NORTHEAST-MIDWEST INSTITUTE AND
CONGRESSMAN PAUL TONKO (NY-20) PRESENT:

Lead, PFCs, and Other Threats to Safe Drinking Water

FEATURING:

CONGRESSMAN DAN KILDEE (MI-05)

CONGRESSMAN BRIAN FITZPATRICK (PA-08)

TOM NELTNER, ENVIRONMENTAL DEFENSE FUND

CLAIRE BARNETT, HEALTHY SCHOOLS NETWORK

ALAN ROBERSON, ASSOCIATION OF STATE DRINKING WATER ADMIN.

Lead in Drinking Water

Northeast-Midwest Institute
December 5, 2017

Tom Neltner
Chemicals Policy Director
Environmental Defense Fund

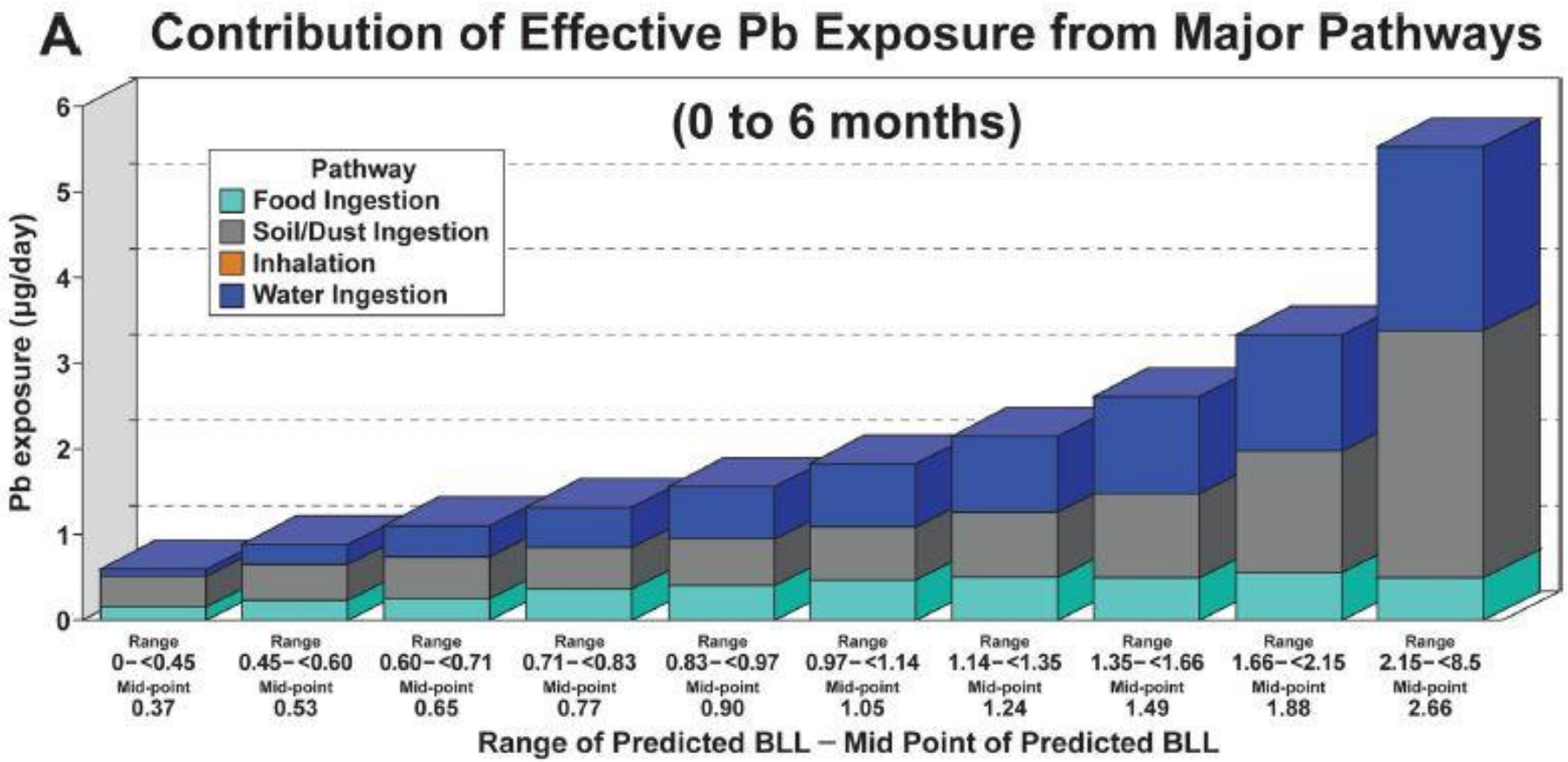
EDF
ENVIRONMENTAL DEFENSE FUND®
Finding the ways that work

Health impacts of lead

- There is no safe level of exposure to lead
- Health impacts include:
  - Damage to the brain and nervous system
  - Slowed growth and development
  - Learning and behavior problems

