WELCOME

2021 VIRTUAL

LEARNING COLLABORATIVE

ON CHILDHOOD LEAD POISONING PREVENTION

AUGUST 25TH, 2021

9:00AM - 4:30PM

IDPH
IOWA Department of PUBLIC HEALTH

IOWA
Institute of Public Health Research and Policy

WELCOME

This event is supported by the Centers for Disease Control and Prevention grant funds under Cooperative Agreement Number, NUE2EH001367-03-03. Content presented during this event is solely the responsibility of the presenters and does not necessarily represent the official views of the Centers for Disease Control and Prevention or the Department of Health and Human Services.

IDPH
IOWA Department of PUBLIC HEALTH

IOWA
Institute of Public Health Research and Policy

981 children under 6 had a confirmed elevated blood lead level above 5 µg/dL in Iowa in 2019

That is enough to fill 13.5 school buses

Iowa Public Health Tracking Portal. (2019). Children Tested. Retrieved from https://tracking.idph.iowa.gov/Health/Lead-Poisoning/Annual-Blood-Lead-Testing-Children-Under-6/Children-Tested

AGENDA

9:00am - 9:15am	Welcome
9:15am - 10:15am	Promoting Pediatric Lead Screening: Using the Collective Impact model to close the gap in testing
10:15am - 10:30am	Break
10:30am - 11:00am	Lead in Drinking Water: Opportunities for improving Iowans' public health
11:00am - 11:30am	Iowa Lead Exposures linked to Contaminated Spices
11:30am - 12:00pm	Baby Shoes to Work Boots - 2020 Lead Exposure in Iowa
12:00pm - 12:30pm	Discussion Session
12:30pm - 1:00pm	Lunch

AGENDA

1:00pm - 2:00pm	Its time to look upstream; the role of housing in the health of children
2:00pm - 2:15pm	Break
2:15pm - 2:45pm	Bringing Together Partners for a Successful Lead Hazard Control Program
2:45pm - 3:15pm	Growing a Coalition by Engaging Community Partners
3:15pm - 3:45pm	Black Hawk County Health Department and Waterloo Community Development Healthy Homes Collaboration
3:45pm - 4:15pm	Discussion Session
4:15pm - 4:30pm	Wrap-up & closing

DISCLOSURES

The Iowa Institute of Public Health Research and Policy strives to ensure balance, independence, objectivity and scientific rigor in all of its educational programs. All planners, faculty members, moderators, discussants, panelist and presenters participating in this program have been required to disclose any real or apparent conflict(s) of interest that may have a direct bearing on the subject matter of this program. This includes relationships with pharmaceutical companies, biomedical device manufacturers or other corporations whose products or services are related to the subject matter of the presentation topic. The intent of this policy is to identify openly any conflict of interest so that the attendees may form their own judgments about the presentation with full disclosure of the facts. In addition, faculty is expected to openly disclose any off-label, experimental and/or investigational uses of drugs or devices in their presentation.

Disclosures, Conflict of Interest (COI) and Resolution of COI policies are available via the APHA's website and in the printed program.

DISCLOSURES

Medicine (CME) Accreditation Statement

This activity has been planned and implemented in accordance with the Essential Areas and Policies of the Accreditation Council for Continuing Medical Education through the joint sponsorship of the American Public Health Association (APHA) and the (insert your organization). The APHA is accredited by the ACCME to provide continuing medical education for physicians.

Designation Statement: The APHA designates this live web educational activity for a maximum of 6 AMA PRA Category 1 Credit (s)™.

Nursing (CNE) Accreditation Statement

American Public Health Association's Public Health Nursing Section (APHA/PHN), is accredited as an approver of nursing continuing professional development by the American Nurses Credentialing Center's Commission on Accreditation.

Health Education (CHES) Statement

Sponsored by the American Public Health Association (APHA), a designated approver of continuing education contact hours (CECH) in health education by the National Commission for Health Education Credentialing, Inc. This program is designated for Certified Health Education Specialists (CHES®) to receive up to 6 total Category I contact education contact hours. Maximum advanced-level continuing education contact hours available are 0.

OBTAINING CEU

Participants must complete the evaluation online in order to earn credit hours and obtain a CE certificate. A link to the online evaluation system will be sent to all registered participants who attend the activity that will contain instructions and a personal ID number for access to the system. All online evaluations must be submitted by 09/25/21 to receive continuing education credit for this activity.

MORNING BREAK

10:15AM - 10:30AM

Check out all of the resources we have put together!

https://idph.iowa.gov/Environmental-Health-Services/Childhood-Lead-Poisoning-Prevention/resources

Lead in drinking water: Opportunities for improving public health in Iowa's schools

David Cwiertny
Director, Center for Health Effects of Environmental Contamination (CHEEC)

CHEEC: Who we are

Established through the 1987 Iowa Groundwater Protection Act, CHEEC is a multidisciplinary environmental health research center that supports and conducts research to identify, measure and study adverse health outcomes related to exposure to environmental toxins.

CHEEC: What we do

- Data Visualization & Dissemination
- Student Training & Professional Development
- Community-engaged Research Projects
- Iowa-centric Research

Drinking water is an important, but often overlooked, source of lead exposure

- Lead is a potent neurotoxin that is harmful to human health
- Children are particularly vulnerable
- There is **no safe blood lead level** for children
- EPA estimates that drinking water can make up 20% or more of a person's total exposure to lead
- Infants who consume mostly mixed formula can receive 40-60% of their exposure from drinking water

Lead in Drinking Water Guidelines & Regulations

American Academy of Pediatrics

1 ppb[a]

FDA U.S. FOOD & DRUG ADMINISTRATION

5 ppb[b]

World Health Organization

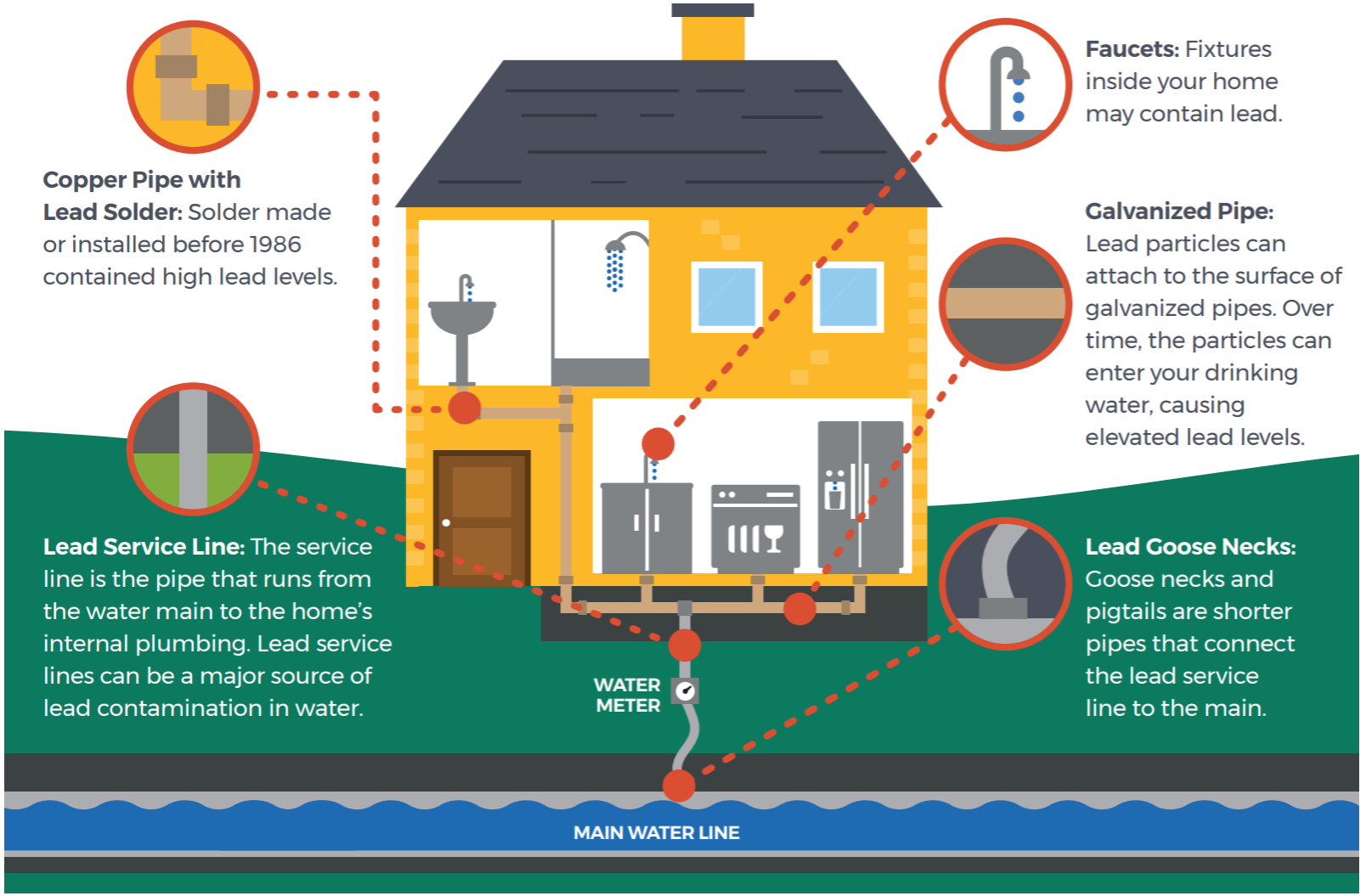
10 ppb

EPA United States Environmental Protection Agency

15 ppb

*"For every $1 invested to reduce lead hazards in housing units, society would benefit by an estimated $17-$221, a cost-benefit ratio that is comparable with the **cost-benefit ratio for childhood vaccines."** – AAP 2016*

Unlike other contaminants, lead is derived from the distribution system and premise plumbing



Water from Treatment Plant (compliance point under SDWA)

Why would Iowa be immune to this nationwide problem?

2 KUTV NEWS WEATHER SPORTS CONTESTS CHIME IN WATCH

Lead found in water at 90% of Utah schools sampled, now DEQ wants to test it all

by Ginna Roe | Tuesday, January 21st 2020

Sports Connect

HOME & BACKYARD PA OUTDOOR LIFE PODCASTS COMMUNITY WELLNESS CON

LACKAWANNA-COUNTY

Parents in Scranton School District Concerned Over Lead, Asbestos Found in Schools

SCRANTON, Pa. — Parents in the Scranton School District are voicing their anger and concerns after learning asbestos and unsafe levels of lead have turned...

LOCAL NEWS

FEBRUARY 5, 2020

Schools take action after finding lead in water

By Katy Savage

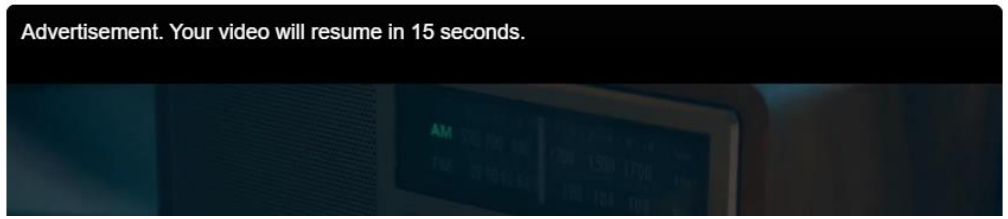
Multiple schools are replacing drinking water fountains and sinks after elevated lead was found in the water.

So far, 79% of the schools tested for lead in the state have had at least one tap test positive.

Tests are required on every tap at all schools and childcare centers under Act 66, which passed in 2019. Those with test results at or above 4 parts per billion are required to remove or replace the fixture until the level drops below 4 ppb.

FOX 13 Weather News Sports Seen on 13 Fox13 Investigates Live Stream Level Up

New information revealed about lead in water within SCS schools



Pennsylvania Capital-Star

Honest, aggressive reporting for Pennsylvania

Election 2020 COVID-19 Civil Rights & Social Justice Criminal Justice Education Energy & Environment Government & Politics

Health Care Working & The Economy Commentary #PennForward Estrella-Capital

Education Energy & Environment Health Care

Map: 100 Pa. schools found lead in their drinking water. Here's how they responded.

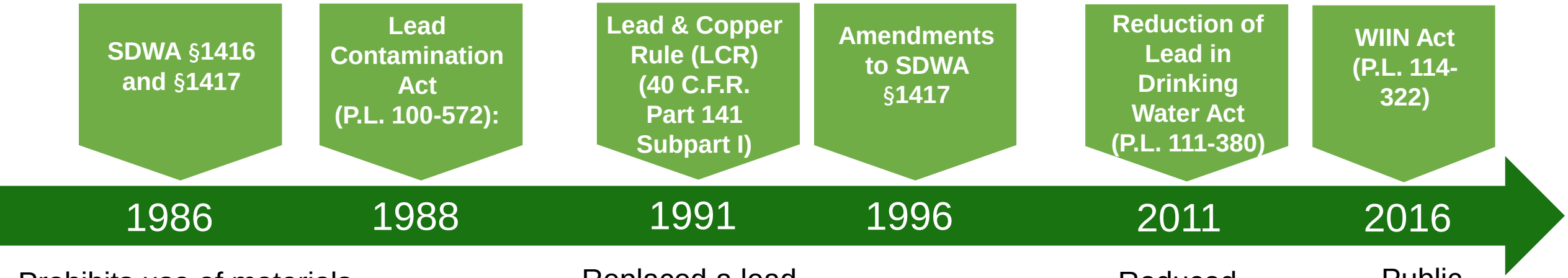
By Elizabeth Hardison - January 12, 2020

A Twitter List by Pennsylvania Capital-Star

Morning Coffee

Get the latest news and commentary from the Capital-Star, hot and fresh in your inbox M-F morning.

How did we get here?
A crash course in lead in water policy



Prohibits use of materials not “lead free”

“Lead free”:
< 0.2% solders
<8% for pipes & fittings

Replaced a lead standard of 50 µg/L measured at the water utility

Non-health based “action level” of 15 µg/L (or ppb)

Reduced **allowable lead level** in products in contact with drinking water to **0.25%**

Public information, grants for repairs & testing (including schools)

Lead & Copper Rule

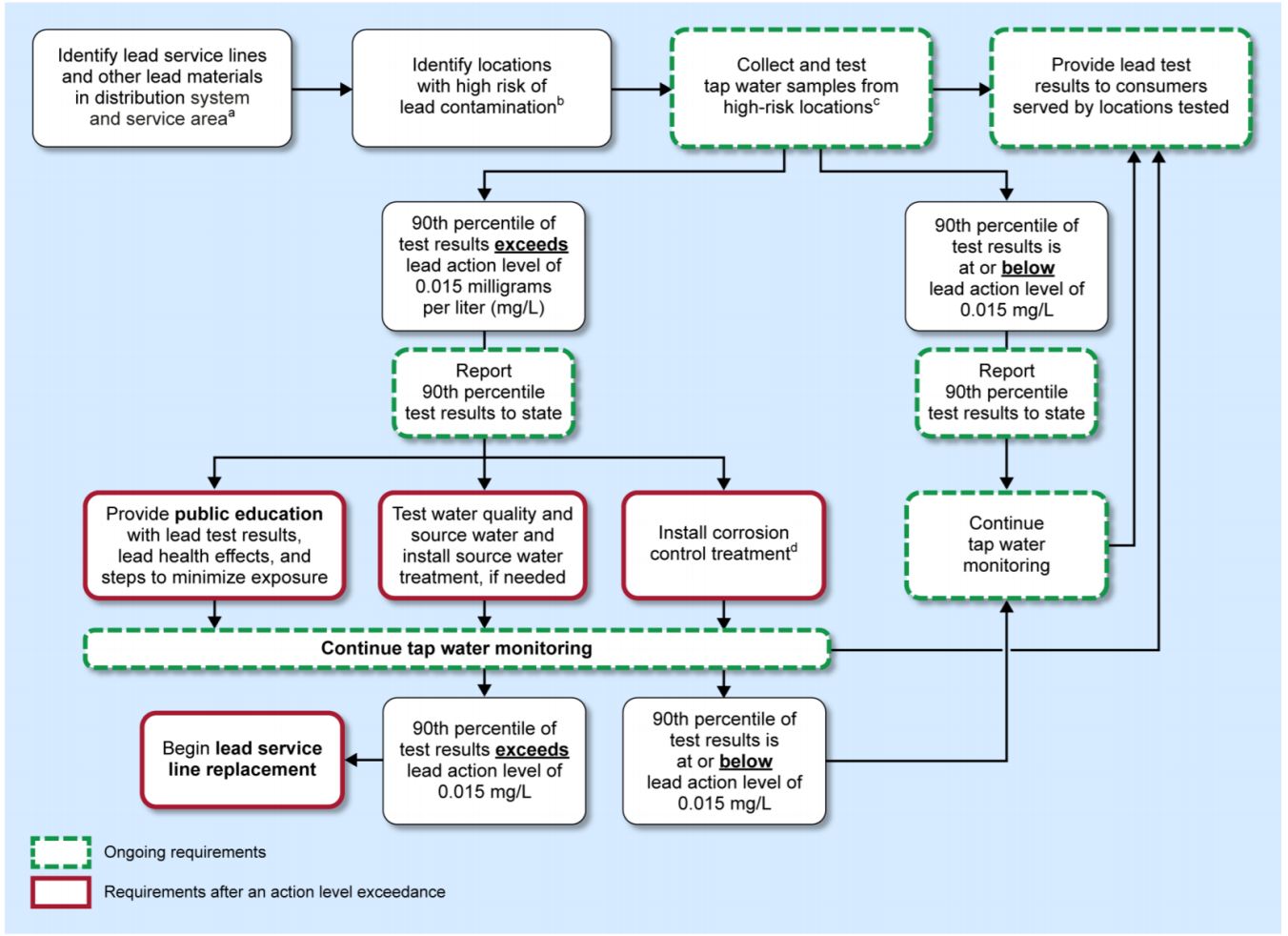
(40 C.F.R. Part 141 Subpart I)

US GAO : *"…one of the most complex drinking water regulations under the SDWA"*

What about schools?

Unless schools are their own public water system, they are not tested under the current LCR

Figure 2: Lead and Copper Rule Requirements for Water Systems, Including Schools and Day Care Centers with Their Own Water Supplies



EPA's proposed revisions to the LCR would require testing in schools and child cares

- Community Water Systems (CWSs) must test at **20% of K-12 schools and licensed child cares every year**
- Samples from **5 outlets at each school and 2 outlets at each child care facility**
- Complete sampling at all schools and child care facilities in CWS distribution system every five years.
- Excludes facilities built after Jan 1, 2014
- Implementation currently paused by Biden Administration

“Every school has lead in it, but not every water sample will.”

