Flint data from Jan 2015-Dec 2015 (12 months during the change of source water) http://www.michigan.gov/documents/flintwater/Weekly_Executive_Report_-_Flint_Blood_Testing_6_2_17_572920_7.pdf</p>					

Prepared by Isles, Inc.

Lead Exposure is Cumulative

- It typically comes from these main sources:



Dangers of Lead Exposure

- In 2016, lead poisoning remains the **#1 environmental threat** to the health of America's children, as well as a health risk for people of all ages.
- Lead is so toxic that it is unsafe at any level.



Toxic

Still with us, but off the radar

- In 2015, more than 3,000 children in New Jersey lead level of 5 or greater for the first time
- About 225,000 young kids in New Jersey have been poisoned by lead since 2000.
- Elevated BLL: Nationally, **36%** of inner-city black children vs **4%** for suburban white children
- Lead-poisoned children are **seven times** more likely to drop out of school and **six times** more likely to become involved in the juvenile justice system.
- Forgotten in child development and education reform- **My Brothers Keeper**



Exposure to lead can seriously harm a child's health.



Damage to the brain
and nervous system



Slowed growth
and development



Learning and
behavior problems



Hearing and
speech problems

This can cause:

- Lower IQ
- Decreased ability to pay attention
- Underperformance at school



Lead Poisoning & School Performance

- Compromised long-term memory---for example, a student can't recall multiplication tables from one day to next
- Reduced auditory processing makes it difficult, for example, to hear the difference between “s” and “f” impeding the ability to read
- Inability to control behavior
- Inability to learn no matter how hard a child tries
- Disruption in classrooms by children frustrated by their failure to learn make it difficult for *other* children to learn.
- Lower test scores for individuals and entire school districts that have a disproportionate number of children with lead poisoning
- Disproportionate number of low-income males incarcerated, unemployed and aimless



Studies on Lead and Education

$\leq 3 \mu\text{g/dL}$	Decreased end of grade test scores	More than 57,000 children North Carolina	North Carolina
4 $\mu\text{g/dL}$ at 3 years of age	Increased likelihood of learning disabled classification in elementary school	More than 57,000 children	North Carolina ¹ (same citation for above)
	Poorer performance on tests	35,000 children	Connecticut ²
5 $\mu\text{g/dL}$	30% more likely to fail third grade reading and math tests	More than 48,000 children	Chicago ³
	More likely to be non-proficient in math, science, and reading	21,000 children	Detroit ⁴
Between 5-9 $\mu\text{g/dL}$	Scored 4.5 points lower on reading readiness tests	3,406 children	Rhode Island ⁵
$\geq 10 \mu\text{g/dL}$	Scored 10.1 points lower on reading readiness tests	3,406 children	Rhode Island ⁵
Between 10 and 19 $\mu\text{g/dL}$	Significantly lower academic performance test scores in 4th grade	More than 3,000 children	Milwaukee ⁶
$\geq 25 \mu\text{g/dL}$	\$0.5 in excess annual special education and juvenile justice costs	279 children	Mahoning County Ohio ⁷

% Kindergarteners with high lead 2012

CITY	Of all Children tested, the % that had BLL \geq 2.5 ug/dL	Of all Children tested, the % that had BLL \geq 5 ug/dL
Camden	42.40%	13.20%
Irvington	64.90%	19.60%
Newark	53.90%	14.10%
New Brunswick	48.80%	10.60%
Trenton	50.9%	15.0%
NJ DOH data 2012		

School Suspensions, Juvenile Detention and Lead Poisoning

- Children with higher exposure to lead are more likely to misbehave in school and do worse academically.
- Increased probability of getting suspended from school
- Suspended children were also 10X more likely to end up in juvenile detention.
- Relationship between lead and suspensions was much stronger for kids who received free lunches suggesting its interconnection with poverty

Currie and Aizer, 2017

Cost of Lead Hazards Continues to be Immense

- What is strangely misunderstood is the costs of lead poisoning are primarily borne outside the health sector in:
 1. Social and economic costs of special education,
 2. Classroom disruption by children failing to learn
 3. Disproportionate incarceration of young minority men
 4. Family stress
 5. Life-long disability payments
 6. Forfeited tax revenues for adults who cannot work
 7. Adult health problems



New protocols for Flint children

- Interventions will available for children/adults ages 0-26—target will be children in grades K-9.
- Training on lead symptoms in children will be required for professionals who work with lead exposed children and then these same teachers/administrators will be asked to identify children in their classroom who fit the profile of high BLLs
- Community facilitators will be hired to help enroll the children with high BLLs in intervention services
- Completion of full neuro-psych assessment will be offered, then results will be shared with child's schools for education interventions to occur in place.
- Approval to use Medicaid funds for developmental assessments and school based services

Flint, Cont'd

- home visits from nurses and social workers,
- high-quality child care
- preschool
- expansion of Medicaid,
- support for parents,
- mobile grocery stores,
- behavioral health and mindfulness programs in schools a huge expansion of literacy efforts.

Role of Educators

- School Superintendents & Mayors—get involved!
- Ask for better annual lead reports w/maps
- Ask for annual letter describing lead screening results in your district
- Auto enroll children with high lead into Child Find—Early Intervention services

Role of Educators, cont'd

- Update training for educators and other city officials
- Require that NJ children submit a lead screening result at time of school entry OR develop other sharing mechanism
- Fully fund Head Start for any children with elevated blood lead levels.

Role of Educators, cont.

- Designate a responsible agency and create mechanisms to track children with levels above the CDC reference level from time they are poisoned, as young as ages 1-2.
- Auto-enroll children in Child Find for monitoring and help
- Refer poisoned children to IDEA programs B and C pegged to CDC reference level.