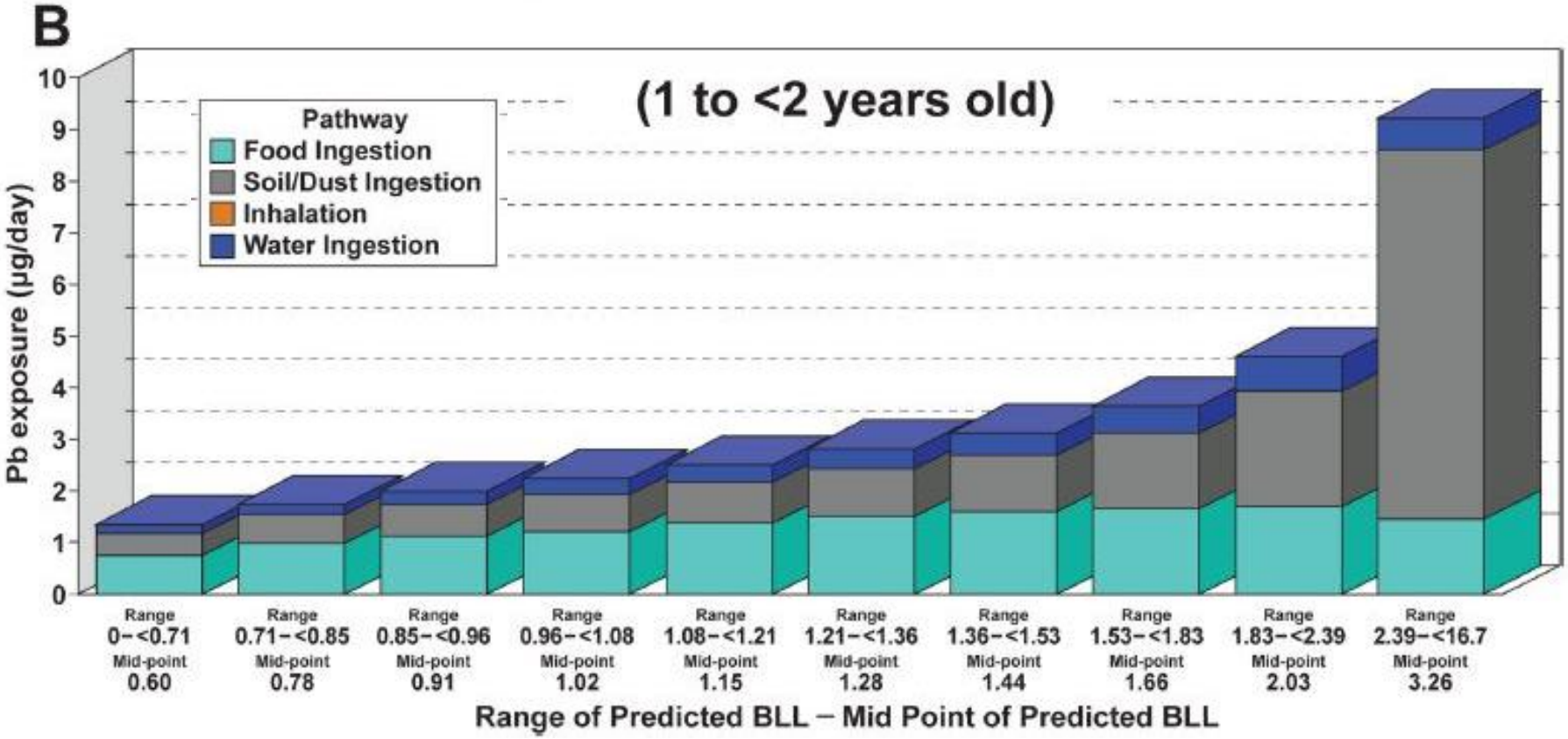
- CDC's blood lead level reference value is 5.0 µg/dL
  - Expected to drop to 3.5 µg/dL soon