Dr. John Tobiason, Director, Massachusetts DEP 2016 School Testing Program

3Ts for Reducing Lead in Drinking Water in Schools and Child Care Facilities

A Training, Testing, and Taking Action Approach

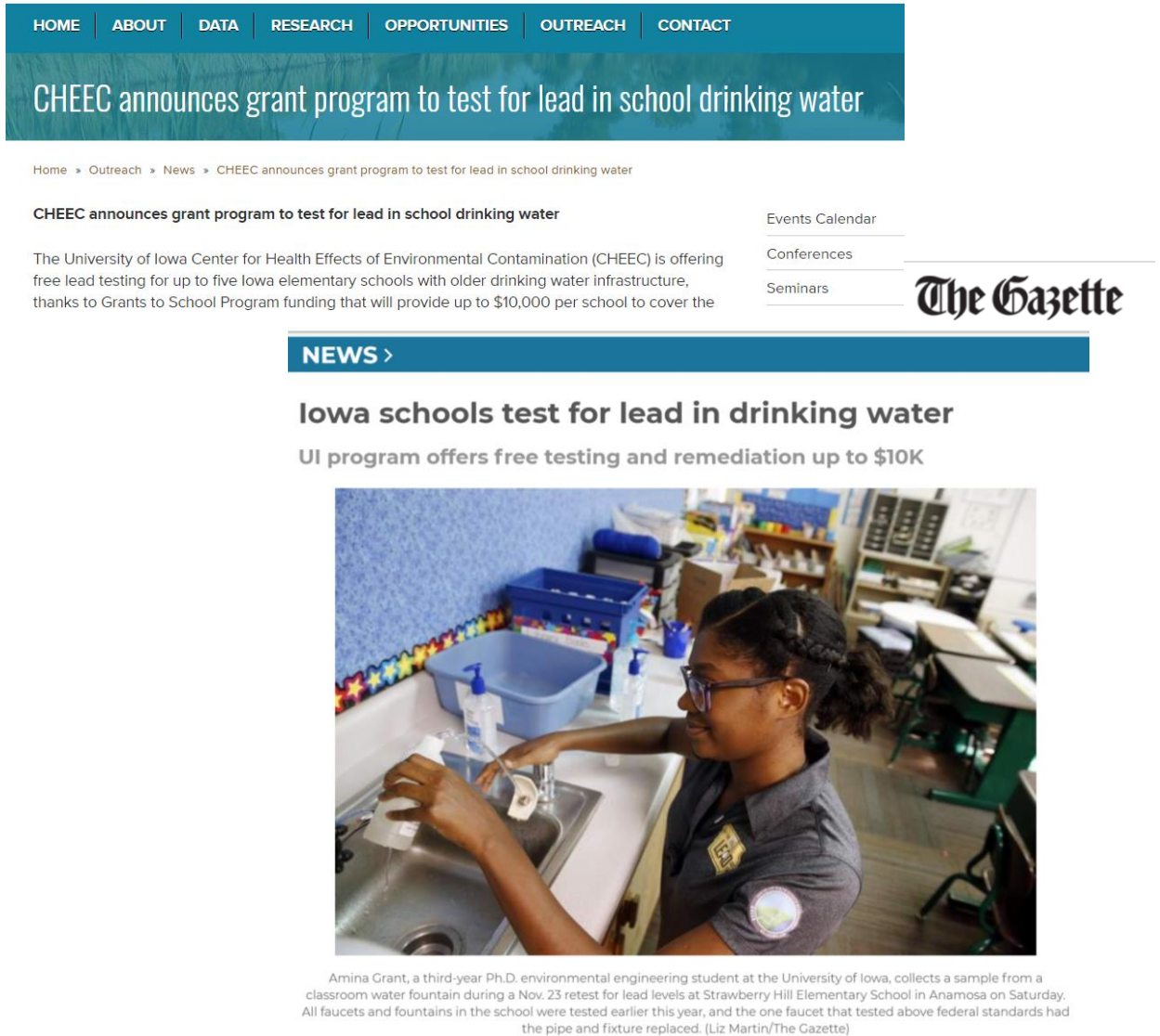
Revised Manual

*"**There is no safe level of lead for children.** EPA encourages schools to prioritize remediation efforts based on lead sample results and to use the steps in the toolkit to pinpoint potential lead sources to **reduce their lead levels to the lowest possible concentrations**". (3Ts page 36)*

*"...**schools and child care facilities should not use sample results from one outlet to characterize potential lead exposure from all other outlets in their facility.** This approach could miss localized lead problems that would not be identified." (3Ts page 31)*

CHEEC Grants to Schools Program

- Initiated Spring FY2019
- Free lead and copper testing Iowa elementary schools with older drinking water infrastructure
- **Up to $10k/school** for testing and to remove/replacement high priority drinking water outlets with unsafe levels of lead or copper.
- Comprehensive **sampling of every outlet** in each school.



HOME | ABOUT | DATA | RESEARCH | OPPORTUNITIES | OUTREACH | CONTACT

CHEEC announces grant program to test for lead in school drinking water

Home » Outreach » News » CHEEC announces grant program to test for lead in school drinking water

CHEEC announces grant program to test for lead in school drinking water

The University of Iowa Center for Health Effects of Environmental Contamination (CHEEC) is offering free lead testing for up to five Iowa elementary schools with older drinking water infrastructure, thanks to Grants to School Program funding that will provide up to $10,000 per school to cover the

Events Calendar
Conferences
Seminars

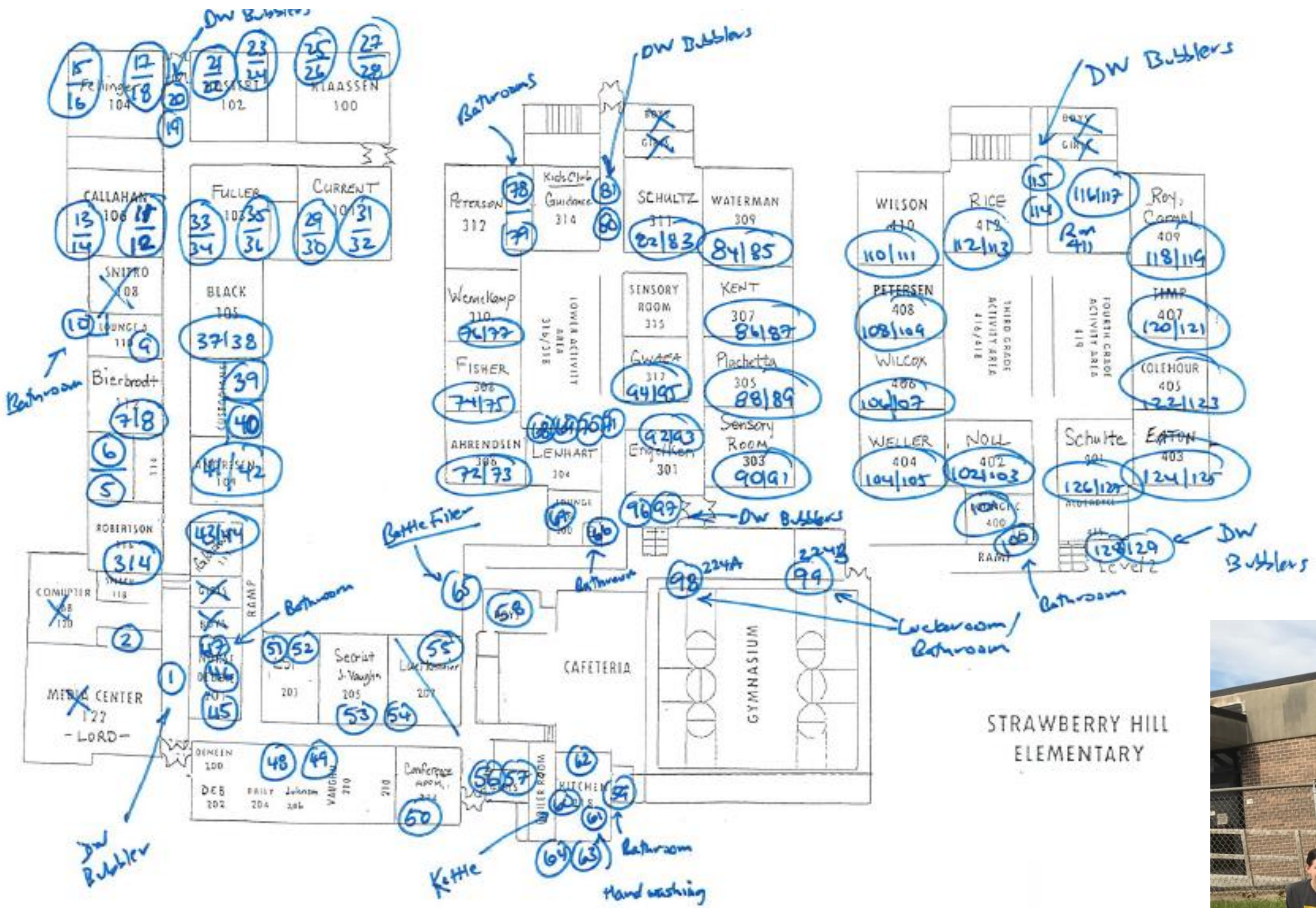
The Gazette

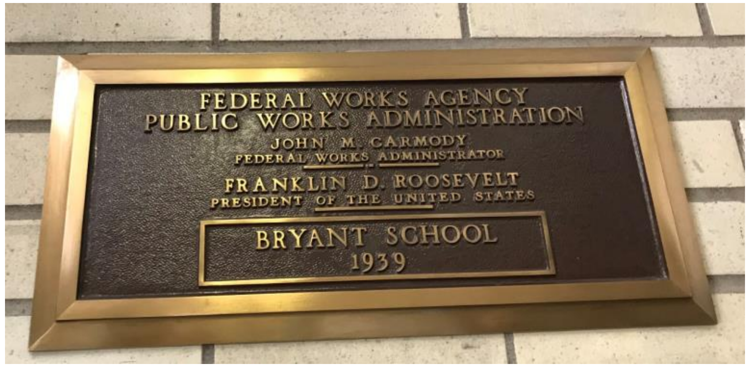
NEWS ›

Iowa schools test for lead in drinking water

UI program offers free testing and remediation up to $10K

Amina Grant, a third-year Ph.D. environmental engineering student at the University of Iowa, collects a sample from a classroom water fountain during a Nov. 23 retest for lead levels at Strawberry Hill Elementary School in Anamosa on Saturday. All faucets and fountains in the school were tested earlier this year, and the one faucet that tested above federal standards had the pipe and fixture replaced. (Liz Martin/The Gazette)


STRAWBERRY HILL
ELEMENTARY
CAFETERIA
GYMNASIUM
MEDIA CENTER
DW Bubblers
Bathroom
Bottle Filler
Locker room/Bathroom
Hand washing
Kettle


FEDERAL WORKS AGENCY
PUBLIC WORKS ADMINISTRATION
JOHN M. CARMODY
FEDERAL WORKS ADMINISTRATOR
FRANKLIN D. ROOSEVELT
PRESIDENT OF THE UNITED STATES
BRYANT SCHOOL
1939


GEORGE WASHINGTON SCHOOL

What are we finding in Iowa schools?

- Oxford Junction
  - Sampled 41 water outlets on Saturday, April 27
  - Lead: 0 samples above EPA Action Level of 15 ppb, 2 above 5 ppb
  - **Copper: 8 equal to or above EPA Action Level of 1.3 mg/L**
  - Remediation: Signage & 3 new bottle fillers
- Anamosa
  - 129 water outlets for sampling on Saturday, May 18
  - **Lead: 1 sample above EPA Action level of 15 ppb**, 3 other locations between 3-8 ppb
  - Copper: 0 samples above EPA Action Level
  - Remediation: 1 new bottle filler & replacement of fixtures at 3 locations

What are we finding in Iowa schools?

- Keokuk
  - Sampled 137 water outlets on Saturday, October 19
  - **Lead: 5 samples above EPA Action level of 15 ppb**, 47 other locations between 1-14 ppb
  - Copper: 0 samples above EPA Action Level
  - Remediation: Fixture replacement, filters, no drinking at some outlets

- Dubuque
  - Sampled 105 water outlets on Saturday, December 21
  - **Lead: 5 samples above EPA Action level of 15 ppb**, 12 other locations between 1-8 ppb
  - Copper: 0 samples above EPA Action Level
  - Remediation: Fixture replacement

Average of $2,800 per school for testing and remediation

Opportunities exist to improve public health through school drinking water improvements

- Define safe level for lead in schools that is more consistent with EPA's 3Ts guidance
- Financial assistance for expanded testing at *all* outlets in schools
- Technical and financial assistance to allow schools to respond effectively to testing results
- Ensure long-term safety of school drinking water (e.g., "Filter First" programs in Michigan)
- Leverage COVID funding to install bottle fillers with filtration

Community

Fairview Park targets CARES Act funding toward new doors, water bottle fillers and employee overtime

Updated Oct 02, 2020; Posted Oct 02, 2020

Thanks and questions

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Iowa Lead Exposures linked to Contaminated Spices

Presenters:
Kevin Officer (for Kathy Leinenkugel), IDPH
Kelsey Marmon, Warren County Health Services

Lead in Spices – Learning Objectives

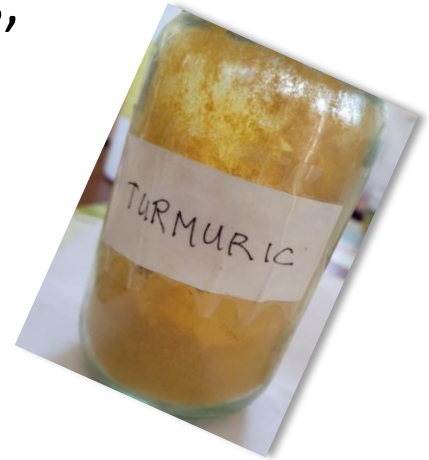
Image: https://www1.nyc.gov/content/leadfree/pages/food-spices

1. Learn about two common spices linked to lead poisonings in Iowa.
2. Understand how certain micro-populations and cultures utilize these spices on a daily basis.
3. Name two recommendations for reducing the risk of lead exposure from spices.

Lead in Spices

Image: https://www1.nyc.gov/content/leadfree/pages/food-spices

- In the U.S., there are no standards for the level of lead contamination in spices.
- The FDA limit for lead in natural-source food color additives (e.g., paprika, saffron, and turmeric) is 10 mg/kg.
- Spices are often grown in countries polluted by leaded gasoline, smelters, battery manufacturing plants, and mines.
- Lead contamination occurs from:
  - Contaminated soil & water
  - Lead dust from grinding machinery
  - Deliberate adulteration to enhance color or add weight to the product



Lead in Spices – Permissible Limits of Lead

WHO	FDA
Infant Formula	Food Color Additives - Natural
0.02 mg/kg lead	10 mg/kg
Salt	Candy or other foods (action level)*
2 mg/kg	0.1 mg/kg, 0.5 mg/kg
*The FDA action levels = levels at which an investigation is undertaken, or a recall is issued for products intended for consumption by children. However, spices are not considered food intended for consumption by children.	

Who is At Risk?

Products may be used in food preparation, alternative medicines or supplements, or for cultural practices, so the at-risk population can vary:

- Immigrants or refugees who obtain products in person when visiting a foreign country or from family members who bring or send
- Immigrants or refugees who purchase products through specialty stores or online
- Non-immigrants utilizing alternative medicine practices that may obtain products manufactured in other countries and purchased online
- Non-immigrants cooking with spices processed in other countries from specialty stores or online suppliers

Who is At Risk?

EPA Consumption Survey – What We Eat in America		
Daily Consumption	Non-immigrant	Immigrant
• Cumin	0.09 g/day	1.22 ± 1.14 g/portion
• Turmeric	0.03 g/day	0.60 ± 0.46 g/portion
In immigrant populations some spices are also used as home remedies and for ceremonial activities.		

Environmental Protection Agency (EPA). 2012a. What we eat in America –Food Commodity Intake Database, 2003-2006 (WWEIA-FCID 2003-2006). Available at: http://fcid.foodrisk.org/. Accessed 5 Sep. 2012.

Case #1: SE Iowa Family – suspected exposure from spices or other imported items

- Family in SE Iowa emigrated from Nepal in 2016 - child tested and BLL 1.2 mcg/dL
- 2019-2021: Child has an elevated BLL (6-8 years of age)
- Live in 2010 apartment building since in Iowa (no LBP)
- No work-related or hobby exposures
- No pre-1978 childcare or other family housing exposures
- No other EBLs at apartment buildings in complex and age of complex makes it unlikely that there were lead water pipes
- No recent travel outside of USA

Case #1: SE Iowa Family – suspected exposure from spices or other imported items

- As of 2020, was purchasing turmeric, tea and other products from store in Illinois – family did not have any remaining products for testing.
  - Similar store in IA is regulated by DIA
- Child sometimes puts toys in mouth
- Unknown risk: family routinely used pressure cooker purchased in India in 2016

Notes	Family Member (Birth Year)	Age at Test	Blood Lead Test Date	Blood Lead Level (mcg/dL)
2016: Family Immigrates from Nepal				
	Child (2012)	3 yo	8/17/16	1.2
	Child (2012)	6 yo	2/23/19	12.1
	Child (2012)	6 yo	6/29/19	11.6
	Child (2012)	7 yo	1/25/20	28.3
	Child (2012)	7 yo	5/4/20	27.1
May 2020: Medical provider recommends stopping the use of spices purchased at area India supermarket				
	Child (2012)	7 yo	8/5/20	27
December 2020: Verified that family stopped purchasing spices and tea from area India market. Family states leftover products at home were discarded.				
	Child (2012)	8 yo	12/4/20	27
December 2020: Advised that parents be tested.				
	Mom (1984)	36 yo	1/11/21	33.6
	Dad (1981)	39 yo	1/11/21	28
	Child (2012)	8 yo	1/14/21	25.5
	Child (2012)	8 yo	5/6/21	15.9

Case #2: Greater Des Moines Area Family – Exposure from Spices

Test Date	Result	Sample Type	Patient Address on Draw Date
7/19/2021	8.9	Venous	Residential Home- built 2013
4/26/2021	13.7	Venous	
3/19/2021	18.2	Venous	
3/18/2021	‡15	Capillary	
8/30/2019	<2	Capillary	

- Child was referred to local public health for lead poisoning case management following a capillary lead level of 15 mcg/dL, later confirmed at 18.2 mcg/dL.