-

Role of Educators. Cont.

- Designate a responsible agency to create mechanisms to ensure that children with levels above the CDC reference level attend high quality preschool programs
- Carry out outreach to parents and families of lead poisoned children about the intervention options available to them which are included in the new CDC report *Education Interventions for Children Affected by Lead*

Work Outside the Education silo

- Enforcement of housing codes
- Multi-sector advisory groups: housing + education + community
- Support legislation-Lead safe certificate bill
- Offer Family education
- Support programs that make homes lead safe before they can poison a child.

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Comparison to Autism

- 3,000 new individuals (Ages 2-21) added annually to NJ Autism registry
- 3,000 new cases of lead in 2015 (mostly data from ages 1 and 2)
 - There would be more cases if we tested past age 2.
- ~70% of children with autism receive some Early Intervention (EI) service
- Lead is not specifically recognized as a risk factor for EI. Why aren't we identifying these children and seeking EI services for them?

Sources: Dr Sandra Howell, NJ Autism Registry;
<https://www.app.com/story/news/investigations/watchdog/investigations/2015/06/22/new-jersey-lead-poisoning-children/29123605/>

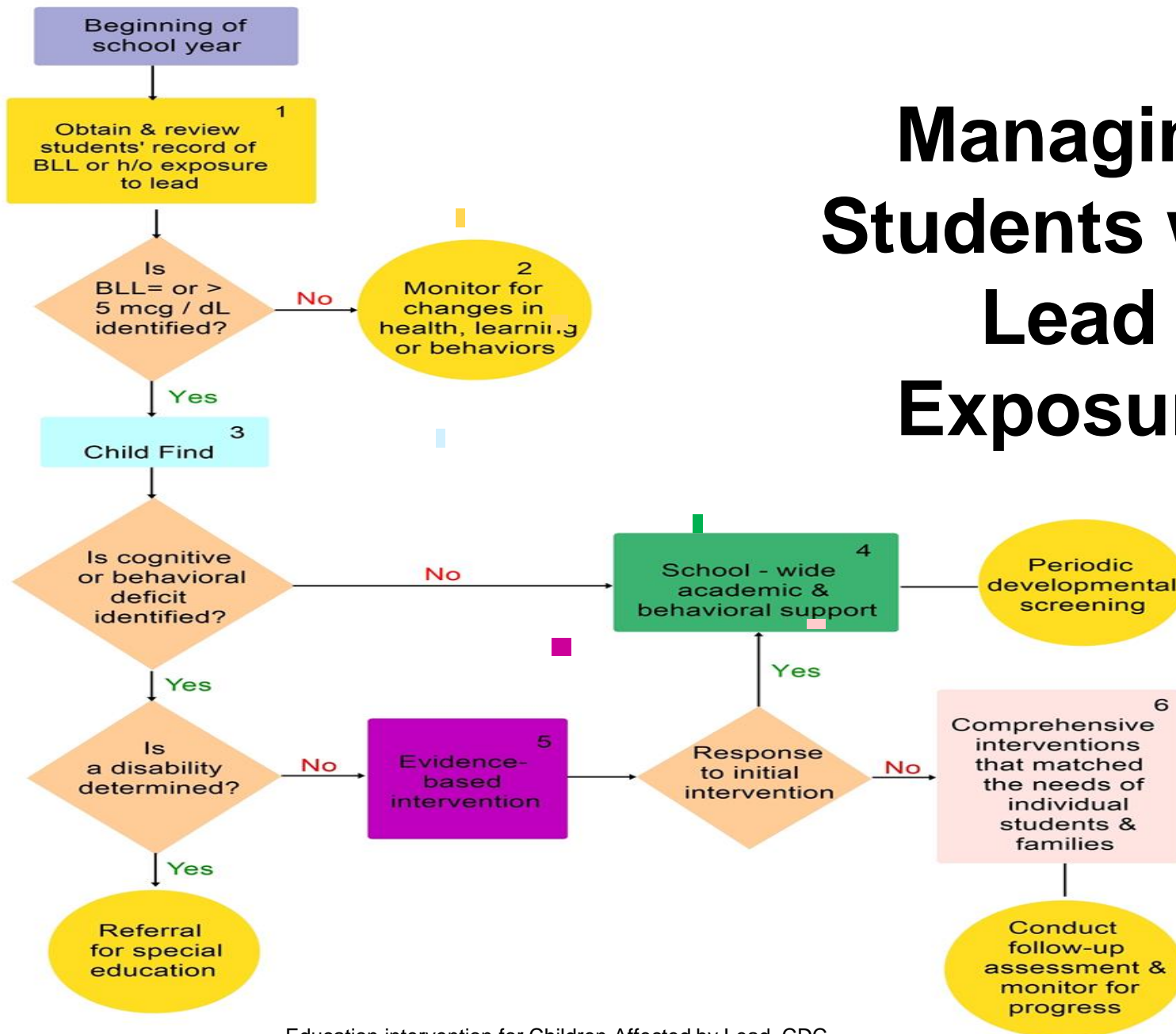
Join Advocacy group

- WE HAVE TO BE LOUD. Only when we mobilize and have a say in what happens to our communities will smarter decisions be made — for the environment, for public health and for all our children.

Dr. Mona Hanna-Attisha

NYT June 9, 2018

Managing Students with Lead Exposure



Contact Us

Elyse Pivnick: Director of Environmental Health
(609) 341-4723, epivnick@isles.org

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www.isles.org and www.isles.org/lppp



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