Sources of exposure for infants



EPA 2017 at https://ehp.niehs.nih.gov/ehp1605/

Sources of exposure for toddlers



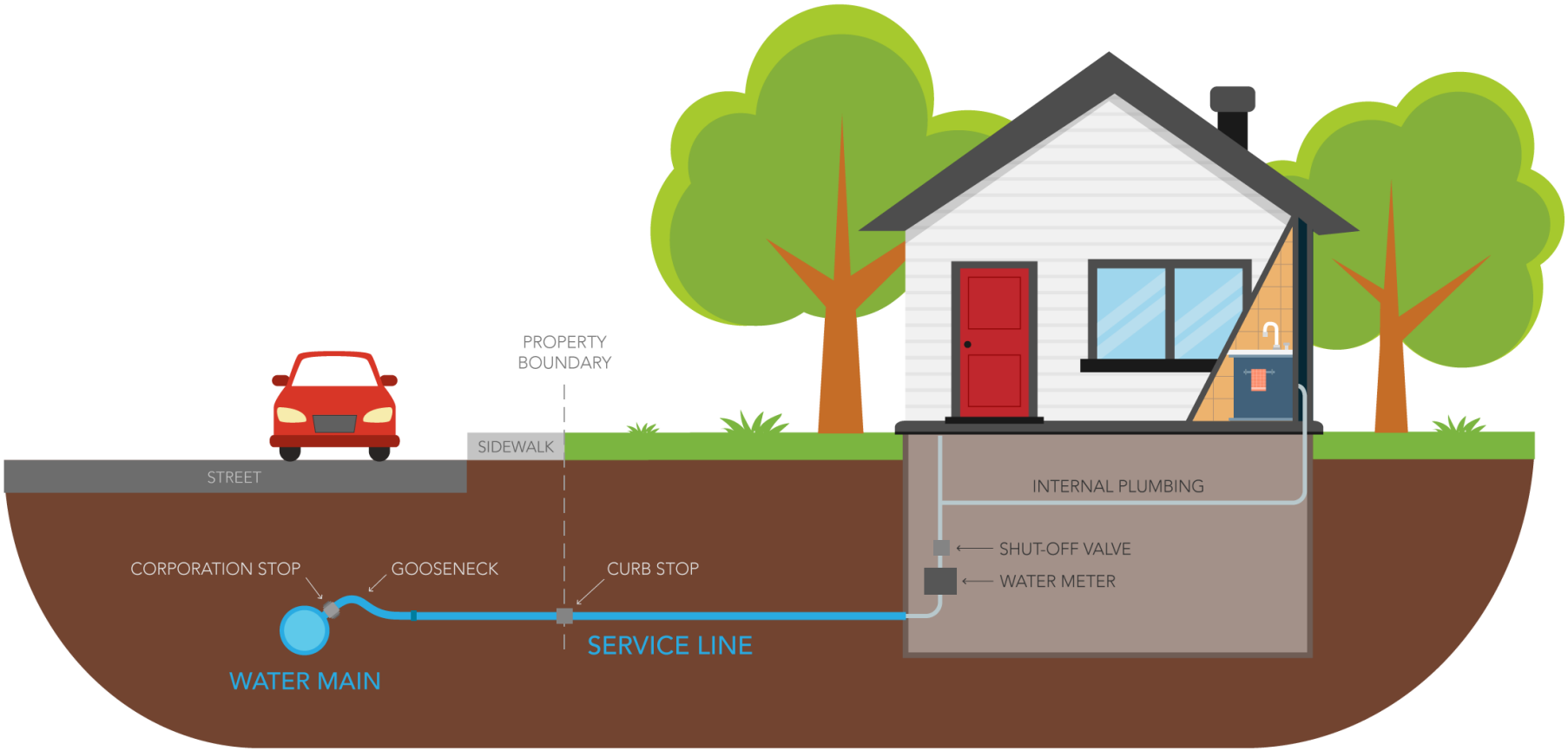
EPA 2017 at https://ehp.niehs.nih.gov/ehp1605/

How much is too much lead?

- No safe level of lead in blood found
- EPA's 15 ppb Lead Action Level is not based on health
- But . . .EDF developed levels from EPA report

EDF's assessment of a health-based benchmark for individual action on lead in drinking water			
Age of child in home and type of exposure	**Houses built before 1950**	**Houses built 1950 to 1978**	**Tests show no lead in dust or soil**
Formula-fed infant	3.8 ppb	8.2 ppb	11.3 ppb
Other children 7 years or younger	5.9 ppb	12.9 ppb	27.3 ppb

How does lead get into drinking water?



Lead service lines (LSLs)

- Pipe that connects main under the street to the home
- Estimated 6 million homes drink water through a lead pipe, most without knowing it
  - Northeast-Midwest Institute states have 2/3 of all LSLs

Community efforts to replace LSLs

- 14 communities have publicly set a goal of eliminating LSLs in their jurisdiction
  - Represents more than 240,000 LSLs
- 19 communities are taking important steps but have not yet set a goal
- 12 states have adopted proactive policies supporting community LSL replacement programs since 2015
  - Represents more than 3.3 million LSLs