Case #2: Greater Des Moines Area Family – Exposure from Spices

- Other members of the family tested positive for lead poisoning
  - 8 year old = 16.7 micrograms per deciliter (venous), prior test in 2019 was <2 micrograms per deciliter
  - Father (38 yrs. old) = 14 venous, only test on record in HHLPSS

Case #2: Greater Des Moines Area Family – Exposure from Spices

- Lead exposure from use of turmeric and chili powder, both purchased in India in 2019 and used by the family on a daily basis in prepared foods.
- Results from SHL on the products were:
  - Turmeric = 4,370,000 ng/g
  - Chili powder = 120 ng/g

Spices Tested in 2021 by State Hygienic Lab

Iowa Poison Control Center Analysis

(Sample #A – Chili powder) If one gram of chili powder has a volume of 1 mL, the amount of chili powder to reach the child's threshold would be 0.8 ounces. An adult would need to ingest 3.5 ounces.

(Sample #B - Turmeric) If one gram of turmeric has a volume of 1 mL, the amount of turmeric to reach both the child's and the adult's thresholds would be <1/1,000 teaspoon.

Sample	Quantity of lead in sample	Amount of product needed to be ingested to achieve a daily dose of:			
		Children 3 mcg/day		Adults 12.5 mcg/d	
		Weight	**ESTIMATED** Amount	Weight	**ESTIMATED** Amount
#A Chili powder	120 ng/g	25 grams	0.8 ounces	104 grams	3.5 ounces
#B Turmeric	4,370,000 ng/g	0.68 **mg**	< 1/1,000 teaspoon	2.86 **mg**	< 1/1,000 teaspoon

Case #3: Ayurvedic Products & Spices used - 2021 Case

Background:

- 76 year old female, white, non-Hispanic lives in a mobile home in SE Iowa and participates in Ayurvedic medical practices.
- She was tested for blood lead in mid-February at the county health clinic due to health concerns she was experiencing.
- Her blood lead level (BLL) on 2/18/21 was 48 mcg/dL. Adult case **management was started.**
- A repeat BLL on 3/10/21 was 42 mcg/dL. The case plans to ask for a repeat test in the next few weeks and may also consult a neurologist.

Case #3: Ayurvedic Products & Spices used - 2021 Case

- The person routinely used Ayurvedic products purchased locally in SE Iowa and purchased products made in India off the internet.
- No other sources of lead were identified in or around the home.
- This person was part of the Ayurvedic elevated blood lead cluster in 2011. Across is a list of all tests on record at IDHP – they were all venous specimens:

BLL Test Date	BLL Result (Venous)
3/10/2021	42 mcg/dL
2/18/2021	48 mcg/dL
1/22/2019	4 mcg/dL
4/27/2018	4 mcg/dL
7/16/2014	5 mcg/dL
10/10/2013	6 mcg/dL
5/13/2013	11 mcg/dL
2/3/2012	8 mcg/dL
8/17/2011	13 mcg/dL
6/21/2011	17 mcg/dL

Case #3: Ayurvedic Products & Spices used - 2021 Case

- A home visit was made April to collect samples of various products used in October to December 2020.
- At that time the persons recall of dates and products used varied.
- Other than the turmeric spice, the person has not used these supplements in 2021.
- Samples were analyzed by the State Hygienic Laboratory in Ankeny.
- The Iowa DIA and FDA have been investigating manufactures and distributors of some of the spices and Ayurvedics products.

Case #3: Ayurvedic Products & Spices used - 2021 Case

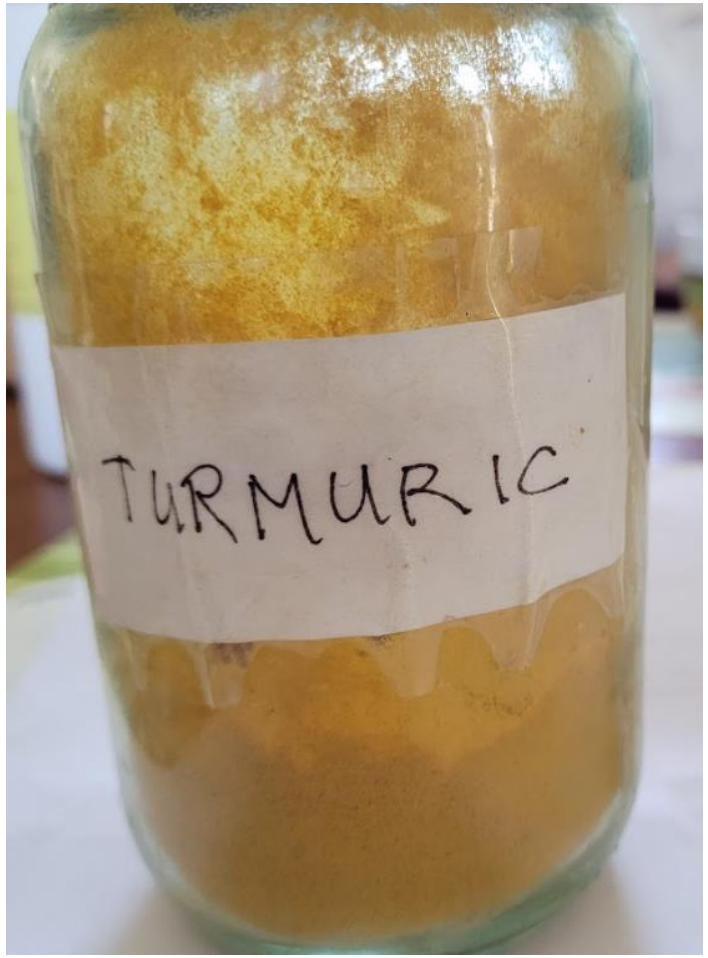
FDA investigated product #1, which was distributed by a Nevada Co and sold online, private recall the product was done by company.

Sample	Quantity of lead in sample	Amount of product needed to be ingested to achieve a daily dose of:			
		Children 3 mcg/day		Adults 12.5 mcg/d	
		Weight	**ESTIMATED** Amount	Weight	**ESTIMATED** Amount
#1 mayayograj capsule	12,200 mg/kg	0.24 mg	<<1 capsule	1.02 mg	<<1 capsule
#2 maharasnadi tablet	260 ng/g	11.5 grams	11-20 tablets	48 grams	46-83 tablets
#3 dashmoola powder	240 ng/g	12.5 grams	2+ tablespoons	52 grams	1.7 ounces
#4 mahanaryana oil	100 ng/g	30 grams	1+ fl.oz.	125 grams	3.75 fl.oz.
#5 dhanwantara tablet	3900 ng/g	0.769 grams	<1-5 tablets	3.2 grams	3-21 tablets
#6 turmeric bulk spice	45 ng/g	66.7 grams	2+ ounces	278 grams	>9 ounces

- How taken: 2 capsules twice daily,
- Duration used: October-December 2020

- How taken: 1/3 to 1 cup of water with 1 teaspoon herb powder, boiled down to 1/3; with 5 drops of Mahanaryana oil added
- Duration used: October-December 2020

- How taken: 1 tablet twice daily
- Duration used: used prior to October 2020 for a few months



Bulk Turmeric – purchased locally, Iowa
2021 Ayurvedic case

Sample	Quantity of lead in sample		Amount of product needed to be ingested to achieve a daily dose of:			
			Children 3 mcg/day		Adults 12.5 mcg/d	
			Weight	**ESTIMATED** Amount	Weight	**ESTIMATED** Amount
#6 turmeric bulk spice	45 ng/g		66.7 grams	2+ ounces	278 grams	>9 ounces

- An adult would have to ingest over 9 ounces.

References

- “A Spoonful of Lead: A 10-Year Look at Spices as a Potential Source of Lead Exposure. Journal of Public Health Management and Practice: January/February 2019 - Volume 25 - Issue - p S63-S70 online: https://journals.lww.com/jphmp/pages/articleviewer.aspx?year=2019&issue=01001&article=00011&type=Fulltext.
- Cowell, Whitney, et al. “Ground Turmeric as a Source of Lead Exposure in the United States – Whitney Cowell, Thomas Ireland, Donna Vorhees, Wendy Heiger-Bernays, 2017.” SAGE Journals, https://journals.sagepub.com/doi/abs/10.1177/0033354917700109.
- “Lead in Spices, Herbal Remedies, and Ceremonial Powders Sampled from Home Investigations for Children with Elevated Blood Lead Levels – North Carolina, 2011–2018 | MMWR.” Centers for Disease Control and Prevention, Centers for Disease Control and Prevention, https://www.cdc.gov/mmwr/volumes/67/wr/mm6746a2.htm.
- FDA: "DETENTION WITHOUT PHYSICAL EXAMINATION OF SPICES AND SPICE PRODUCTS DUE TO LEAD CONTAMINATION“ Published Date: 07/09/2021 www.accessdata.fda.gov/cms_ia/importalert_1143.html
- FDA: Lead in Food, Foodwares, and Dietary Supplements. https://www.fda.gov/food/metals-and-your-food/lead-food-foodwares-and-dietary-supplements

References

- 2019 Journal article: Turmeric means “yellow” in Bengali: Lead chromate pigments added to turmeric threaten public health across Bangladesh. https://www.sciencedirect.com/science/article/pii/S0013935119305195?via%3Dihub
- 2020. Lead Concentrations in Mexican Candy: A Follow-Up Report. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7047762/

FDA Importation Surveillance: "DETENTION WITHOUT PHYSICAL EXAMINATION OF SPICES AND SPICE PRODUCTS DUE TO LEAD CONTAMINATION“

Published Date: 07/09/2021

www.accessdata.fda.gov/cms_ia/importalert_1143.html

- Bangladesh
- Canada
- China
- India
- Indonesia
- Lebanon
- Syrian Arab Republic
- Thailand
- Trinidad & Tobago
- Vietnam
- Yemen

Alarming Levels of Lead Found in Certain Traditional Cosmetics and Turmeric

December 12, 2019

Health officials are warning families to avoid dangerous products and get kids tested

Alarming levels of lead have been found in traditional cosmetics used in Hindu and Muslim religious practices and South and Southeast Asian cultures. High lead levels have also been found in the spice turmeric, particularly in smaller batches brought in from overseas.

Frequently Asked Questions: Lead in Traditional Cosmetics and Turmeric

English | Amharic | Arabic | Farsi | Hindi | Nepali | Pashto | Somali | Spanish | Urdu

Infographics

- Turmeric may contain lead
- Colored powders (sindoor, kumkum, tikka, roli) may contain lead
- Pottery (barro) may contain lead
- Kohl may contain lead

https://www.oregon.gov/oha/PH/HEALTHYENVIRONMENTS/HEALTHYNEIGHBORHOODS/LEADPOISONING/PARENTSFAMILIES/Pages/sourcesoflead.aspx

Iowa Lead Exposures linked to Contaminated Spices

Kelsey Marmon, RN, CCNC	Kevin Officer (for Kathy Leinenkugel)
Warren County Health Services 301 N. Buxton, Ste. 203 Indianola, IA 50125 p: (515) 961-1074 c: (515) 537-8783 f: (515) 961-1083 kelseym@warrencountyia.org	Iowa Department of Public Health 321 E. 12th Street Des Moines, Iowa 50319 p: 800-972-2026 Kevin.officer@idph.iowa.gov Kathy.Leinenkugel@idph.iowa.gov

2021 VIRTUAL

LEARNING COLLABORATIVE

ON CHILDHOOD LEAD POISONING PREVENTION

AUGUST 25TH, 2021

9:00AM - 4:30PM

IDPH IOWA Department of PUBLIC HEALTH

IDPH IOWA Institute of Public Health Research and Policy

Baby Shoes to Work Boots
2020 Lead Exposure in Iowa

IDPH
IOWA Department of PUBLIC HEALTH

Learning Objectives:

1. Identify most common industries in Iowa where adult lead exposure occurs.
2. Gain a better understanding of adult lead data and factors influencing data trends.
3. Learn case guidelines and interventions for adult lead exposures when children are involved.

No safe blood lead level in children or adults has been identified.

– Center for Disease Control & Prevention (CDC)

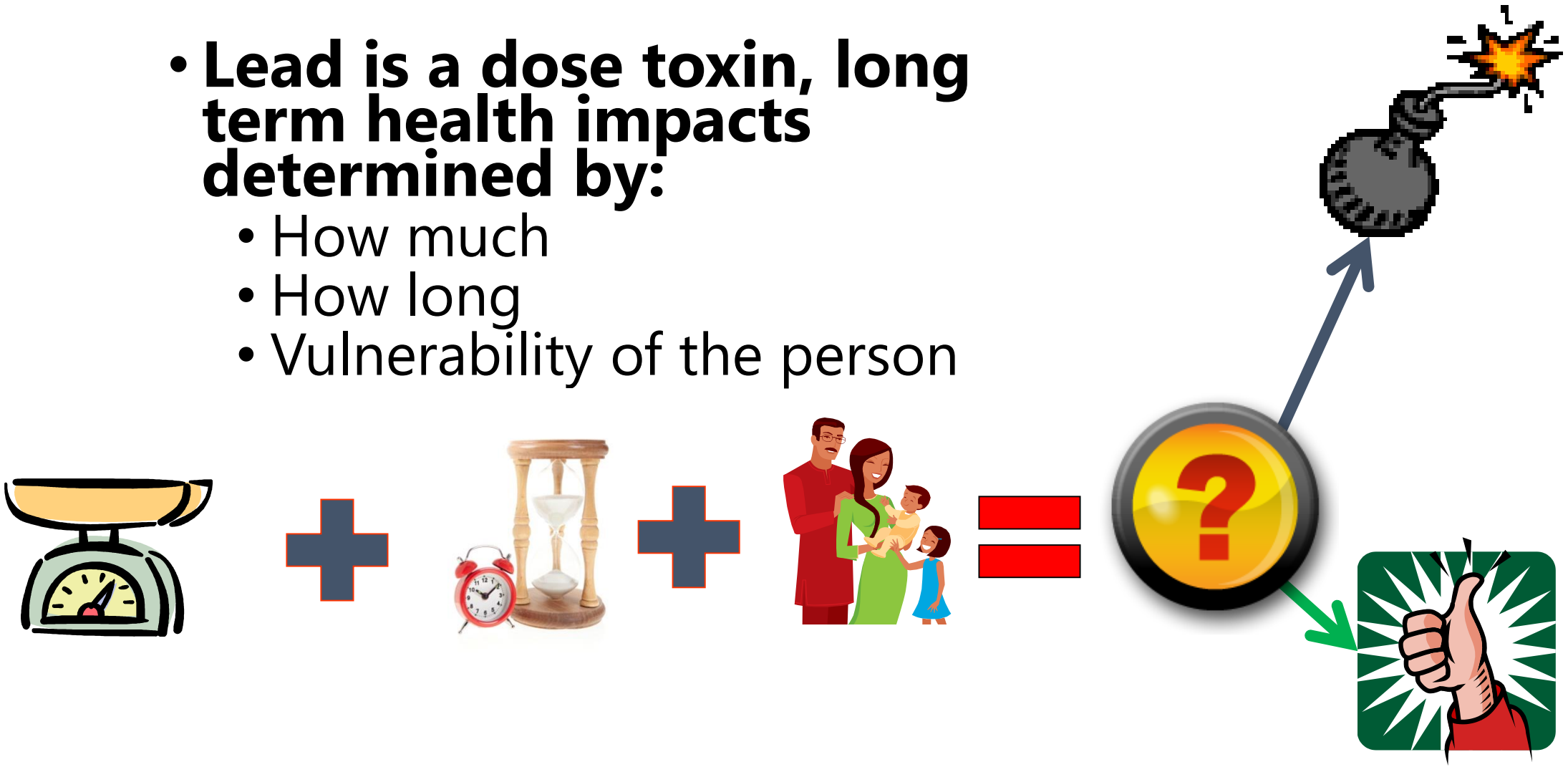
Current CDC reference value for all ages

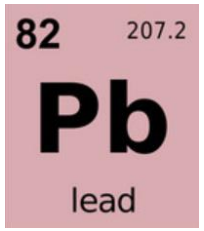
Note: “reference” level is not the same as “action” level.

Venous Blood lead level 5 micrograms per deciliter or higher

Lead 101

- **Lead is a dose toxin, long term health impacts determined by:**
  - How much
  - How long
  - Vulnerability of the person



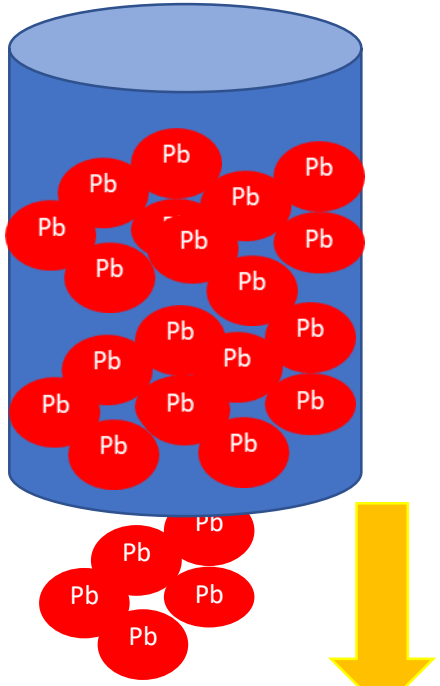


Lead In, Lead Out

Lead in the Environment that has a route into your body

Lead enters the body much faster than it leaves the body.

Lead into the Body



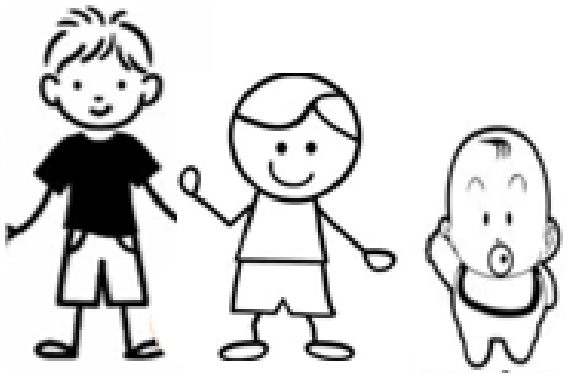
Lead leaves the Body

If you are exposed to lead on a regular basis, your blood lead level and total "body load" of lead will be elevated.