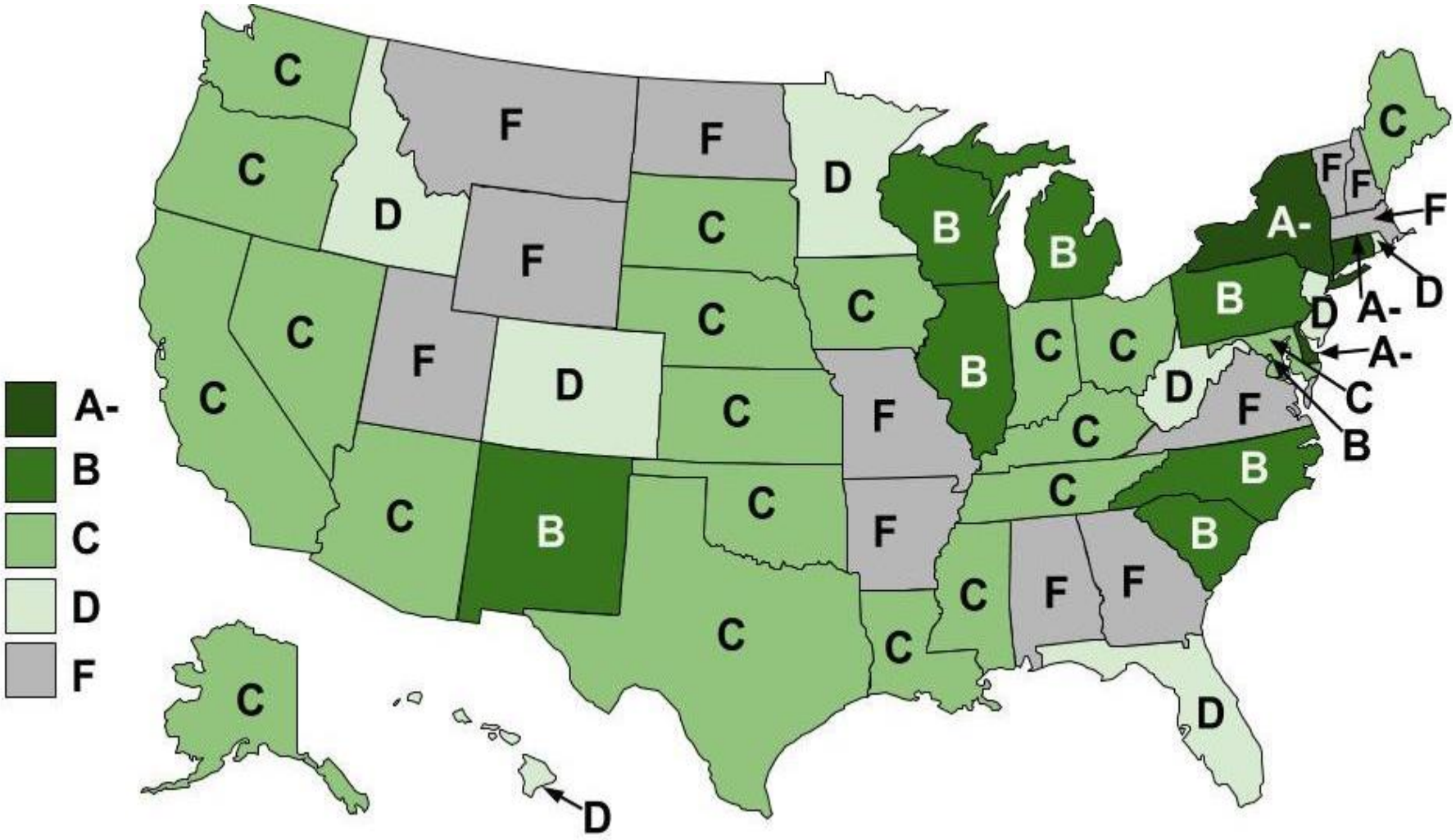
State proactive policies supporting LSL replacement

- Setting a goal of fully replacing LSLs in the state
- Enabling communities to secure funding for LSL replacement beyond typical state revolving loan program
- Requiring an inventory of known and potential LSLs and making the information available to the public
- Mandating lead-safe work practices designed to ensure that customers are protected from lead when LSLs are replaced
- Requiring disclosure of known or potential LSLs by property owners to potential buyers or renters

12 states with new LSL policies

State	Estimate of LSLs	Set Goal	Enable Funding	Require Inventory	Mandate Practices	Require Disclosure
California	65,000	Yes		Yes		Limited
Michigan	460,000	Yes				Good
Washington	8,800	Yes		Yes		Limited
Indiana	205,557		Yes (Rates)			Limited
New Jersey	350,000		Yes (Grants)			Poor
New York	360,000		Yes (Grants)			Very good
Pennsylvania	160,000		Yes (Rates)			Voluntary
Vermont	7,400		Yes (Grants)			None
Virginia	97,000		Yes (Grants)			None
Wisconsin	240,000		Yes (Grants)			Good
Illinois	730,000			Yes	Yes	Good
Ohio	650,000			Yes		Limited

State lead pipe disclosure policies for homebuyers



LSLR COLLABORATIVE

LEAD SERVICE LINE REPLACEMENT COLLABORATIVE

Key resources

- Lead Service Lines Replacement Collaborative - www.lslr-collaborative.org
- EPA 2017 Report on Sources of Lead Exposure - https://ehp.niehs.nih.gov/ehp1605/
- EDF Lead Resources - www.edf.org/lead
- EDF Health Blog - http://blogs.edf.org/health

And what about child care centers?

- Youngest children are most vulnerable to lead because their blood-brain barrier is not fully formed
- Child care v. Day care
- Homes v. Centers
- Often private without facility support system
- EDF’s pilot project in Michigan, Illinois, Ohio and Mississippi

Standards for lead in drinking water

State or city	Year Adopted	Testing Frequency	Standard	Corrective Action	Notification
Connecticut	2017	Licensing and every 2 years	None	None	None
Illinois	2017	Under development			
New Jersey	2017	Licensing	15 ppb	Yes	Post / Notify if elevated
Rhode Island	2013	Licensing and post-renovations	5 ppb / 15 ppb	Yes	None
Washington	2017	Licensing and every 6 years	15 ppb	Yes	Notify if elevated
New York City	2016	Licensing and every 5 years	15 ppb	Yes	Posted on website

EDF Health Blog

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Healthy Spaces for Children: Schools & Water Quality

Congressional Briefing

Northeast-Midwest Institute

in coordination with the Office of Congressman Paul Tonko (NY-20)

December 5, 2017

presenter

Claire L. Barnett, MBA, Executive Director

Healthy Schools Network

Healthy Schools Network

... for children ... environment ... health ... education ... communities ... since 1995 ...

HealthySchools.org	*Research, advocacy, technical assistance*
NationalHealthySchoolsDay.org	*Annual day to educate and celebrate*
CleaningforHealthySchools.org	*Green and healthy products for schools*

info@healthyschools.org

Healthy Spaces for Children:
Framing Environmental Health at School

PK-12 schools are not just little offices.

Children are not just little adults.

Every state requires children to attend school.

(There are more schools than zip codes in the U.S.)

Common EH Risks in Schools

Common problems faced by personnel and children: Indoor Air Quality (IAQ) problems, mold/moisture, pests/pesticides, radon, drinking water contaminants, excessive noise, PCBs, asthma/allergy triggers, lead, asbestos, mercury, chemical mismanagement, poor siting/vapor intrusion, hazards nearby *(EPA, IOM, others)*

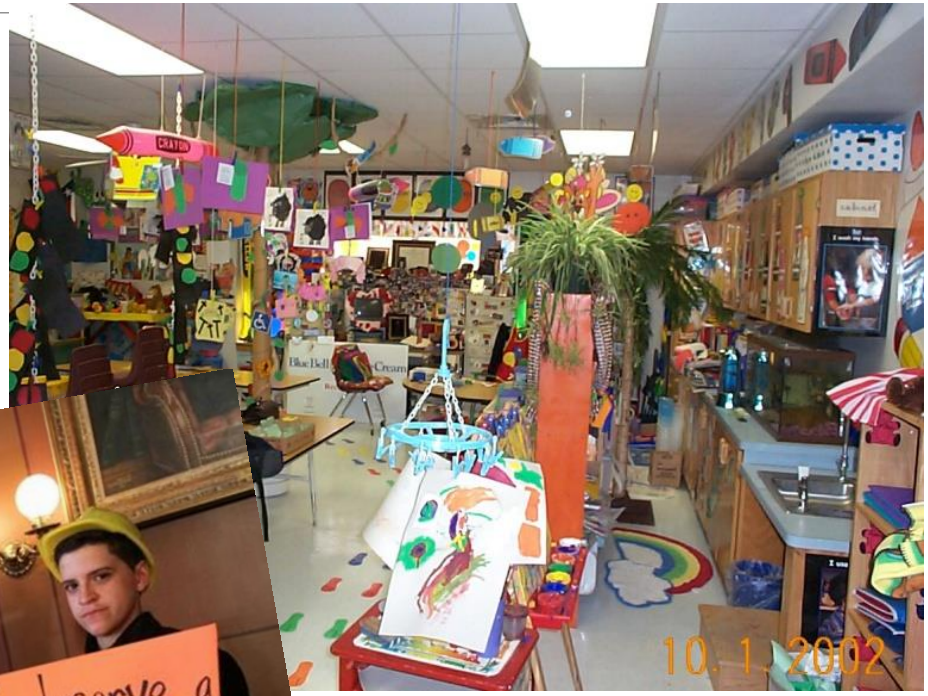
- Average age of school buildings: 44+ years *(NCES)*
- Limited federal and state support for school physical environments
- Decades of deferred maintenance and neglect *(GAO, NCES)*
- Renovation/expansion of existing, occupied schools: will release old and new contaminants; significant risks to all occupants, but especially children

1- Environmental health risks in schools unexamined and unaddressed

2- No EPH systems address children at risk or with exposures in schools

Old Buildings & Legacy Toxics

Poor Maintenance; Poor Decisions



Federal Efforts
Lead in School Water

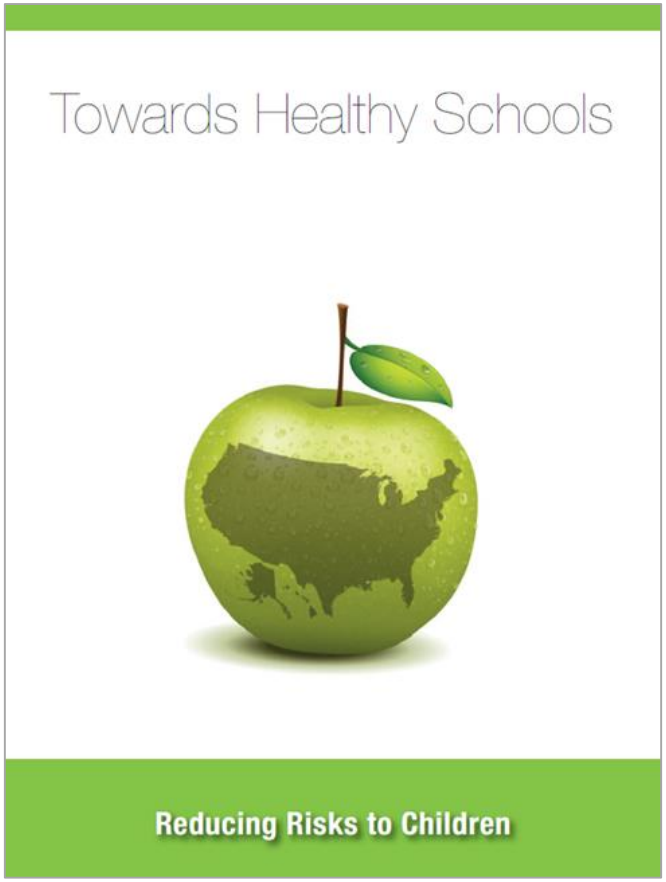
US EPA

- Does NOT require schools on municipal water systems to test at the tap (20ppb lead action level, if found)
  - Voluntary DW Protocol: *The 3 T's: Train, Test, Tell*
- Required: schools with their own water supplies must test and report to EPA for lead (15ppb action level) and other contaminants
- EPA defines "lead-free" plumbing (2014 new construction)