Adults (16+) compared to Preschoolers

Oral Absorption:

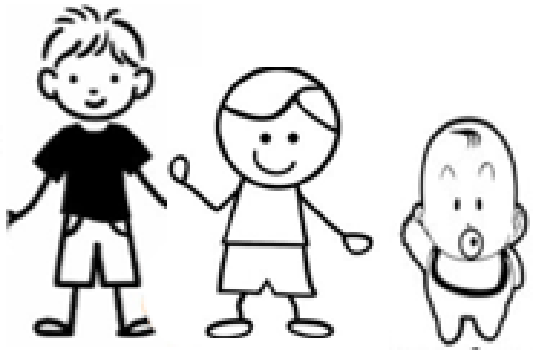
10%



30-50%

Adults compared to Preschoolers

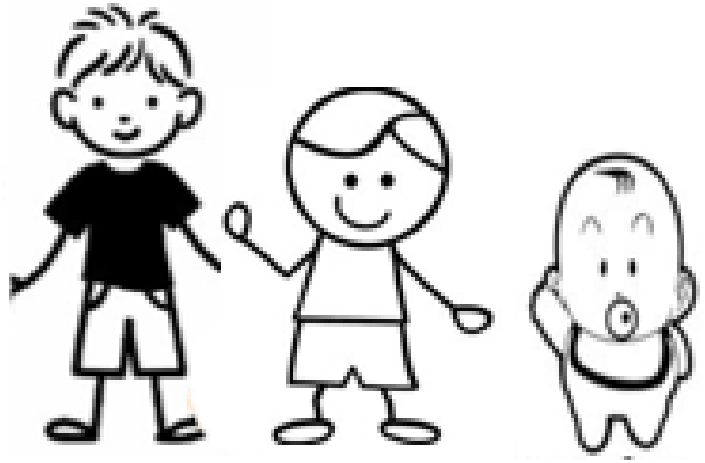
Respiratory Absorption:



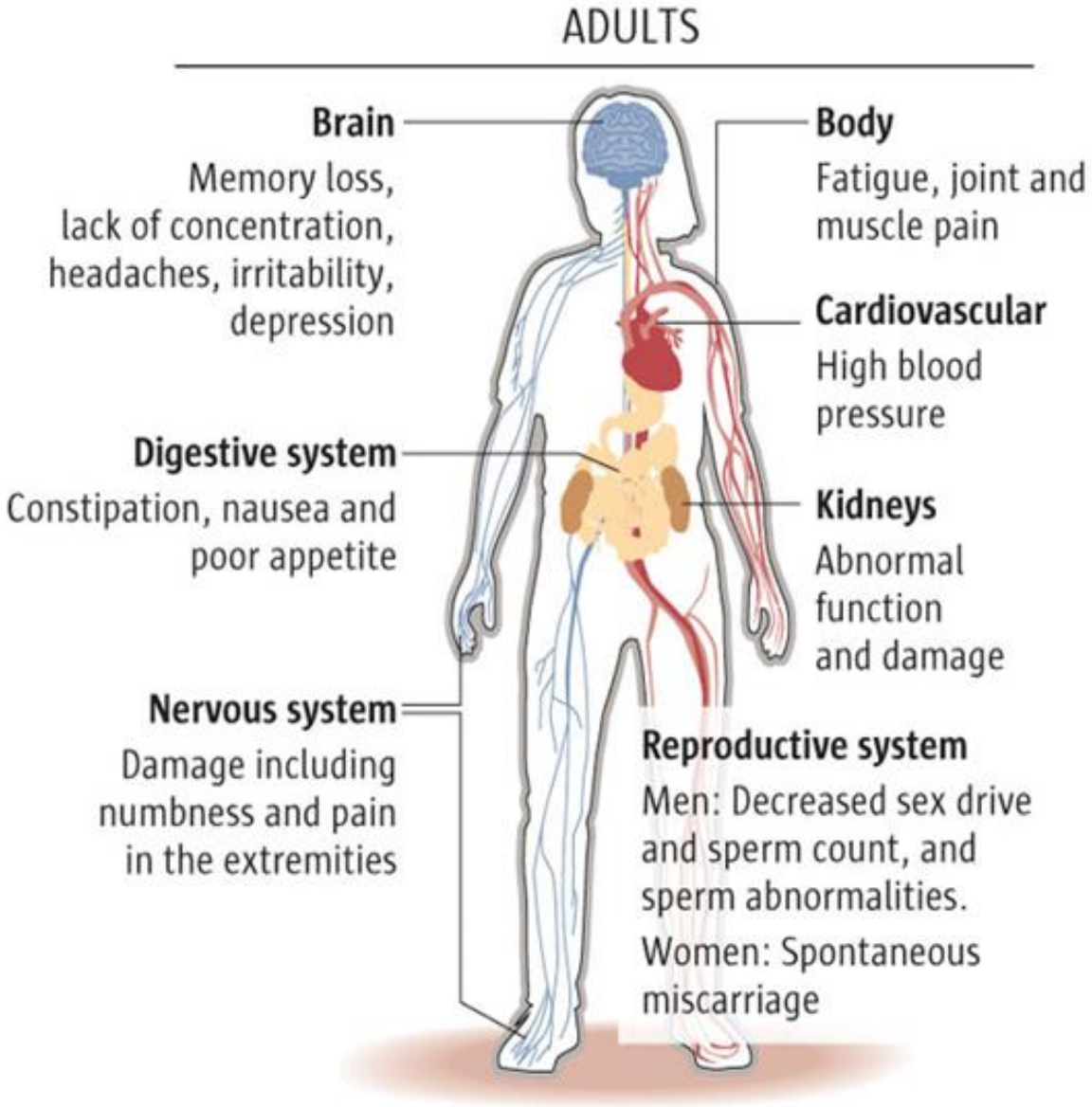
Up to 100% of lead inhaled is absorbed, depending on particle size.

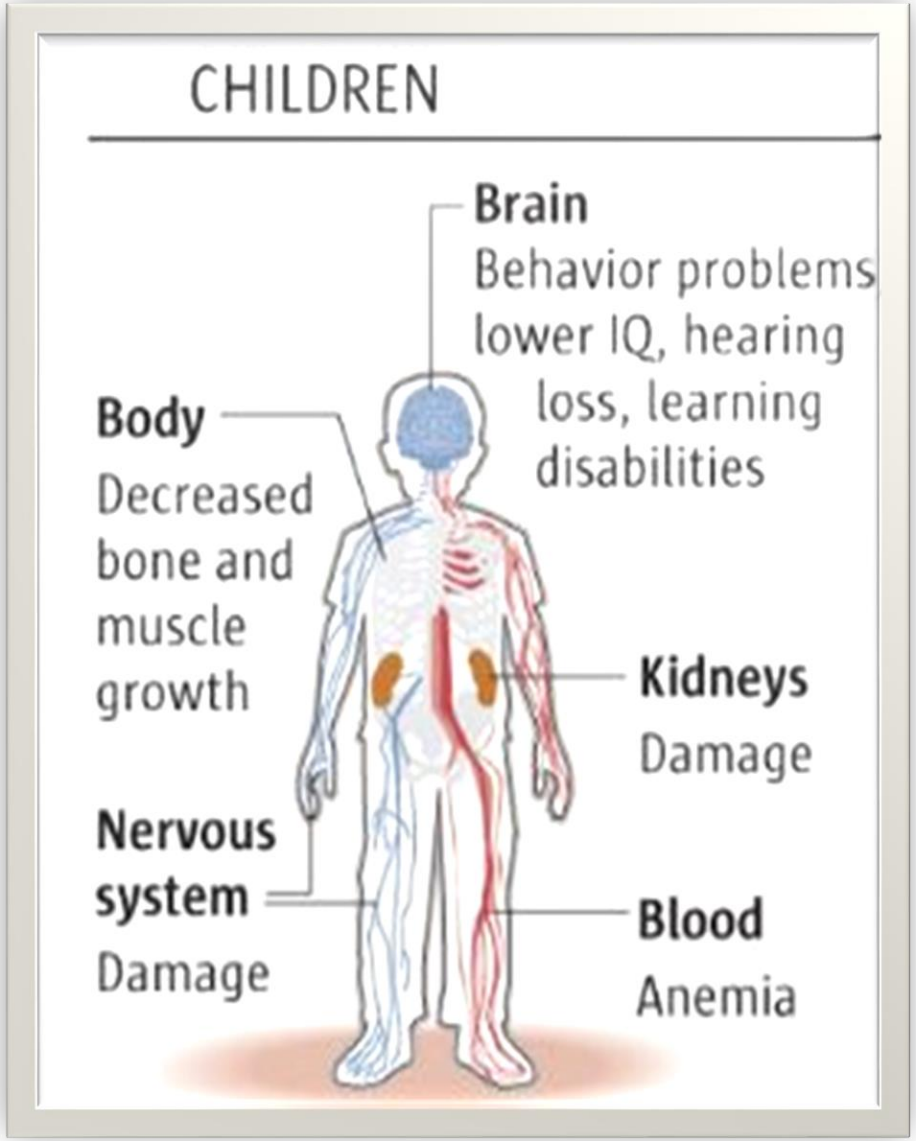
Adults compared to Preschoolers

Health Impacts:



Lead is Bad for both Adults & Children









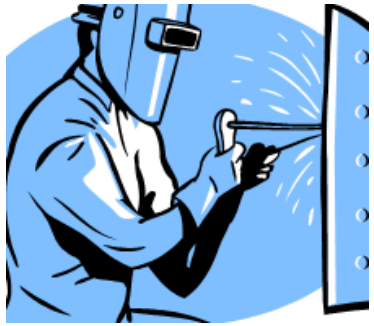


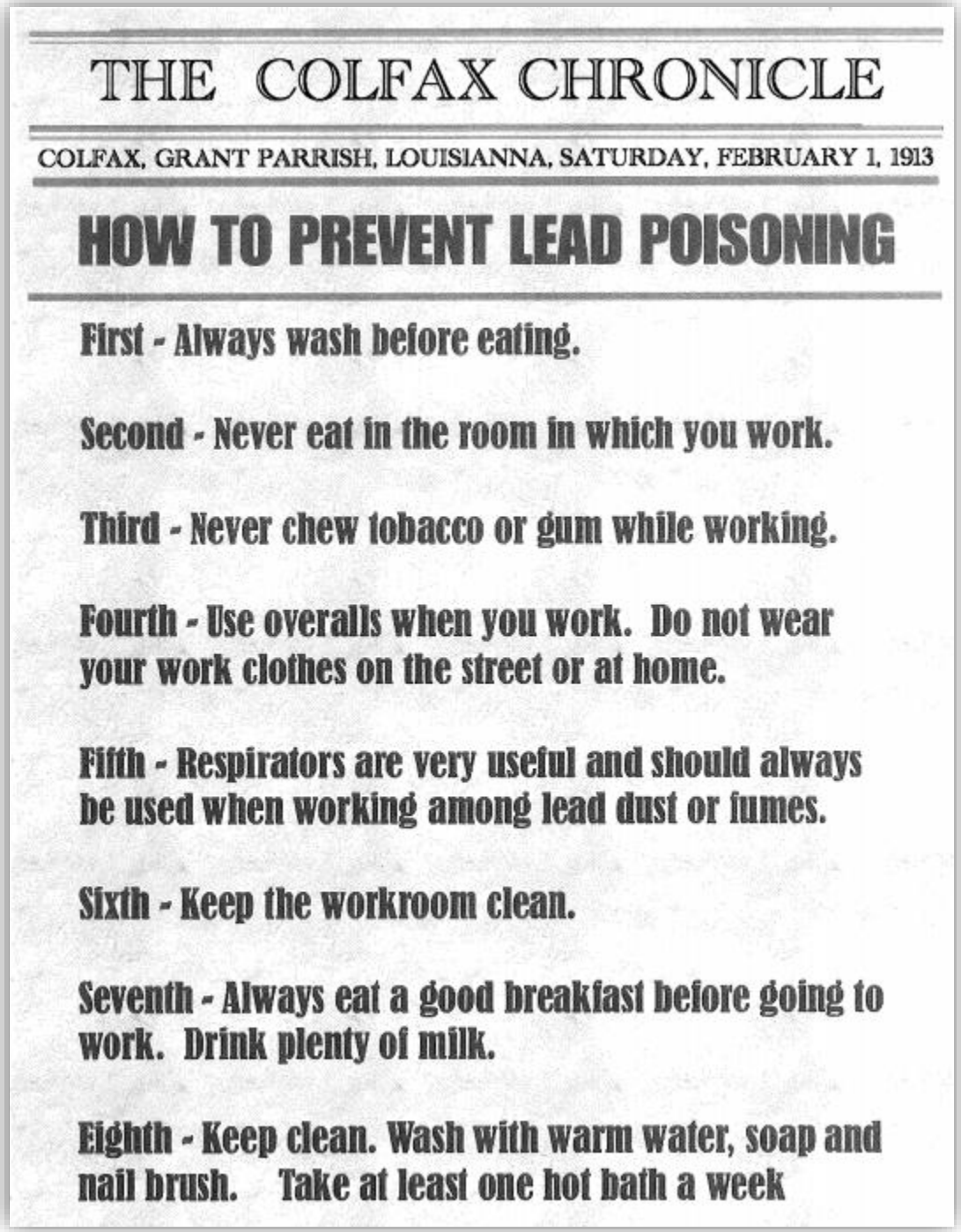
ABLES

Adult Blood Lead Epidemiology & Surveillance









THE COLFAX CHRONICLE

COLFAX, GRANT PARRISH, LOUISIANNA, SATURDAY, FEBRUARY 1, 1913

HOW TO PREVENT LEAD POISONING

First - Always wash before eating.

Second - Never eat in the room in which you work.

Third - Never chew tobacco or gum while working.

Fourth - Use overalls when you work. Do not wear your work clothes on the street or at home.

Fifth - Respirators are very useful and should always be used when working among lead dust or fumes.

Sixth - Keep the workroom clean.

Seventh - Always eat a good breakfast before going to work. Drink plenty of milk.

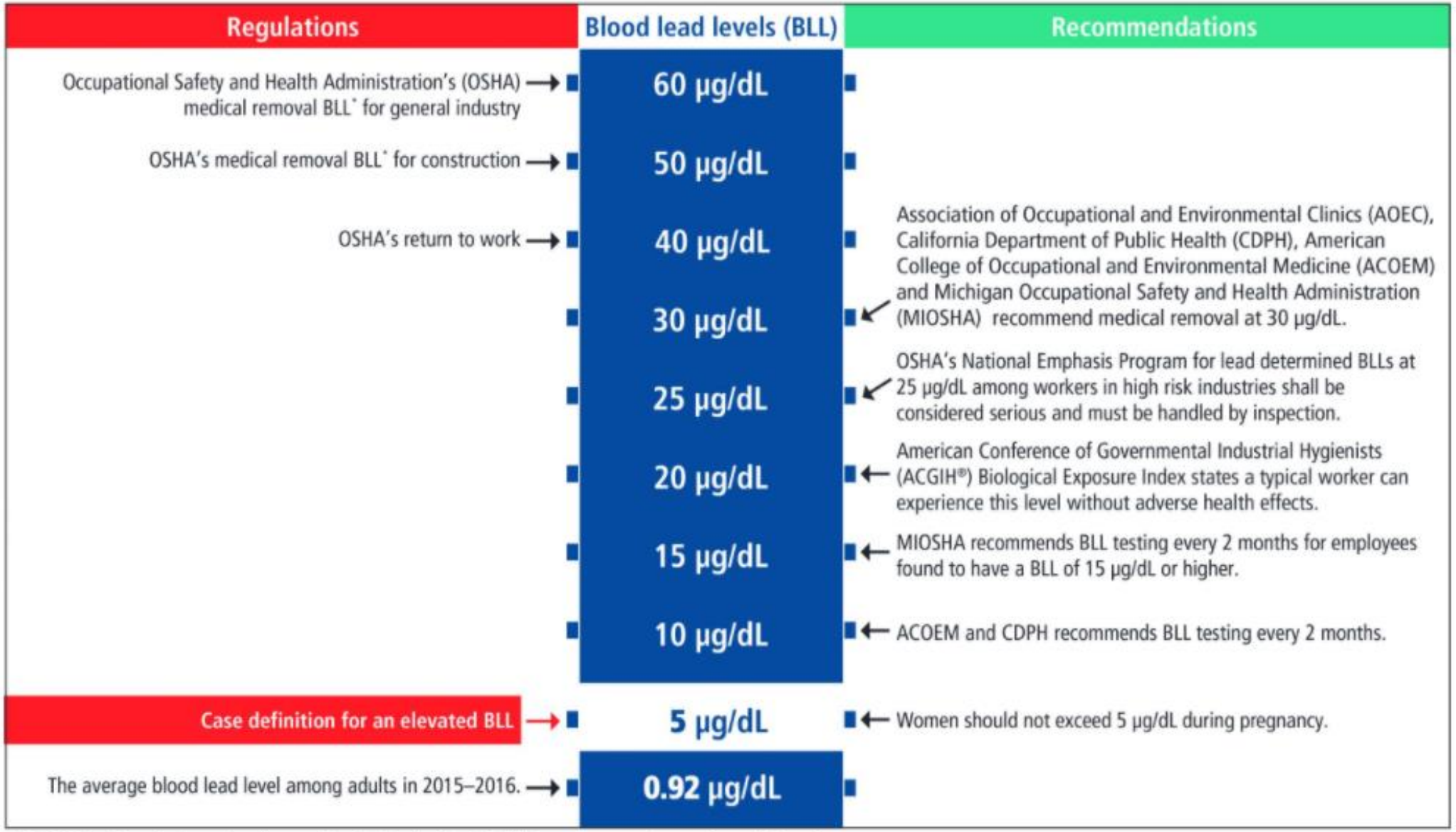
Eighth - Keep clean. Wash with warm water, soap and nail brush. Take at least one hot bath a week

Lead poisoning of adults through work is nothing new.

Many of the basic prevention messages are still the same as 100 years ago.

(except take a bath more often)

Regulations Versus Recommendations Related to Adult Lead Exposure in the Workplace



*The OSHA Lead Standards state that the examining physician has broad flexibility to tailor protections to the worker's needs.

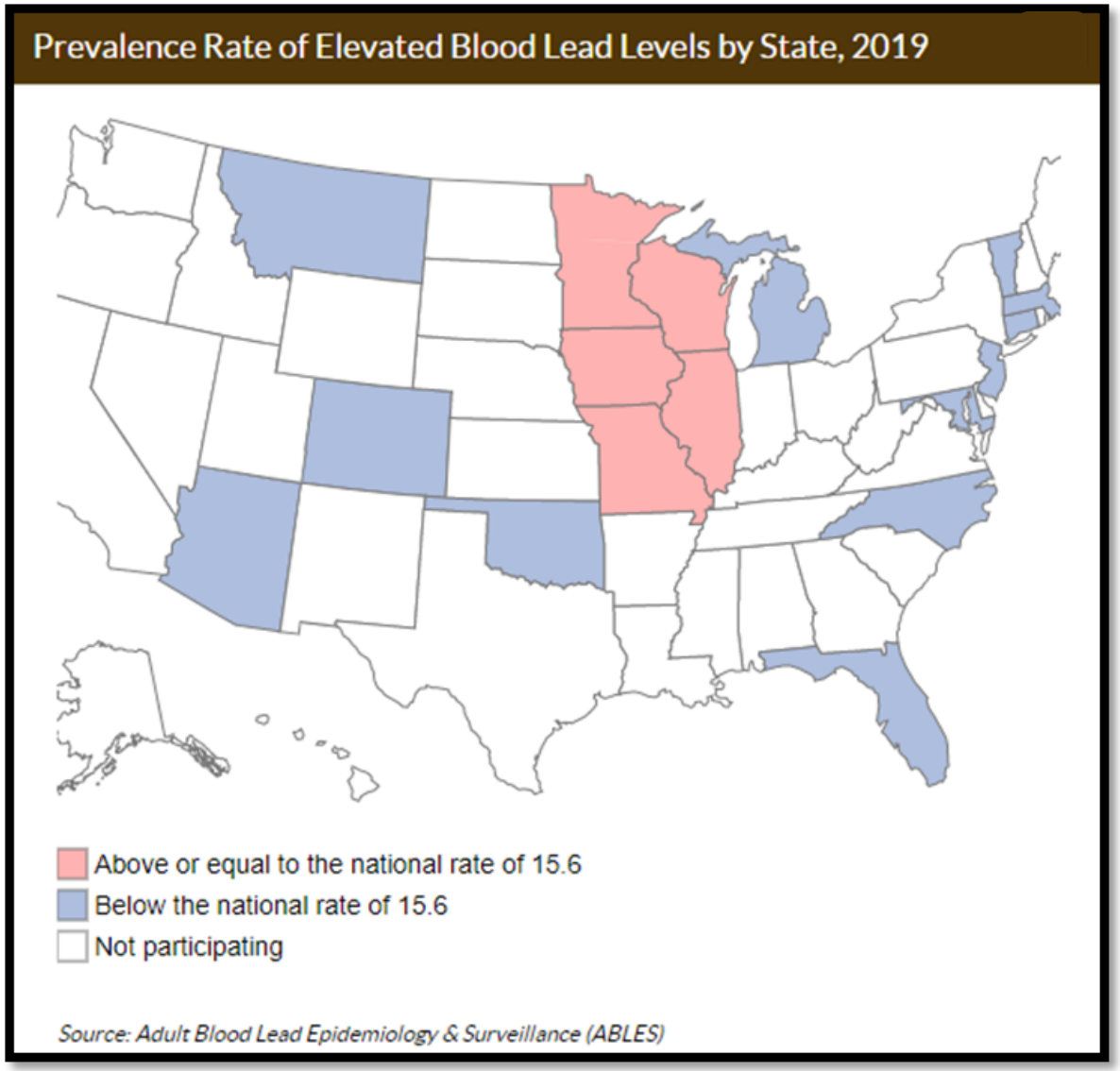
IDPH adopted use of the CDC/NIOSH case definition in April 2016

Adult Reference Level or Elevated Blood Level (EBL) = 5 mcg/dL or higher

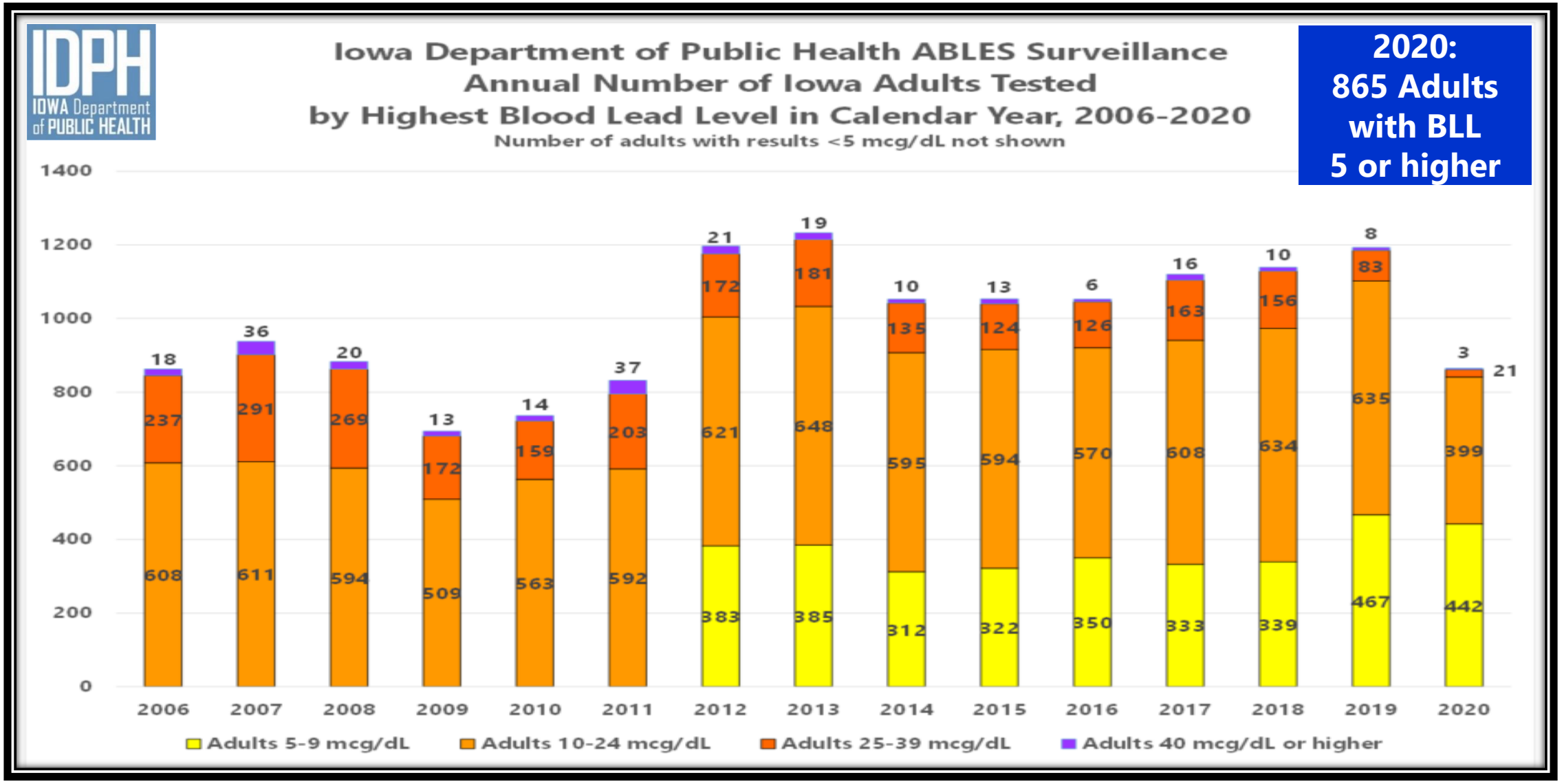
www.cdc.gov/niosh/topics/ables/ReferenceBloodLevelsforAdults.html

Prevalence Rate of Elevated Blood Lead Levels by State, 2019

State (a)	# of Cases	# of Employed Adults	Prevalence Rate Per 100,000 Employed Adults
Arizona	218	3,384,504	6.4
Colorado	66	3,062,098	2.2
Connecticut	276	1,842,164	15.0
Florida	1,220	10,016,060	12.2
Illinois	1,345	6,190,757	21.7
Iowa	726	1,691,016	42.9
Maryland	249	3,143,967	7.9
Massachusetts	489	3,706,556	13.2
Michigan	546	4,735,826	11.5
Minnesota	594	3,009,156	19.7
Missouri	1,706	2,981,688	57.2
Montana	36	514,917	7.0
New Jersey	244	4,333,333	5.6
North Carolina	633	4,883,875	13.0
Oklahoma	159	1,780,551	8.9
Vermont	33	334,070	9.9
Wisconsin	587	3,001,215	19.6
All participating states	**9,127**	**58,611,753**	**15.6**

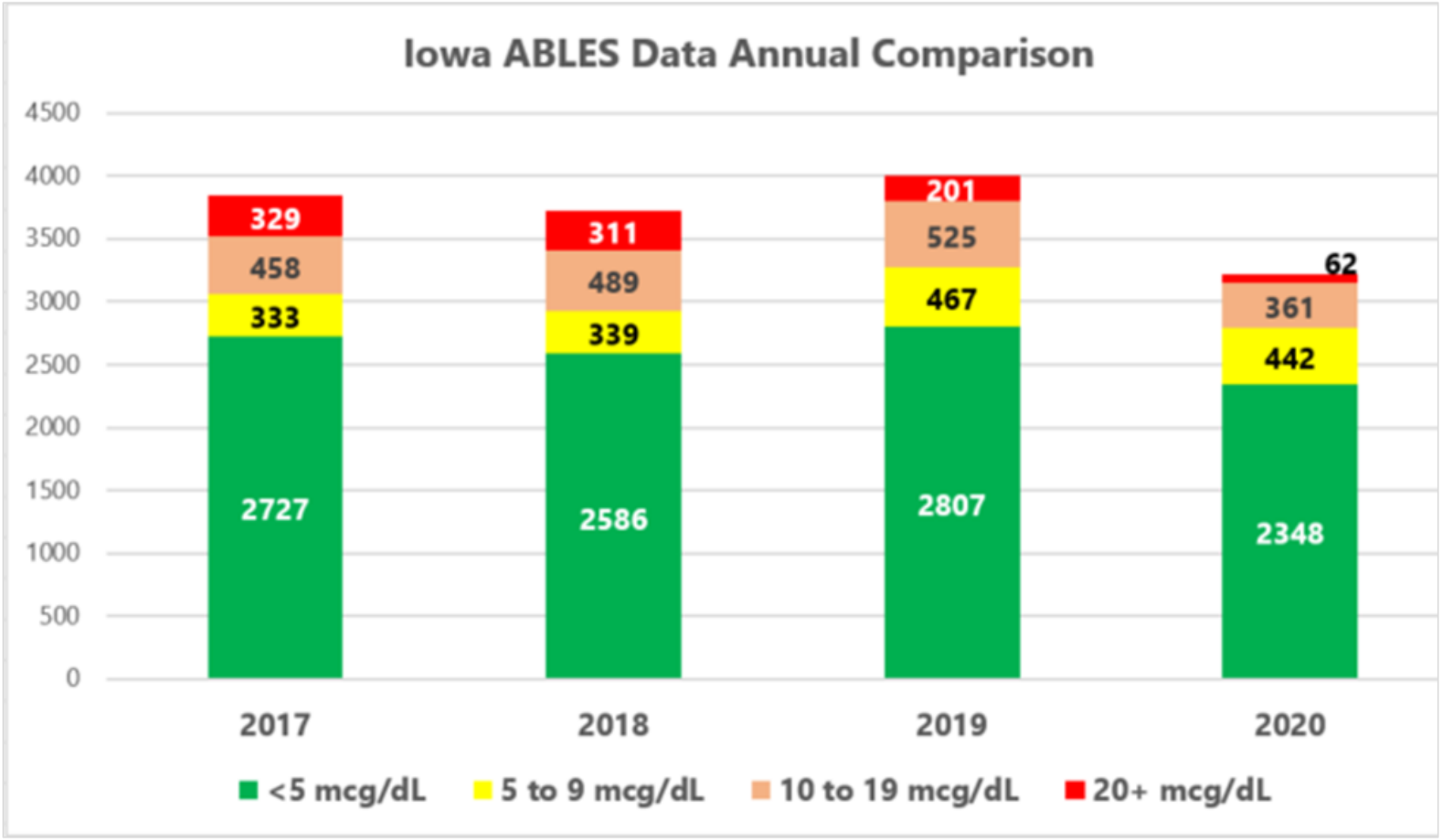


(shown is data at BLL 10+)



Report based on the highest blood lead level in the calendar year of an Iowa resident 16 years of age or older at the time of test.
Test results reported in micrograms per deciliter (mcg/dL)
IDPH Adult Blood Lead Epidemiology & Surveillance Program data as of April 2021 – subject to revision.
https://idph.iowa.gov/Environmental-Health-Services/Occupational-Health-and-Safety-Surveillance/Adult-Blood-Lead-Epidemiology

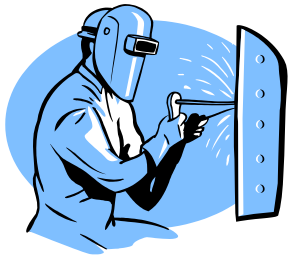
2015 Public Health Reference Level 5 mcg/dL
2009 Public Health Reference Level 10 mcg/dL, 2008 OSHA National Emphasis Program Level 25 mcg/dL



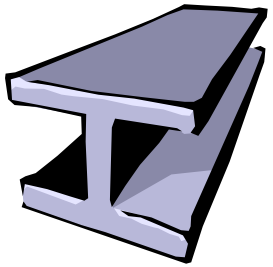
2020 Data
COVID Impact?
(Possibly from less testing and work interruptions)

<5: down
5 to 9: down
10 to 19: down
20+: down
Testing: down

Typical Adult Exposure Sites



- Work involving Lead
- Hobbies involving Lead



Some of the Industries With Adult Pb Exposures in Iowa

- **Plumbing fixture Mfg**
- **Industrial Machinery Mfg**
- **Iron, Brass & Aluminum foundry**
- **Valve & Pipe fittings**
- **Lead smelter/Primary**
- **Storage Battery Mfg**
- **Lead Pigment Mfg**
- **Inorganic Chemicals Mfg**
- **Radiator Shops**
- **Stained Glass Artisans**
- **Firing Range Employees/users**
- **Residential Construction Industry (Renovators, Home Repairs, Painting Contractors)**
- **Industrial Construction**

Battery Plant Manufacturing

Iowa ABLES Data as of 4/30/2021	2020	2020 Pct	2019	2019 Pct	Change
Workers tested, 3 major battery plants **Pct of total adults tested**	660	21%	704	18%	-44
# 5+ EBL Pct of Battery plant workers tested	535	81%	632	90%	-97
# 10+ EBL Pct of Battery plant workers tested	300	45%	480	68%	-180
# 20+ EBL Pct of Battery plant workers tested	33	5%	143	20%	-110
# 40+ EBL	1	**	0	**	1

Kudos: One battery plant had 93 workers tested in 2020, with a total of 617 BLLs reported.

Based on the highest BLL for each worker in 2020, blood lead tests ranged from 1-12 mcg/dL:

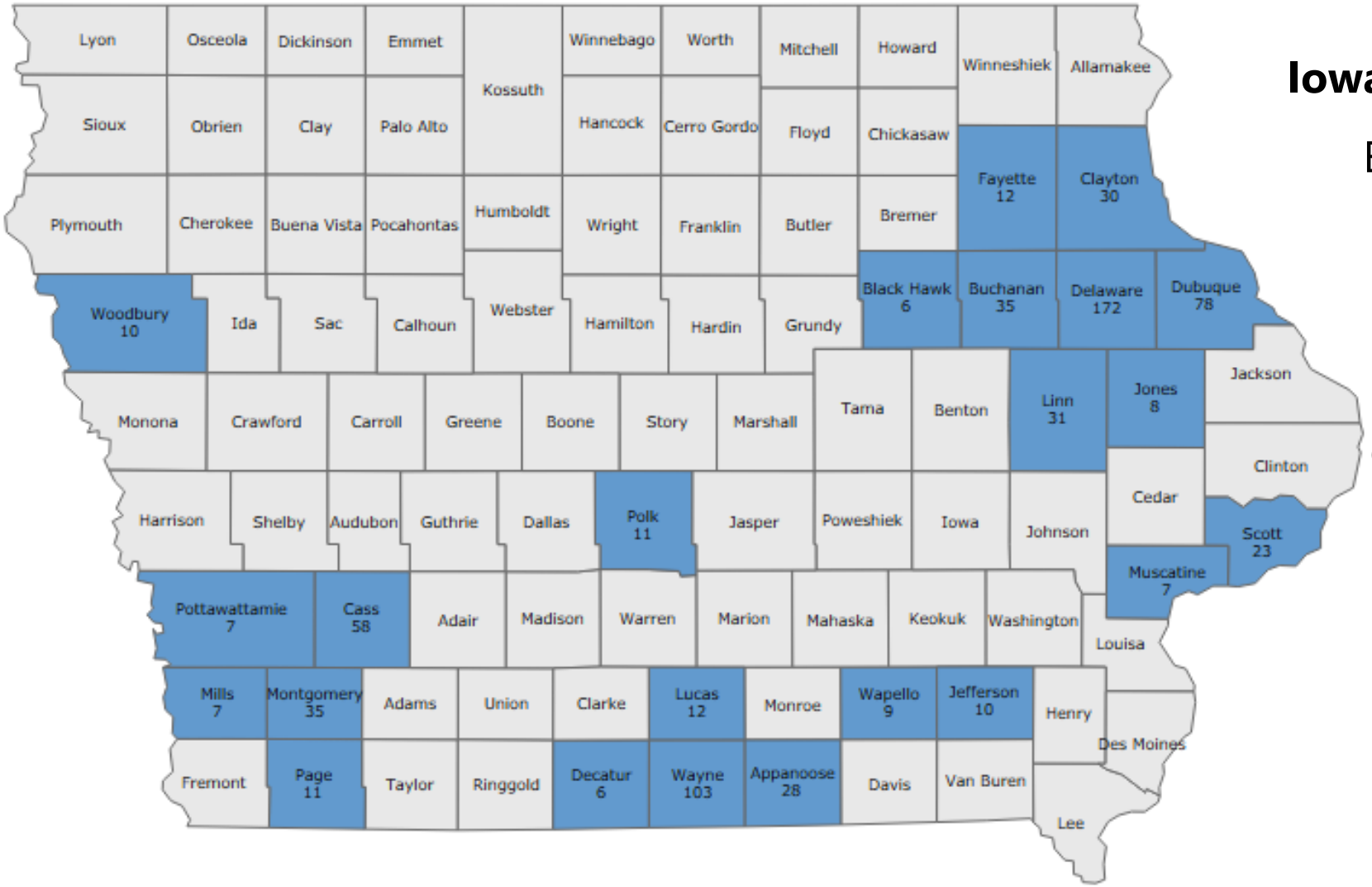
8 workers at 10-12 mcg/dL

57 workers at 5-9 mcg/dL

28 workers at 0-4 mcg/dL

Annual Blood Lead Testing: Persons with a Confirmed Elevated BLL
Adult (16 and Older) - 2019

Hover over a County to see the County Name and values for that County.



https://tracking.idph.iowa.gov/Health/Lead-Poisoning/

Iowa Public Health Tracking Portal

EBL data shown is ≥ 10 µg/dL

Numbers Tested shown if hover over county (on the live portal)

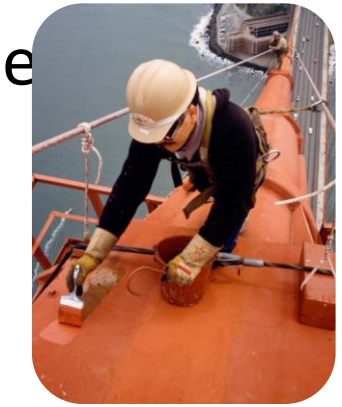
Less than 6 EBL numbers per county are not shown per portal data confidentiality protocols.