USDA School Meal Program

- Encourages water over sugar-sweetened beverages
- Requires twice-annual kitchen inspections in participating public and private schools (means tested); "sanitary inspections" do not necessarily address lead at the tap testing

Towards Healthy Schools: Reducing Risks to Children



State-of-the-states
data & policy

August 2016

Fourth triennial report

New special topics

Honor Roll States

www.HealthySchools.org

Towards Healthy Schools: Reducing Risks to Children
What are states doing?

National Data Summary

- Fewer public schools
- More children in schools
- More children with special needs
- More children in poverty
- More children with asthma
- Less money for schools
- Fewer staff
- *HP 2020: Schools **retreat** from baseline goals for IAQ, IPM, Haz Mat, Lead in Drinking Water*

National Data — Summary

NATIONAL TOTALS	2016	2012	2009	2006
CHARACTERISTICS OF SCHOOLS				
Number of Public Schools	100,551	101,435	98,793	96,143
Number of Public School Students	50,044,522	49,474,181	49,292,507	48,590,635
Number of Minority Students	25,018,175	23,516,967	21,904,510	19,778,912
Free & Reduced-Price Lunch Eligible	25,601,355	23,573,963	DNR	DNR
Number of Employees in School System	6,094,868	6,195,144	6,215,635	5,447,541
CHARACTERISTICS OF CHILDREN				
Students in Special Education	6,555,291	6,404,588	6,247,443	6,597,197
"Fenceline" Students	4,929,357	N/A	N/A	N/A
STATES				
State Education School Facilities Office	46	46	39	DNR
States with Adopted OSHA Plan	24	24	24	DNR
State Grants for Construction	38	40	36	36
States with School Building Assessments	28	28	28	28
POLICIES				
Food Allergy	22	23	DNR	DNR
Green Cleaning	12	12	8	DNR
High Performance Green Building	24	24	2	DNR
Indoor Air Quality (IAQ)	23	31	FN	DNR
Lead in Water*	27	27	DNR	DNR
IPM Plans	26	25	15	DNR
States that Responded to Senate Inquiry of State Asbestos Policy	20	N/A	N/A	N/A

NATIONAL AVERAGE	2016	2012	2009	2006
CHARACTERISTICS OF CHILDREN				
% Uninsured Children	6.9	8.1	12.5	DNR
% Asthma	9.2	8.9	8.9	8.7
% ADHD	N/A	9.9	7.7	N/A
STATE SUPPORT				
% Change in State Funding Per Student 2008 - 2014	-3.32	DNR	DNR	DNR
% Change in Median Revenue Per Student 2012 - 2013	-1.80	DNR	DNR	DNR
% Change in Median Expenditures Per Student 2012 - 2013	-0.50	DNR	DNR	DNR

N/A = DATA NOT AVAILABLE
DNR = DATA NOT INCLUDED IN REPORT
** See footnote 23 and Appendix for Healthy People 2020 comments*

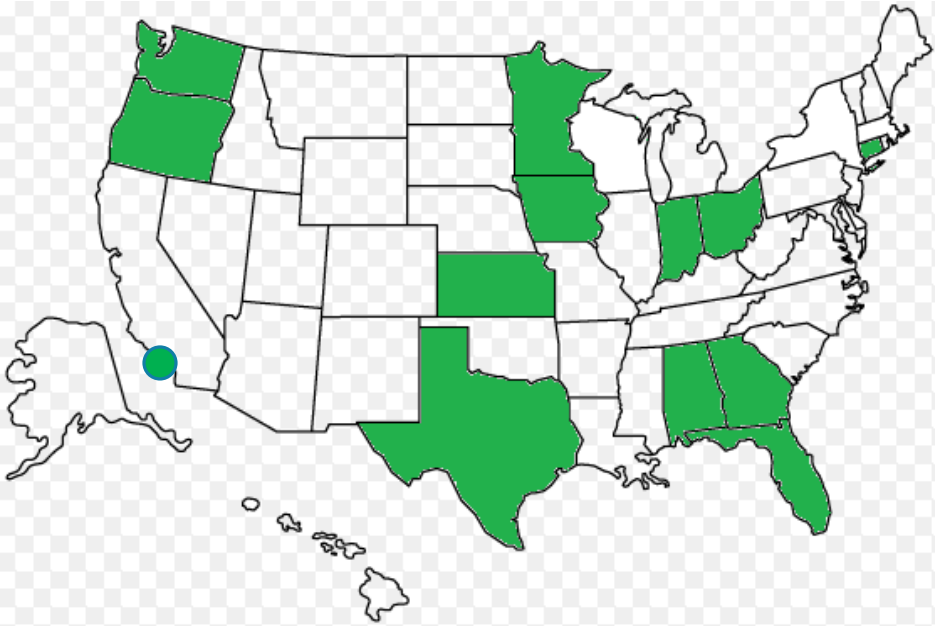
What about state/local health agencies?