2020 data pending on this data portal

Workers in the Construction Industry at risk for Lead Exposure

- Millwrights
- Welders
- Demolition work
- Lead abatement
- Plumbers
- HVAC maintenance and repair

- Electricians
- Carpenters
- Residential and industrial Painters
- Renovation, and remode work
- Industrial coatings



Status of Iowa Housing

Table 1 – Characteristics of Iowa Housing Compared to Other States

State	% Pre-1940 housing units	% Pre-1950 housing units	% Of pre-1950 housing that is rental
Illinois	22.6	31.8	37.5
Nebraska	25.3	32.3	30.0
Vermont	30.0	34.5	39.2
Maine	29.1	35.8	35.8
Rhode Island	29.4	39.2	46.3
Iowa	**31.6**	**39.3**	**26.1**
Pennsylvania	30.3	40.3	31.3
Massachusetts	34.5	42.8	43.6
New York	31.2	43.1	52.1
District of Columbia	34.6	51.4	46.7
National Average	15.0	22.3	37.3

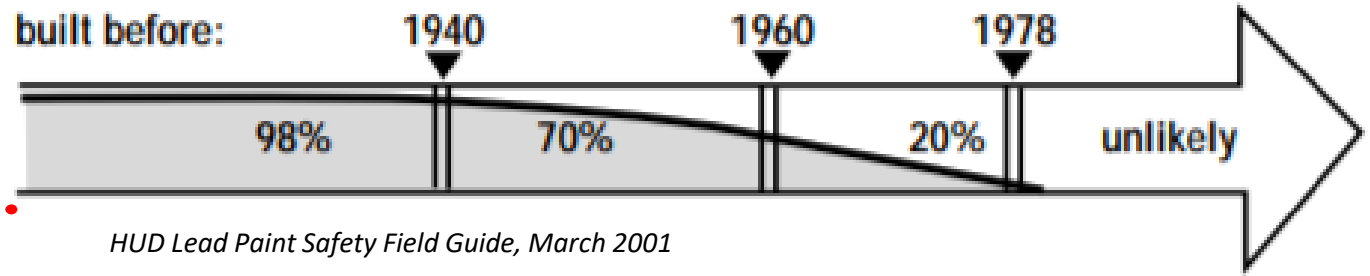
Source: State of Iowa Strategic Plan for the Elimination of Childhood Lead Poisoning in Iowa, July 2010

Most homes built before 1978 contain some lead-based paint and residual lead dust, regardless of prior renovations.

Homes built before 1950 used paint that had a higher concentration of lead.

Assume a house built before 1978 has lead present until testing is done to prove it isn't.

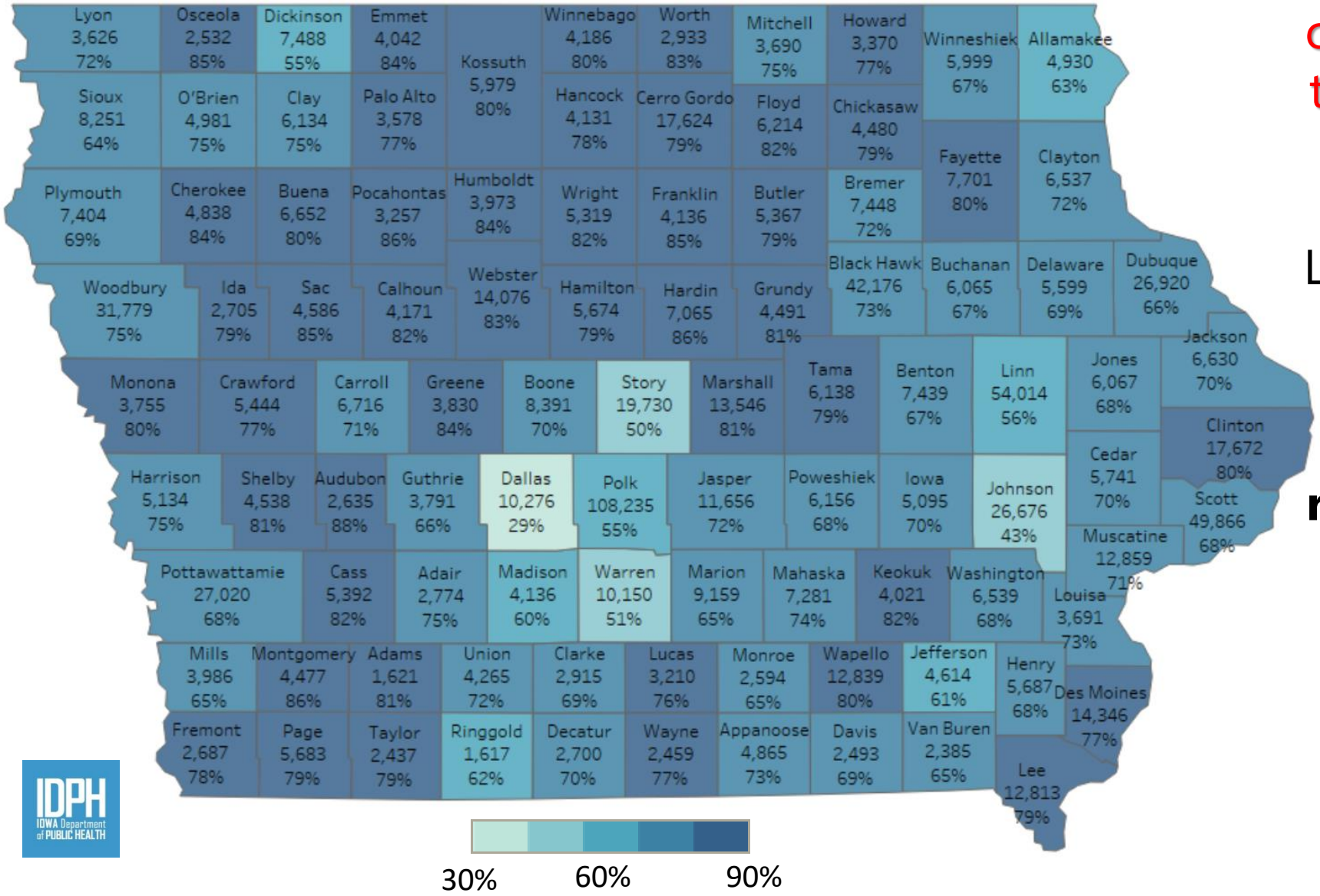
Probability of a House Containing Lead



HUD Lead Paint Safety Field Guide, March 2001

Number and Percentage of Housing Units Built Prior to 1979, by County

2018 American Community Survey, 5-Year Estimate



Rarely are residential construction workers in Iowa tested or monitored for lead exposure.

Lead-contaminated dust and paint found in pre-1978 housing that is **disturbed during renovation, remodeling and painting** is one of the biggest risks of lead exposure for Iowa **workers.**

Iowa Adult Women Exposures –2020 Data

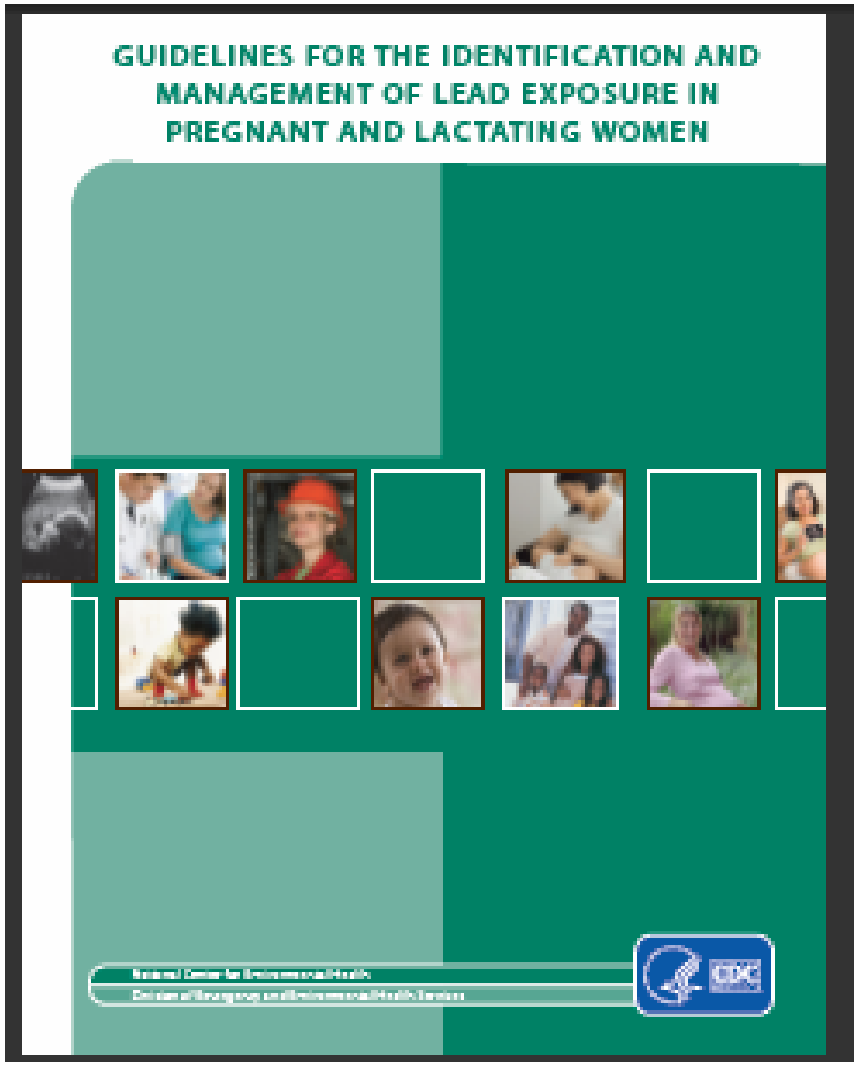
- **1038 women tested, 121(12%) EBL**
  - 484 were 16-45 years old (usual reproductive age range)
    - 55 (5%) EBL
- **204 women tested known to be work-related (all ages)**
  - 121 of 204 (59%) EBL (all ages)
  - 101 of 204 tested were 16-45 years old
    - 55 of 101 EBL (54%)

Lead can pass from a mother to her unborn baby

- Increase the risk of miscarriage
- Cause babies to be born early or underweight
- Hurt the baby's brain, kidneys and nervous systems
- Cause learning or behavior problems for children

Current BLLs do not reflect how much lead is stored in the mother's body from past exposure

Women and Lead Exposure



- **CDC Guidelines for the Identification and Management of Lead Exposure in Pregnant and Lactating Women – Nov. 2010**

"Pregnant women with blood lead concentrations of 10 µg/dL or higher should be removed from occupational lead exposure."

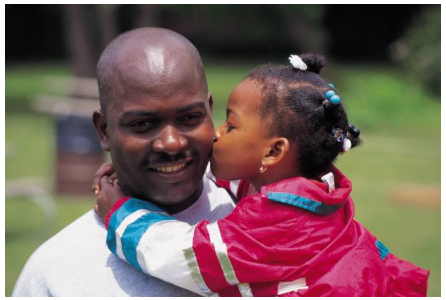
The OSHA Lead Standards state that the examining physician has broad flexibility to tailor protections to the worker's needs.

www.cdc.gov/nceh/lead/publications/leadandpregnancy2010.pdf

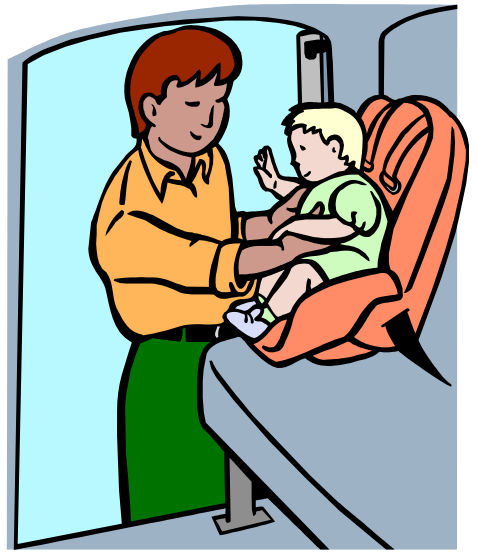
IA 2011 Indoor Firing Range
Take-Home Lead Case

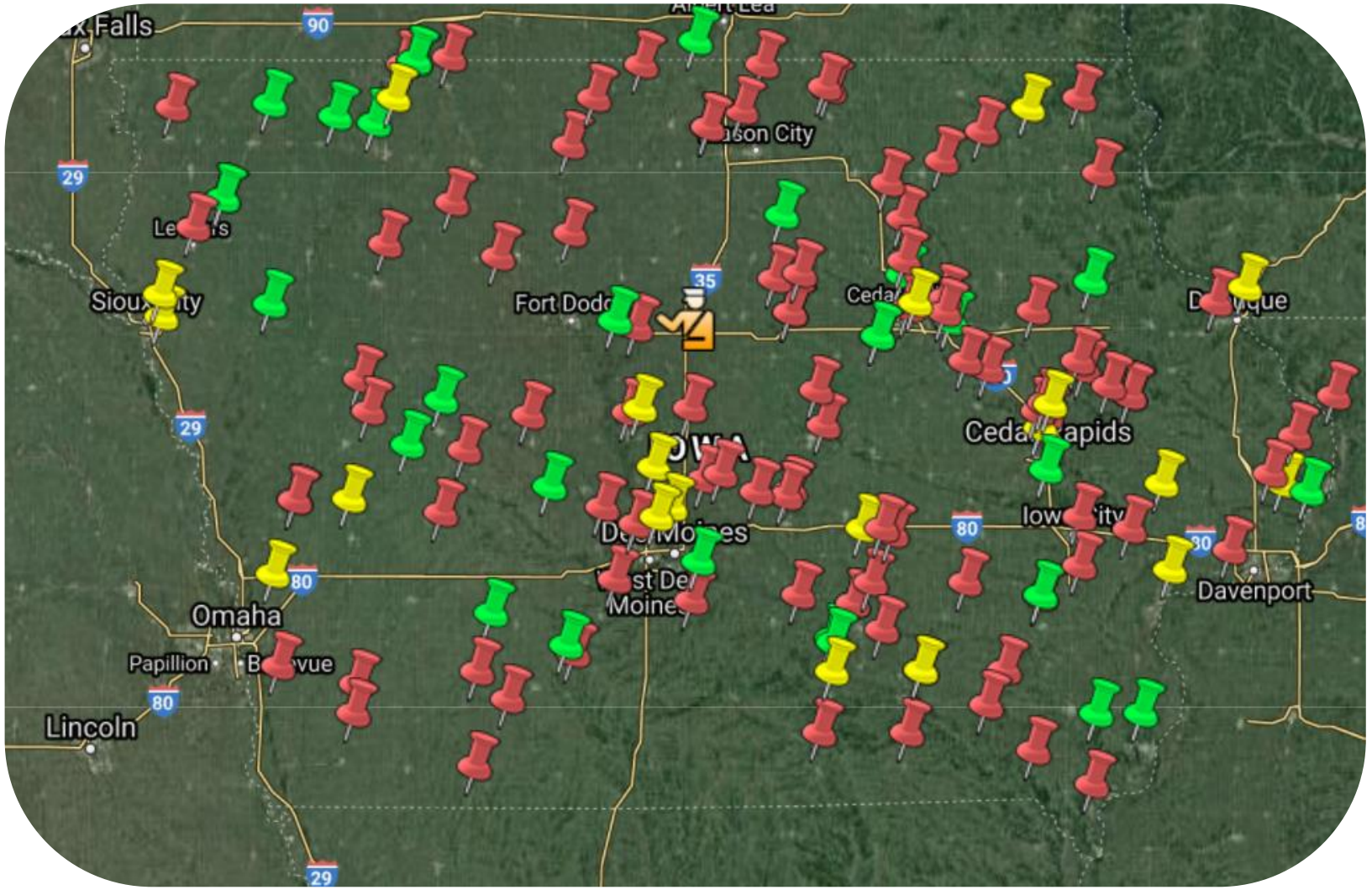
12 month old with BLL 30, lived in 1998 apartment BUT dad worked for firing range

- Dust wipes showed take-home lead, including
  - Dad's work sweat-shirt: 370 µg/ft sq
  - Dad's work blue jeans: 340 µg/ft sq
  - Child's car seat arm area: 540 µg/ft sq
  - Dad's work shoes (bottom, sides): 7700 µg/ft sq
- Dad tested at 22 µg/dL
- Firing range inspection by OSHA - fined for non-compliance



Compare to the EPA dust lead hazard level for floors of 40 µg/ft sq (new std is 10 µg/ft sq)

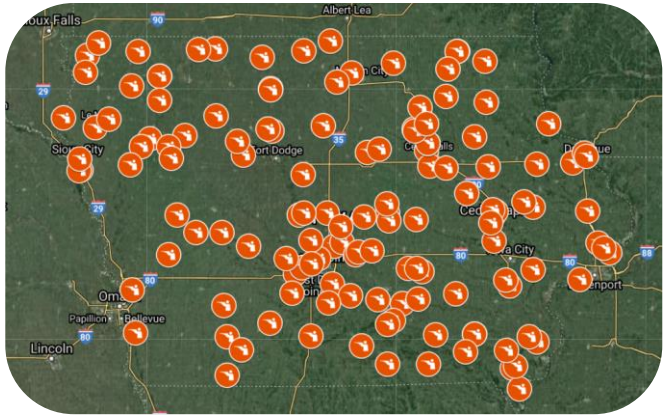




MAP OF IOWA RANGES
Iowa Shooters LLC
IAShooters.com

Green = public ranges
Red = members-only ranges
Yellow = businesses.

Left: Screen shot of map 5/4/21



Right: https://www.iowadnr.gov/Hunting/Places-to-Hunt-Shoot/Iowa-Shooting-Ranges

Consumer Health Information
www.fda.gov/consumer

www.fda.gov/consumer/updates/ayurvedic101608.html

Use Caution With Ayurvedic Products

Associated Press

Lead, mercury, and arsenic have been found in some Ayurvedic products. Certain populations, including children, are particularly at risk for the toxic effects of heavy metals.

Ayurvedic medicine is a traditional system of healing arts that originated in India. It involves using products such as spices, herbs, vitamins, proteins, minerals, and metals (e.g., mercury, lead, iron, zinc). Some preparations combine herbs with minerals and metals. These products are commonly sold on the Internet or in stores and are represented as "Indian" or "South Asian."

"Consumers should know that Ayurvedic products are generally not reviewed or approved by the Food and Drug Administration (FDA)," says Mike Levy, Director of the Division of New Drugs and Labeling Compliance in the Office of Compliance, part of FDA's Center for Drug Evaluation and Research (CDER).

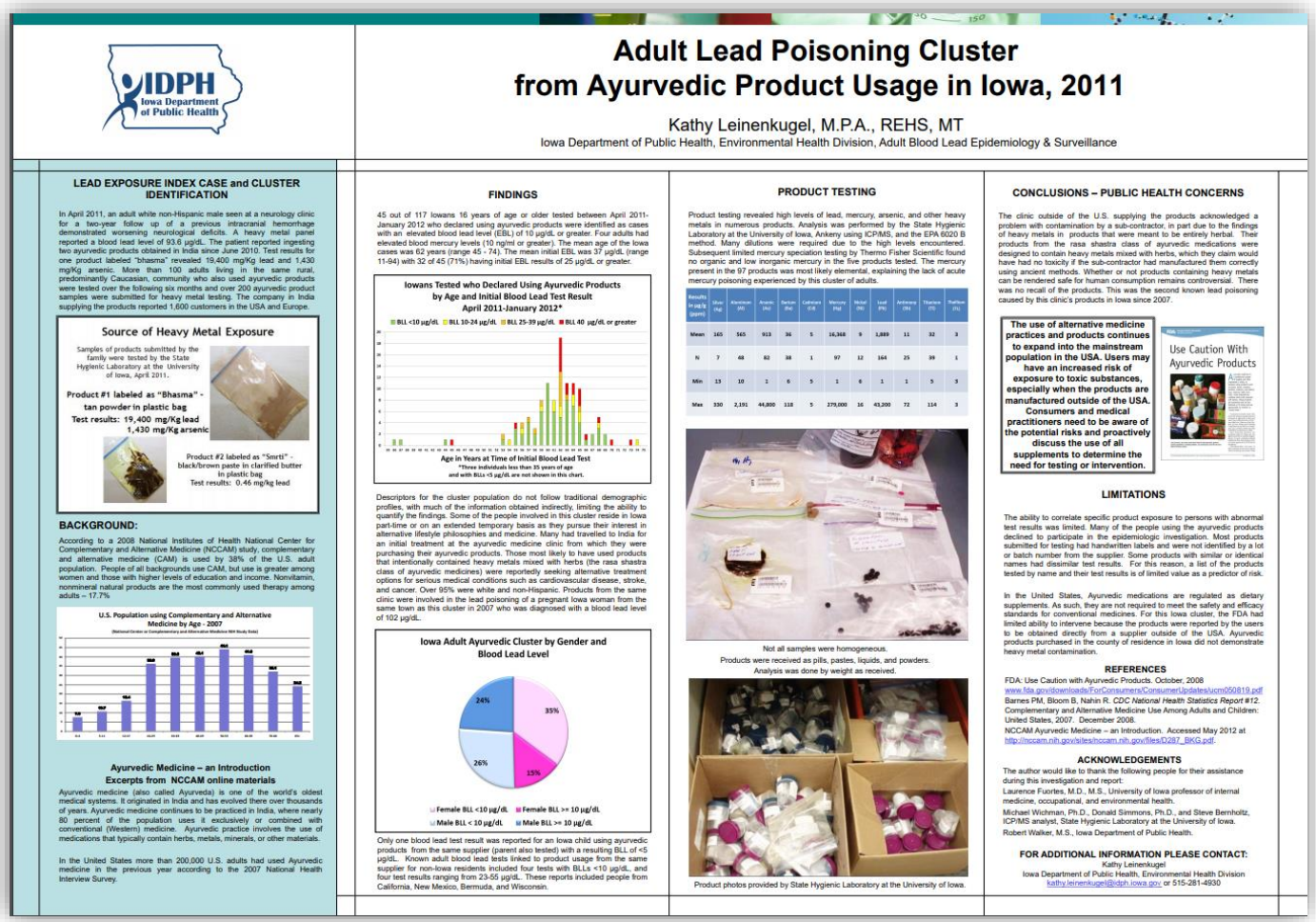
Most Ayurvedic products are marketed either for drug uses not approved by FDA or as dietary supplements. As such, consumers should understand that these products have not been approved by FDA before marketing.

"The bottom line," Levy says, "is that consumers need to be on guard when purchasing any product using

Lead and Ayurvedic Products

"Ayurvedic medicine is a traditional system of healing arts that originated in India. It involves using products such as spices, herbs, vitamins, proteins, minerals, and metals (e.g. mercury, lead, iron, zinc."

www.fda.gov/downloads/ForConsumers/ConsumerUpdates/ucm050819.pdf



Adult Lead Poisoning Cluster
from Ayurvedic Product Usage in Iowa, 2011

Kathy Leinenkugel, M.P.A., REHS, MT
Iowa Department of Public Health, Environmental Health Division, Adult Blood Lead Epidemiology & Surveillance

LEAD EXPOSURE INDEX CASE and CLUSTER IDENTIFICATION

In April 2011, an adult white non-Hispanic male seen at a neurology clinic for a two-year follow up of a previous intracranial hemorrhage demonstrated worsening neurological deficits. A heavy metal panel reported a blood lead level of 93.6 µg/dL. The patient reported ingesting two ayurvedic products obtained in India since June 2010. Test results for one product labeled "bhasma" revealed 19,400 mg/Kg lead and 1,430 mg/Kg arsenic. More than 100 adults living in the same rural, predominantly Caucasian, community who also used ayurvedic products were tested over the following six months and over 200 ayurvedic product samples were submitted for heavy metal testing. The company in India supplying the products reported 1,600 customers in the USA and Europe.

Source of Heavy Metal Exposure

Samples of products submitted by the family were tested by the State Hygienic Laboratory at the University of Iowa, April 2011.

Product #1 labeled as "Bhasma" - tan powder in plastic bag
Test results: 19,400 mg/Kg lead
1,430 mg/Kg arsenic

Product #2 labeled as "Smrti" - black/brown paste in clarified butter in plastic bag
Test results: 0.46 mg/kg lead

BACKGROUND:

According to a 2008 National Institutes of Health National Center for Complementary and Alternative Medicine (NCCAM) study, complementary and alternative medicine (CAM) is used by 38% of the U.S. adult population. People of all backgrounds use CAM, but use is greater among women and those with higher levels of education and income. Nonvitamin, nonmineral natural products are the most commonly used therapy among adults – 17.7%

U.S. Population using Complementary and Alternative Medicine by Age - 2007

Ayurvedic Medicine – an Introduction
Excerpts from NCCAM online materials

Ayurvedic medicine (also called Ayurveda) is one of the world's oldest medical systems. It originated in India and has evolved there over thousands of years. Ayurvedic medicine continues to be practiced in India, where nearly 80 percent of the population uses it exclusively or combined with conventional (Western) medicine. Ayurvedic practice involves the use of medications that typically contain herbs, metals, minerals, or other materials.

In the United States more than 200,000 U.S. adults had used Ayurvedic medicine in the previous year according to the 2007 National Health Interview Survey.

FINDINGS

45 out of 117 Iowans 16 years of age or older tested between April 2011-January 2012 who declared using ayurvedic products were identified as cases with an elevated blood lead level (EBL) of 10 µg/dL or greater. Four adults had elevated blood mercury levels (10 ng/ml or greater). The mean age of the Iowa cases was 62 years (range 45 - 74). The mean initial EBL was 37 µg/dL (range 11-94) with 32 of 45 (71%) having initial EBL results of 25 µg/dL or greater.

Iowans Tested who Declared Using Ayurvedic Products by Age and Initial Blood Lead Test Result April 2011-January 2012*

Age in Years at Time of Initial Blood Lead Test
*Three individuals less than 35 years of age and with BLLs <5 µg/dL are not shown in this chart.

Descriptors for the cluster population do not follow traditional demographic profiles, with much of the information obtained indirectly, limiting the ability to quantify the findings. Some of the people involved in this cluster reside in Iowa part-time or on an extended temporary basis as they pursue their interest in alternative lifestyle philosophies and medicine. Many had travelled to India for an initial treatment at the ayurvedic medicine clinic from which they were purchasing their ayurvedic products. Those most likely to have used products that intentionally contained heavy metals mixed with herbs (the rasa shastra class of ayurvedic medicines) were reportedly seeking alternative treatment options for serious medical conditions such as cardiovascular disease, stroke, and cancer. Over 95% were white and non-Hispanic. Products from the same clinic were involved in the lead poisoning of a pregnant Iowa woman from the same town as this cluster in 2007 who was diagnosed with a blood lead level of 102 µg/dL.

Iowa Adult Ayurvedic Cluster by Gender and Blood Lead Level

Only one blood lead test result was reported for an Iowa child using ayurvedic products from the same supplier (parent also tested) with a resulting BLL of <5 µg/dL. Known adult blood lead tests linked to product usage from the same supplier for non-Iowa residents included four tests with BLLs <10 µg/dL, and four test results ranging from 23-55 µg/dL. These reports included people from California, New Mexico, Bermuda, and Wisconsin.

PRODUCT TESTING

Product testing revealed high levels of lead, mercury, arsenic, and other heavy metals in numerous products. Analysis was performed by the State Hygienic Laboratory at the University of Iowa, Arkkery using ICP/MS, and the EPA 6020 B method. Many dilutions were required due to the high levels encountered. Subsequent limited mercury speciation testing by Thermo Fisher Scientific found no organic and low inorganic mercury in the five products tested. The mercury present in the 97 products was most likely elemental, explaining the lack of acute mercury poisoning experienced by this cluster of adults.

Not all samples were homogeneous.
Products were received as pills, pastes, liquids, and powders.
Analysis was done by weight as received.

Product photos provided by State Hygienic Laboratory at the University of Iowa.

CONCLUSIONS – PUBLIC HEALTH CONCERNS

The clinic outside of the U.S. supplying the products acknowledged a problem with contamination by a sub-contractor, in part due to the findings of heavy metals in products that were meant to be entirely herbal. Their products from the rasa shastra class of ayurvedic medications were designed to contain heavy metals mixed with herbs, which they claim would have had no toxicity if the sub-contractor had manufactured them correctly using ancient methods. Whether or not products containing heavy metals can be rendered safe for human consumption remains controversial. There was no recall of the products. This was the second known lead poisoning caused by this clinic's products in Iowa since 2007.

The use of alternative medicine practices and products continues to expand into the mainstream population in the USA. Users may have an increased risk of exposure to toxic substances, especially when the products are manufactured outside of the USA. Consumers and medical practitioners need to be aware of the potential risks and proactively discuss the use of all supplements to determine the need for testing or intervention.

Use Caution With Ayurvedic Products

LIMITATIONS

The ability to correlate specific product exposure to persons with abnormal test results was limited. Many of the people using the ayurvedic products declined to participate in the epidemiologic investigation. Most products submitted for testing had handwritten labels and were not identified by a lot or batch number from the supplier. Some products with similar or identical names had dissimilar test results. For this reason, a list of the products tested by name and their test results is of limited value as a predictor of risk.

In the United States, Ayurvedic medications are regulated as dietary supplements. As such, they are not required to meet the safety and efficacy standards for conventional medicines. For this Iowa cluster, the FDA had limited ability to intervene because the products were reported by the users to be obtained directly from a supplier outside of the USA. Ayurvedic products purchased in the county of residence in Iowa did not demonstrate heavy metal contamination.

REFERENCES

FDA: Use Caution with Ayurvedic Products. October, 2008
www.fda.gov/downloads/ForConsumers/ConsumerUpdates/ucm050819.pdf
Barnes PM, Bloom B, Nahin R. *CDC National Health Statistics Report #12*. Complementary and Alternative Medicine Use Among Adults and Children: United States, 2007. December 2008.
NCCAM Ayurvedic Medicine – an Introduction. Accessed May 2012 at http://nccam.nih.gov/sites/nccam.nih.gov/files/D287_BKG.pdf.

ACKNOWLEDGEMENTS

The author would like to thank the following people for their assistance during this investigation and report:
Laurence Fuortes, M.D., M.S., University of Iowa professor of internal medicine, occupational, and environmental health.
Michael Wichman, Ph.D., Donald Simmons, Ph.D., and Steve Bernholtz, ICP/MS analyst, State Hygienic Laboratory at the University of Iowa.
Robert Walker, M.S., Iowa Department of Public Health.

FOR ADDITIONAL INFORMATION PLEASE CONTACT:

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Iowa Department of Public Health, Environmental Health Division
kathy.leinenkugel@idph.iowa.gov or 515-281-4930

Poster of 2011 Ayurvedic Cluster in Iowa
IDPH ABLES web page

2021 Ayurvedic Investigation: Older woman with history of exposure in 2011

BLL 2021: 48 mcg/dL

- highest BLL in 2011 was 17 mcg/dL
- BLLs 4-11 mcg/dL from 2012 -2019

2021 products purchased through internet, made in India, distributed by business in Nevada

Pb content: 12,200 mg/kg
(12,200,000 ppb)

Compare to EPA lead in water alert level of 15 ppb

When should adults be tested?

Adults should consider getting tested for lead at work **or** by their personal medical provider if they:

- Work with lead
- OSHA requires some employers to provide "medical monitoring"
- Have a hobby that exposes them to lead
- Do renovation, repair or painting on a home built before 1978
- Recently moved to the US from a foreign country
- Use foods, spices, cosmetics, etc. from other countries with known lead risk
- Use Ayurvedic or non-traditional medicine products (teas, powders, salves or lotions) especially those not made in the US
- Have a child or other household member with an EBL
- Have medical signs or symptoms that could be from lead exposure

Some states recommend screening for risk and testing pregnant women

http://idph.iowa.gov/Environmental-Health-Services/Occupational-Health-and-Safety-Surveillance/Adult-Blood-Lead-Epidemiology

Questions

- **Kathy Leinenkugel, ABLES Manager**
  - 515-380-0331
  - Kathy.Leinenkugel@idph.iowa.gov
  - idph.iowa.gov
  -

Online Information & Resources

Childhood Lead: idph.iowa.gov/Environmental-Health-Services/Childhood-Lead-Poisoning-Prevention

Adult Lead: idph.iowa.gov/Environmental-Health-Services/Occupational-Health-and-Safety-Surveillance/Adult-Blood-Lead-Epidemiology

Lead Data: idph.iowa.gov/Environmental-Health-Services/Environmental-Public-Health-Tracking

DISCUSSION SECTION

Send your questions for presenters In the chat!

LUNCH BREAK

12:30PM - 1:00PM

Check out all of the resources we have put together!

https://idph.iowa.gov/Environmental-Health-Services/Childhood-Lead-Poisoning-Prevention/resources

AFTERNOON BREAK

2:00PM - 2:15PM

Check out all of the resources we have put together!

https://idph.iowa.gov/Environmental-Health-Services/Childhood-Lead-Poisoning-Prevention/resources

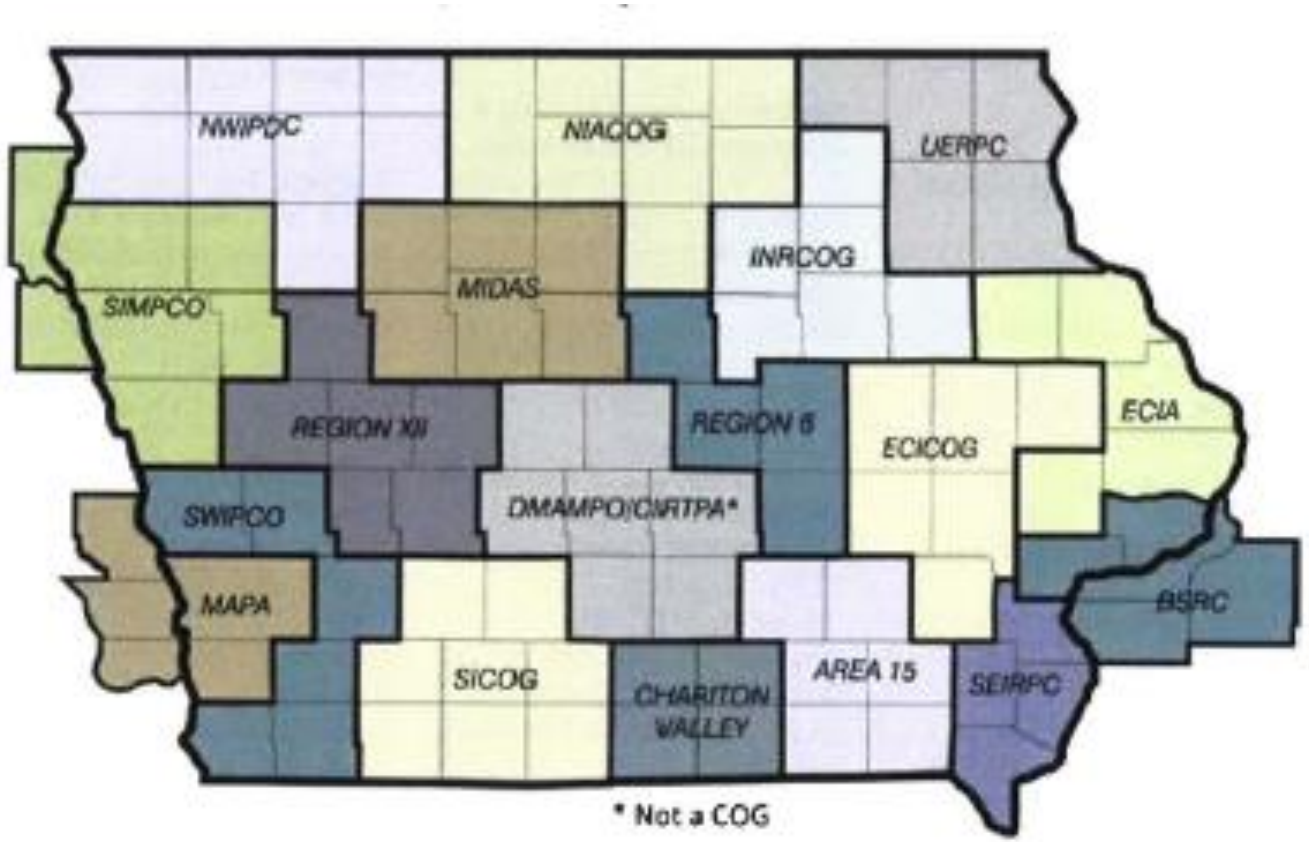
Bringing Together Partners for a Successful Lead Hazard Control Program

Presented by: Elizabeth Kemp & Kim Glaser

Learning Objective

- This presentation will explain how to identify partners and how ECIA has been successful.