A Preliminary Agency Survey

HS Network Phone Interviews with ASTHO and NACCHO Members: senior staff in 12 states/1 county

Findings: no PH system for children at risk or with exposures in schools.

No complaint-intake point; no tracking, reporting, or cross-agency coordination by health agencies of child health problems reported by parents/others



PK-12 Systems
Governance and Access Issues

Constitutionally, education is left to the states.

- No regular source of federal funds for school facilities (exceptions: FEMA, Military, Tribal Nations; *QZABs*)
  - House and Senate school infrastructure bills introduced in 2017
- Local public schools locally funded, with varying levels of state support
- 38 states (with DC) provide some funding for school facilities
- No common school facility assessments across states

State PK-12 Governance Structure: changing rapidly

- Examples: NYS Board of Regents v. NJ v. OR state boards of education (NASBE)

Health Agency Access to Schools: limited by law/policy

NIOSH may enter a workplace to assess dangers to workers

Lead and Other Contaminants in Drinking Water

States Act on School Water

NCSL (as of October 2017)

INTRODUCED: state bills to address lead in school water in 2016-17

44 bills were introduced in 19 states: CA (1), CO (1), CT (1), IL (6), MD (1), MA (2), MI (2), MN (2), NC (1), NH (1), NJ (12), NM (1), NY (2), RI (2), TX (2), VA (1), VT (1), WA (2) and WI (3)

ENACTED 2016-17

8 laws were enacted: CA A 746; CO H 1306; IL S 1943; MD H 270; NM SJM 15; NY A 3004; RI H 6035; WA S 5883.

NB – NJ and OR governors directed their state boards of education to establish testing at the tap

States Act on Lead in School Water

Policy Challenge: what is already required?

CDC SHPPS 2006: *27 states (w/DC) require inspection of school DW outlets for lead*

CDC SHPPS 2016: *50% of districts require schools to inspect outlets for lead*

Natl DW Alliance, Sept. 2017 Briefing: states acting to test at tap

- **Voluntary: CA, MA, MI, OH, OR**
- **Mandatory: IL, VA, MD, NJ, NY**

NCSL: 8 state laws enacted 2016-17 (Oct 2017)

- **CA, CO, IL, MA, NM, NY, RI, WA**

ASTHO Legislative Update 2017: tracked 34 bills in 20 states on lead in school and child care water

14 states listed above acting to test at the tap:

- **SHPPS reported in 2006 that 10/14 already required schools to test at the tap**

New York State Law
SAFE SCHOOL DRINKING WATER ACT

Early session: multiple bills pending

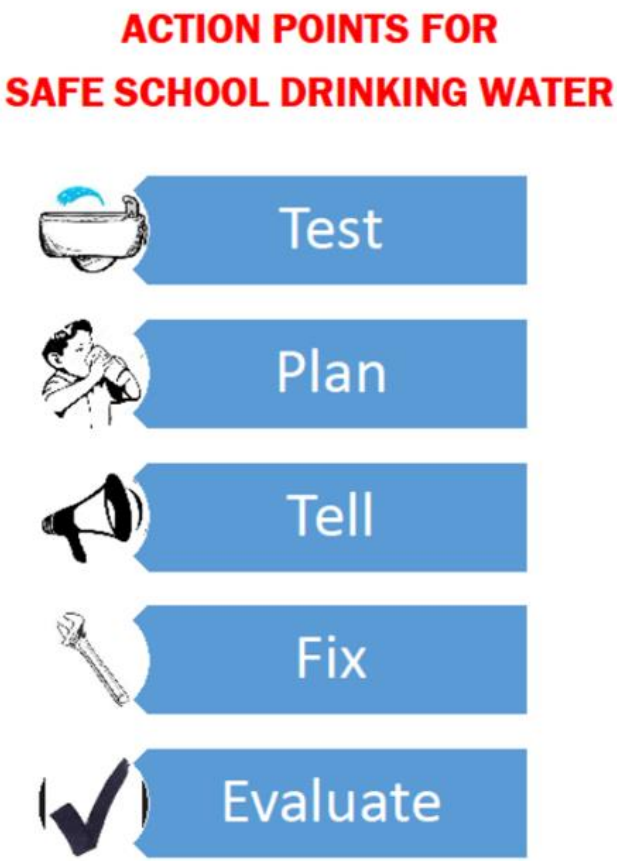
NGOs call for *Five Point Action Plan*

Governor's Program Bill introduced at end of session addressed all five points, including reimbursement for testing and fixing, biannual report by state DoH

Passed unanimously; signed 9/2016

State DoH report Spring 2017

- 8% of school taps in NYC > 15ppb
- 14% of school taps upstate > 15ppb
- State law requires taps to be closed; remediation; reimbursement
- No state agency report on remediation work