Iowa Council of Government Map



https://www.iowacog.com/

ECIA Service Area

Cedar, Clinton, Delaware, Dubuque, and Jackson Counties

East Central Intergovernmental Association
a regional response to local needs

ECIA SERVICES

Individual Services

- Housing (Rental) Assistance
- Homeless Assistance
- Food Insecurity Hotline
- Transit Services
- Home Buyer Down Payment Assistance
- Business Loans – expansion and new start- up projects

City Services

- SUPPORT SERVICES
  - City Treasurer Duties
  - Audit Assistance
  - Mayor/City Council Orientation
- TECHNICAL SERVICES
  - Brownfields Assessment & Cleanup
  - Building Inspections & Code Enforcement
  - City Code Updates & Ordinances
  - Economic Development
  - Grant & Loan Application
  - Transportation & Planning

Lead & Healthy Homes Program

- 2017 Clinton awarded $1,650,000 for lead hazard control and $150,000 healthy homes supplemental funds
  - City of Maquoketa is a partner in this award and is included in the target area and commits to contributing to the required match
  - 54 housing units were made lead safe at program close end of 2020
- 2019 Dubuque County awarded $2,999,996 lead hazard control and $300,000 healthy homes supplemental funds
  - Delaware County requests to be included in the target area 2020 and commits to contributing to the required match
  - Goal is to make 120 Lead safe by program by July 2023
- 2020 Clinton awarded $2,400,000,000 for lead hazard control and $400,700 healthy homes supplemental funds
  - City of Maquoketa is a partner in this award and is included in the target area and commits to contributing to the required match
  - Goal is to make 86 units lead safe by program close July 2024

HUD Lead Hazard Control & Healthy Homes

U.S. Department of Housing and Urban Development

Lead Hazard Control and Healthy Homes

Lead Hazard Reduction Grant Program
FR-6500-N-13
07/12/2021

Before

After

Elizabeth Kemp ekemp@ecia.org or 563-690-5720

Kim Glaser kglaser@ecia.org or 563-690-5774

ECIA https://www.ecia.org/

SIOUXLAND DISTRICT HEALTH DEPARTMENT

A Healthy Community for All.

Siouxland Healthy Homes Coalition

Growing a Successful Coalition = Community Partnerships

Alicia Sanders

Environmental Specialist

EBL Inspector/Risk Assessor

Learning Objective

- Provide tools for coalition building as well as sustaining a coalition.

SIOUXLAND DISTRICT HEALTH DEPARTMENT

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Siouxland Healthy Homes Coalition

- **3 Phases:**
  1. Growing the Coalition.
  2. How Can the Coalition Help You?
  3. Sustaining and Continuing to Grow the Coalition.

SIOUXLAND DISTRICT HEALTH DEPARTMENT

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Phase 1: Growing the Coalition

- The Siouxland Healthy Homes coalition began meeting in July 2013.
- Previously was the Siouxland Childhood Lead Poisoning Prevention Coalition.
- A Few Months Before the Meeting:
  - Recruitment, invite individuals and organizations.
  - Schedule meeting.
  - Promote the meeting.
  - Research and follow the National Center for Healthy Homes standard of 7 principles (more principles have been added since 2013).
  - The fun begins….

SIOUXLAND DISTRICT HEALTH DEPARTMENT

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Phase 1: Growing the Coalition

- **The first meeting:**
  - 20 people attended.
  - Presentation about what is a healthy home. Shared information from the National Center for Healthy Housing and the CDC (presentation included information about childhood lead poisoning prevention).
  - After the presentation we discussed and learned about each agency and how that agency fits into the idea of Healthy Homes.
  - Discussed recruitment of individuals and agencies.
  - Discussed meeting days/times.
  - Healthy homes is a topic that the group wants to continue to work on and grow.
- **Homework:**
  - Coalition members were tasked with thinking about goals/objectives for next meeting.
  - Recruitment of members.

Phase 2: How Can the Coalition Help You?

- **Researched the CDC's "Developing a Healthy Homes Program".**
  - The Coalition Created: Vision, Mission Statement and Core Values.
- **2014 Survey to professionals who conduct home visits.**
  - Utilized survey monkey.
  - 35 surveys received.
  - Questions were focused on the 7 principles of a healthy home.
- **Due to the survey:**
  - 2014: Bi-monthly newsletters.
  - 2015: Healthy Homes Checklist (English and Spanish).
  - Both can be found at www.siouxlanddistricthealth.org search for "Healthy Homes".
- **Meetings began to have "Presentations".**
  - Presenters from area agencies.
  - Topics included a variety of healthy homes issues: Pest Management, City of Sioux City HUD grant, Iowa Poison Control Center, Radon, Prescription Take Back programs, Animal Control, etc.

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Phase 2: How Can the Coalition Help You?

Healthy Homes Issues the coalition has worked on:

- **Prescription take back programs:**
  - Contacted pharmacies and area hospitals.
  - Promote the DEA prescription take back program in spring and fall.
  - In partnership with Jackson Recovery Centers and the City of Sioux City Police Department; a prescription drug take back lock box is now offered at the Sioux City Police Department (2015).
- **Hoarding:**
  - Created a hoarding resource hand out.
  - A separate hoarding coalition started meeting at area hospitals.
- **Radon:**
  - Promote testing.
  - Worked with area builders to encourage radon systems in new homes.

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Phase 2: How Can the Coalition Help You?

Healthy Homes Issues the coalition has worked:

- **Emergency Contact Information:**
  - Magnet created to assist emergency personnel when responding to residences.
  - Partnered with local Emergency Responders to create magnet.
  - Funds to create magnets provided by a local grant.
- **Partner with the City of Sioux City HUD/Lead Grant**
  - Representative would share updates at coalition meetings.
  - Newsletter focused on lead prevention and promoting the HUD grant.
  - Annual letters to property owners includes flyer about HUD grant.
- **Childhood Lead Poisoning Prevention Education.**
  - Always on-going.
  - Included in every bi-monthly newsletter, every coalition meeting, and on the coalition checklist

SIOUXLAND DISTRICT HEALTH DEPARTMENT

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Phase 3: Sustaining and Continuing to Grow the Coalition

- Continue partnerships.
- 2013 – 2020 Continued to hold bi-monthly coalition meetings.
- Continue to send out bi-monthly coalition newsletters.
- In 2018 conducted a second survey to in-home professionals:
  - A lot of staff changes from 2014.
  - Survey questions were the same.
  - Not as many responses in 2018.
  - Responses were very similar to the 2014 survey.
  - Newsletters and coalitions meetings were focused on survey responses.
- January 2020: Presentations to realtors:
  - Geared towards lead education when buying/selling a home.
  - Also provided Healthy Homes information.
  - Realtors became members of the coalition.

SIOUXLAND DISTRICT HEALTH DEPARTMENT

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Phase 3: Sustaining and Continuing to Grow the Coalition

- This will be an interesting year!
- The coalition has not met since January 2020.
- Potentially begin meeting again in fall 2021 or winter 2022.
  - Follow Phase 1.
  - Recruitment of new/existing members.
    - Coalition members have moved on.
    - Roles have changed.
    - More people are at home now.
  - Promotion and education to other agencies.
  - Update newsletters, checklist, provide additional resources.
  - Setting new goals.
- On-going: newsletters, checklist, education and outreach, partnering with agencies, childhood lead poisoning prevention.
- 2021: Began partnering with Maternal Child Health Program.

SIOUXLAND DISTRICT HEALTH DEPARTMENT

A Healthy Community for All.

Where You Can Find Us:

- www.siouxlanddistricthealth.org
  - Search for “Healthy Homes” or
  - Search for “Lead”.

SIOUXLAND DISTRICT HEALTH DEPARTMENT

A Healthy Community for All.

Thank You!

Contact Information:

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712-279-6119

SIOUXLAND DISTRICT HEALTH DEPARTMENT

A Healthy Community for All.

BLACK HAWK COUNTY HEALTH DEPARTMENT AND WATERLOO COMMUNITY DEVELOPMENT: HEALTHY HOMES COLLABORATION

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Healthy Homes Coordinator
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amagee@blackhawkcounty.iowa.gov

Matt Chesmore
Waterloo Community Development
Senior Rehabilitation Specialist
(319) 291-4429
matt.chesmore@waterloo.ia.org

LEARNING OBJECTIVE:

Discuss increase in positive EBL outcomes due to collaborative efforts in the city of waterloo between waterloo community development and the black hawk county health department.

Waterloo Community Development and Black Hawk County Health Department Collaboration

Waterloo Community Development

- Recent recipient of an approximately $3million grant from the U.S. Department of Housing and Urban Development (HUD).
- Focus on keeping families and their children safe from lead-based paint and other home health and safety hazards.
- 3-year grant, goal of serving over 100 families.
- Emphasis on serving low-moderate income neighborhoods with homes older than 1978.

Black Hawk County Public Health

- Certified Lead Inspection/Risk Assessors (LIRA).
- Healthy Homes Assessors
- Conduct education and outreach activities
- Clinical service for blood tests for children.

History of the Partnership

- Waterloo Community Development
  - Waterloo Eliminates Lead Hazards
    - 2003, 2007, 2011
- Lead Hazard Control and CDBG Funding
- Current Model
  - Black Hawk County
  - ~ 4 years
    - 2017 & 2020
  - 2nd Grant Cycle

Lead-Based Paint Hazard Control Program

Help your child stay safe from lead.

- ✓ If lead paint removal is needed, hire trained and certified professionals to remove it.
- ✓ Keep children away from the area.
- ✓ Pregnant women should also stay away.

Keep your home clean.

- ✓ Ask at a hardware store about lead-specific cleaning products.
- ✓ Clean weekly. Use a solution of water and cleaner to wet-mop floors and wipe windowsills and other surfaces. Don't reuse cloths or sponges on dishes or counters.
- ✓ Avoid dry-dusting and sweeping. This can spread lead dust. Use standard vacuums only of you can't see any dust or flaking paint on floors or carpets.
- ✓ If you work with lead, shower and change before coming home and wash work clothes separately.
- ✓ Wipe dirt off shoes before coming inside.

Lead Program, Housing Rehabilitation Program, Emergency Repairs Program, and Home Buyer Program Income Guidelines

Maximum Annual Income Equals 80% of Waterloo Median	
Household Size	Maximum Annual Gross Income
1	$33,900.00
2	$38,750.00
3	$43,600.00
4	$48,400.00
5	$52,300.00
6	$56,150.00
7	$60,050.00
8	$63,900.00
Income Guidelines Change Annually	

For more information on any of our housing programs, contact us at 291-4429.

WaterLoo Eliminates LeAd HazarDs

LEAD-BASED PAINT HAZARD CONTROL PROGRAM

Waterloo Community Development
319-291-4429

Black Hawk County Health Department
319-291-2413

Homebuyer and Housing Rehabilitation Programs

Why learn about your child's lead level?

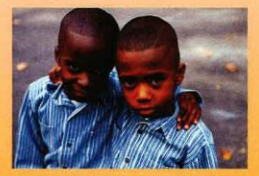
Lead can be very harmful to children.

- ✓ Low to moderate levels of lead may damage a child's brain and nervous system. This may cause problems with hearing, behavior, and learning.
- ✓ High levels of lead may cause coma, convulsions, and death.

Lead may be around your home.

- ✓ There are many possible sources, including paint, water, food, and soil. Some cosmetics, hobby supplies, antiques, and toys may also be sources.

Free testing for exposure to lead is available at the Black Hawk County Health Department: 319-291-2413.



What the test results mean.

If blood lead level is...	A child needs...
0-9 mcg/dL	No further action. Re-screen as recommended.
10-14 mcg/dL	Follow-up testing within 3 months.
15-19 mcg/dL	Follow-up testing within 2 months.
20-44 mcg/dL	Medical evaluation and care. Inspection for and removal of lead hazards in the child's environment.
45-69 mcg/dL	**All started within 48 hours:** Medical evaluation and care. Inspection for and removal of lead hazards in the child's environment.
70 mcg/dL or higher- **MEDICAL EMERGENCY**	**Immediate:** Hospitalization and treatment. Inspection for and removal of lead hazards in the child's environment.

(mcg/dL means micrograms of lead per deciliter of blood)

City of Waterloo Available Programs

Lead-based Paint Hazard Control

The Lead Program will contract with Black Hawk County Health Department to identify lead hazards in your home, free of charge. A licensed contractor will remove identified hazards through our program. All Lead Program clients must meet income eligibility requirements. See chart on back for income limits.

Housing Rehab Loan Program

The Housing Rehabilitation Program helps to correct housing code violations, improve energy efficiency, and provide a safer and healthier environment for the residents of Waterloo. Lead-based paint hazards must be addressed.

Emergency Repairs Program

Funds are used to eliminate safety and health code violations, which include but are not limited to the following types of repairs:

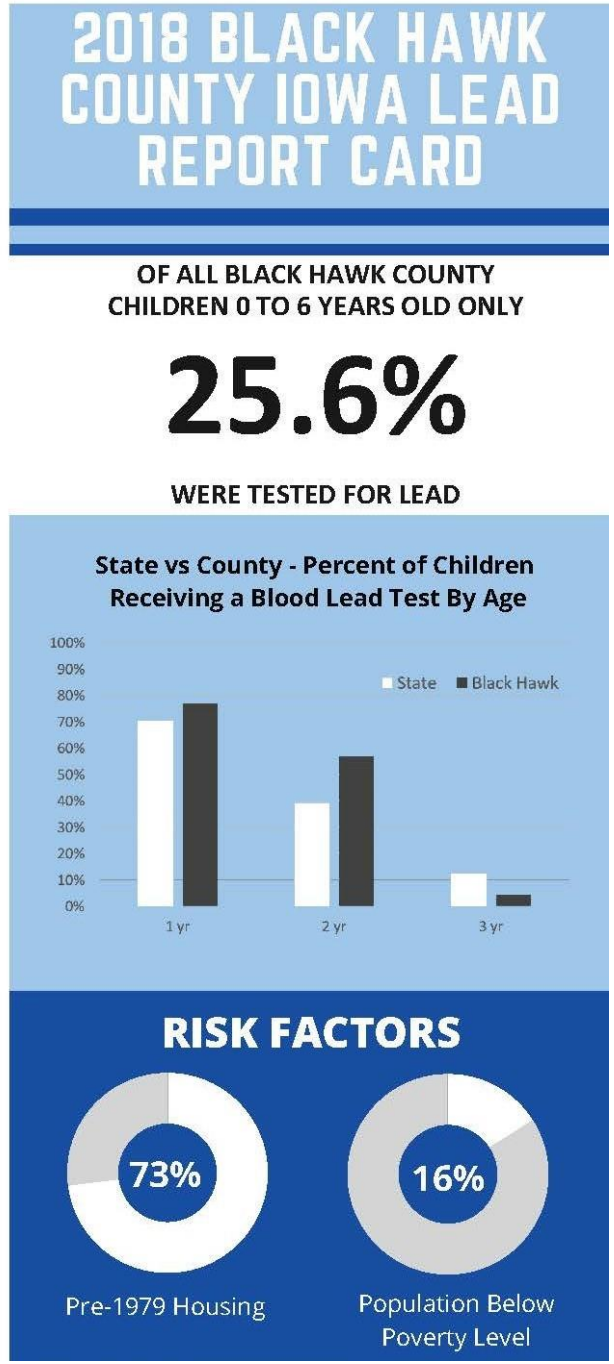
- ✓ Heating, Roofing, Plumbing, Electrical

Home Buyer Program Waterloo Housing Partnership

The Home Buyer Program is designed to assist low-income households, one time only per household, when purchasing a home with down payment assistance. Lead-based paint hazards must be addressed.

Black Hawk County CLPPP

- Program goal is to provide services to increase community awareness about the hazards of lead exposure and increase the number of children assessed and appropriately blood tested for lead poisoning through monitoring and surveillance.
- Lack of resources to communities (rural) when it comes to remediation/mitigation repairs regarding funding for residents with EBL child.
- Referrals are given to WCD when child meets criteria for environmental investigation where lead hazards can be identified and remediated.



Healthy Homes (LHC) and CLPPP

Referrals

- Waterloo Children and families
- Provide information on the Healthy Homes (Lead-Based Paint Hazard Control Program

Alerts via HHLPSS (Healthy Homes and Lead Poisoning Surveillance System)

- Environmental investigation is required after two venous levels of 15-19mcg/dL or one venous level over 20 mcg/dL
- Contact family and property owner to give information on WCD program, if interested Community Development will take homeowner and/or tenants through qualifying process
- EBL cases take priority, lead inspection/risk assessment is set up and conducted
- Repairs are made to property and clearance testing followed

Referrals

- Reducing and or mitigating lead exposure for families, EBL children and future inhabitants
- Improving quality of life of homeowners and renters who live in the community
- Neighborhoods may increase housing value as home improvements are made
- BHCHD has referred **32** families to WCD since 2018
- **4** have utilized program for lead hazard remediation

Lead Free KIDS for a Healthy Future

Benefits

- Reduces lead exposure for children, especially those identified through CLPPP with EBL
- Collaboration between various organizations withing the community
- Provides a safer and healthier home for family and children to live
- Identifies lead hazards and other necessary repairs needed to make home safer.

Challenges

- Hesitation from area landlords to participate in program
- Limitation regarding meeting qualifications
- Finding quality contractors who meet or willing to complete the lead abatement certification

Outcomes

- Reducing and or mitigating lead exposure for families, EBL children and future inhabitants
- Improving quality of life of homeowners and renters who live in the community
- Benefits the community interactions and stabilizes Waterloo neighborhoods

Thank You!

DISCUSSION SECTION

Send your questions for presenters In the chat!

THANK YOU!

Check out our website!

Don't forget to fill out your CEU evaluation.

The recording of today's learning collaborative will be posted online for viewing with CEUs available until October 16th!

IDPH
IOWA Department of PUBLIC HEALTH

IOWA
Institute of Public Health Research and Policy