LEAD IN SCHOOL WATER:
Selected Early Reports

NEW YORK STATE elementary schools

Buffalo	48/19	105
Buffalo	89/ 8	1,530
Amsterdam	55/36	950
Ithaca	128/21	927

Spring 2016: ES in Buffalo tested all 48 taps; 19 reported at >15ppb lead; highest tested was 105ppb lead

HS Network Preliminary Data: no apparent correlation between schools with high poverty and more taps exceeding lead action levels

NATIONAL MEDIA (Highs)

Newark, NJ	2,100
Cleveland, OH	4,480
Portland, OR	57,600
N Andover, MA	7,700

Suggested Reading

Towards Healthy Schools: Reducing Risks to Children, 2016

US EPA Healthy Schools/Healthy Children *(IAQ, IPM, Radon, Mold, Design, Chemical Management, Water, Asbestos, LSRR, Siting)*

CDC NCEH/ATSDR *Children and the Built Environment*

Public Health Stops at the School House Door, J Paulson and C Barnett, Environmental Health Perspectives, October 2016, doi:10.1289/EHP530

Significance of the School Physical Environment – A Commentary, Journal of School Health, July 2016 (Fisk, et al)

Schools for Health, J Allen, et al, Harvard Chan School of Public Health, 2017

Climate, the Indoor Environment, and Health, IOM, 2011

Green Schools: Attributes for Health and Learning, NRC, 2006

Educate & Celebrate

16th annual National Healthy Schools Day
Tuesday, April 3, 2018

45 national partners celebrated the 15th annual Day in 2017 with webinars, Twitter Chats, school tours, Proclamations/Resolutions, local district/school presentations, and more.

www.NationalHealthySchoolsDay.org

HEALTHY SCHOOLS NETWORK

www.HealthySchools.org
www.NationalHealthySchoolsDay.org
www.CleaningforHealthySchools.org

info@healthyschools.org

ASDWA
Association of State Drinking Water Administrators

Three Big Issues Facing The Drinking Water Community

J. Alan Roberson, P.E.
ASDWA Executive Director

ASDWA
Association of State Drinking Water Administrators

Who ASDWA Is & What We Do

- National association of the heads of the drinking water programs in 50 states, 5 territories, the Navajo Nation and D.C. (57 members)
  - Formed in 1984
  - 6 staff located in Rosslyn
- We are the eyes & ears for the states in D.C.
  - Facilitate the flow of info between states & EPA
  - Facilitate the flow of info between the states

The Three Big Issues

- Uncertainties
- Capital - financial and human
- Non-regulatory drivers

Uncertainties Across the Board

- Uncertainty on what President Trump & EPA Administrator Pruitt are going to do
- Uncertainty on what Congress is going to do
- Uncertainty on funding
  - EPA and states could be impacted
- Uncertainty on deregulatory agenda

- “We live in interesting times”

Capital

- Infrastructure funding
  - Traditional financial capital
- Workforce
  - Human capital
    - Cuts across all in the water community

Non-Regulatory Drivers

- Transition to Safe Drinking Water Information System (SDWIS) Prime
- New operator certification tests
- New CMS requirements for building water quality management plans
- Unregulated contaminants
  - Higher public expectations
    - Simply meeting SDWA standards isn’t enough
  - Algal toxins and perfluorinated chemicals (PFCs)

Algal Toxins

- Algal toxins becoming more of a national issue
- "Do Not Use" order in Toledo, Ohio in Aug. 2014
  - On August 2nd, Toledo issues "Do-Not-Drink" order based on detections of algal toxins - issues with analytical methods used
  - Gov. Kasich declares state of emergency
  - Bottled water and bulk water used
  - "Do-Not-Drink" order lifted Aug. 4th
- 2015-EPA issues Health Advisories (HAs) for microcystins and cylindrospermopsin
  - How do states deal with HAs?
  - EPA response protocol
- UMCR4 starts in Jan. 2018
  - Detections are likely
    - Communications challenges

Perfluorinated Chemicals (PFCs)

- A growing problem for the past decade
  - Started with PFOA/PFOS manufacturing plants
    - Production phaseout for PFOA & PFOS
      - What about the substitutes?
  - Next was Aqueous Fire-Fighting Foam (AFFF)
  - Now other uses are creating problems
- Evolving knowledge
  - Health effects, analytical methods, sources, occurrence and treatment

UCMR3 & Health Advisories

- 6 PFCs in UCMR3 monitoring (2014-2016)
  - Provisional HAs (2009): PFOA-400 ppt, PFOS-200 ppt
  - 2016 HAs: 70 ppt for PFOA and PFOS, plus sum
    - Evolving knowledge
    - Change in HAs impacted more UCMR3 systems
      - Some systems had significant impacts (shutting down wells)
- What should systems and states be doing now?
  - What other PFCs might be a problems?
    - How will lower detection limits impact occurrence?
  - What about non-UCMR3 systems? Private wells??

ASDWA
Association of State Drinking Water Administrators

Questions?

- Contact information
  - arorberson@asdwa.org
  - Direct line: (703) 812-9507