



1



2

And, we are **measuring lead** in lowans' drinking water in their homes.



Drinking water is a significant source of **lead exposure.**

How much is in yours?

Researchers at the University of Iowa are providing **FREE** water sampling kits starting the week of January 4th, 2021.

Request your water sampling kit by emailing get-the-lead-out@uiowa.edu.

Your participation will help us understand whether commercially-available lead tests can provide an alternative to lab testing. You will be provided two test strips to test your tap water and additional water we send you. Our research is independently-funded by the Environmental Protection Agency and the University of Iowa.
**Priority will be given to participants with older homes, young children, or known lead plumbing or service lines.*



The only way to know if you have lead in your water is to **test.**

3

1 in 5 Iowa newborns are born with EBLL.



Rural populations are at as great of risk of EBLL as are urban populations.

Carrel, 2017

4

EPA's Lead and Copper Rule Proposal
 EPA is proposing the first major overhaul of the Lead and Copper Rule (LCR) since 1991

EPA's proposal takes a proactive and holistic approach to improving the current rule—from testing to treatment to telling the public about the levels and risks of lead in drinking water.

By investing in thoughtful, preventative actions now, we can reduce our risks and better protect our families and our future.

EPA's proposed rule includes focused efforts to provide communities with the tools they need to help protect children from lead exposures where they live, learn and play.

To learn more visit: www.epa.gov/safewater/LCRproposal

The proposal focuses on six key areas:

- Identifying the most impacted areas** by requiring water systems to prepare and update a publicly available inventory of lead service lines and requiring water systems to "find-and-fix" sources of lead when a sample in a home exceeds 15 parts per billion (ppb).
- Strengthening treatment requirements** by requiring corrosion control treatment based on tap sampling results and establishing a new trigger level of 10 ppb.
- Replacing lead service lines** by requiring water systems to replace the water system-owned portion of an LSL when a customer chooses to replace their portion of the line. Additionally, depending on their level above the trigger level, systems would be required to take LSL replacement actions.
- Increasing drinking water sampling reliability** by requiring water systems to follow new, improved sampling procedures and adjust sampling sites to better target locations with higher lead levels.
- Improving risk communication to customers** by requiring water systems to notify customers within 24 hours if a sample collected in their home is above 15 ppb. Water systems will also be required to conduct regular outreach to homeowners with LSLs.
- Better protecting children in schools and child care facilities** by requiring water systems to take drinking water samples from the schools and child care facilities served by the system.

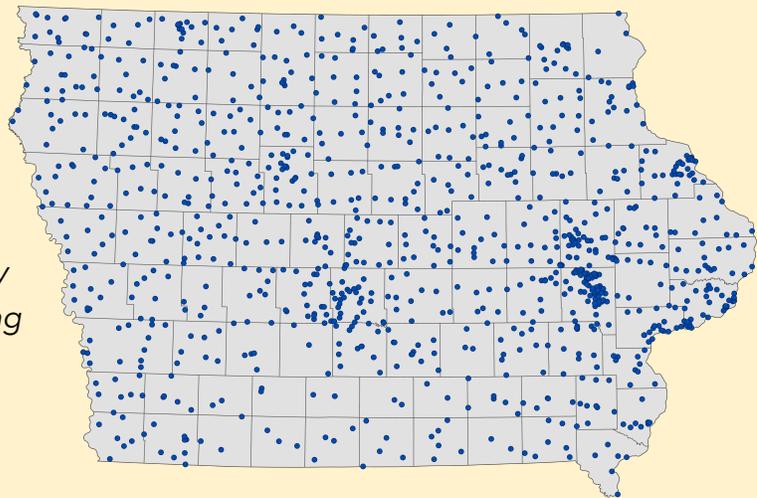
We *can* address lead in lowans' drinking water.

1. Promote **home testing** of high risk homes.
2. Digitally map **LSLs** and make them available.
3. Make lead water testing eligible for **Grants to Counties** funding.
4. Intervene at blood lead level of **5 ug/dL** (CDC) and test home water.
5. Promote **Filter First** legislation.

5

Let's start with public drinking water, which is regulated by the LCR.

There are 1,075 community water systems in Iowa serving **2.8 million** people.



6

Community water systems in Iowa annually sample about **0.5%** of the **1.15 million households** on public water as part of LCR compliance.

So, we have **166,607** LCR lead measurements in Iowa from the last 29 years.

7

We used the LCR data to assess **lead in Iowans' water.**

BUT,
There are many lead guidelines/regulations.

This is a Problem.

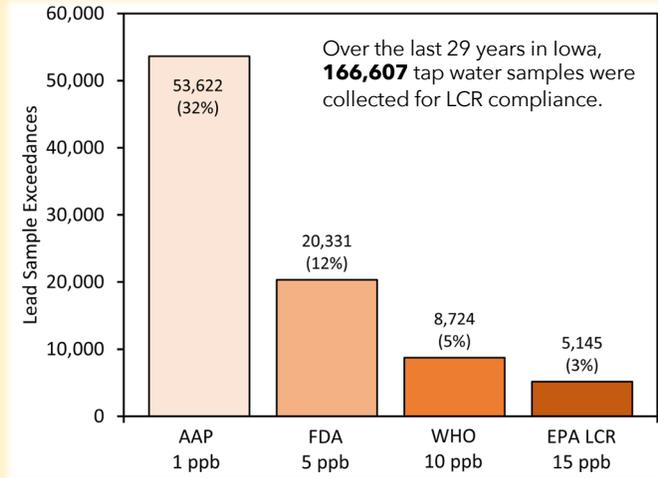
The screenshot shows the title page of a journal article. At the top is the logo for 'ENVIRONMENTAL Science & Technology LETTERS'. Below the logo is the URL 'pubs.acs.org/journal/estlcu' and a 'Letter' tag. The main title is 'Estimating Consumers at Risk from Drinking Elevated Lead Concentrations: An Iowa Case Study'. The authors listed are Amina Grant, Michelle M. Scherer, Danielle Land, David M. Cwiertyny, Marc A. Edwards, Jerry Mount, and Drew E. Latta*. There is a 'Cite This' section with the citation: 'Environ. Sci. Technol. Lett. 2020, 7, 948–953' and a 'Read Online' button. At the bottom of the screenshot, there are four icons representing different lead guidelines: AAP (American Academy of Pediatrics) at 1 ppb, WHO (World Health Organization) at 10 ppb, FDA (U.S. Food & Drug Administration) at 5 ppb, and EPA LCR (Environmental Protection Agency Lead Compliance Rule) at 15 ppb.

8

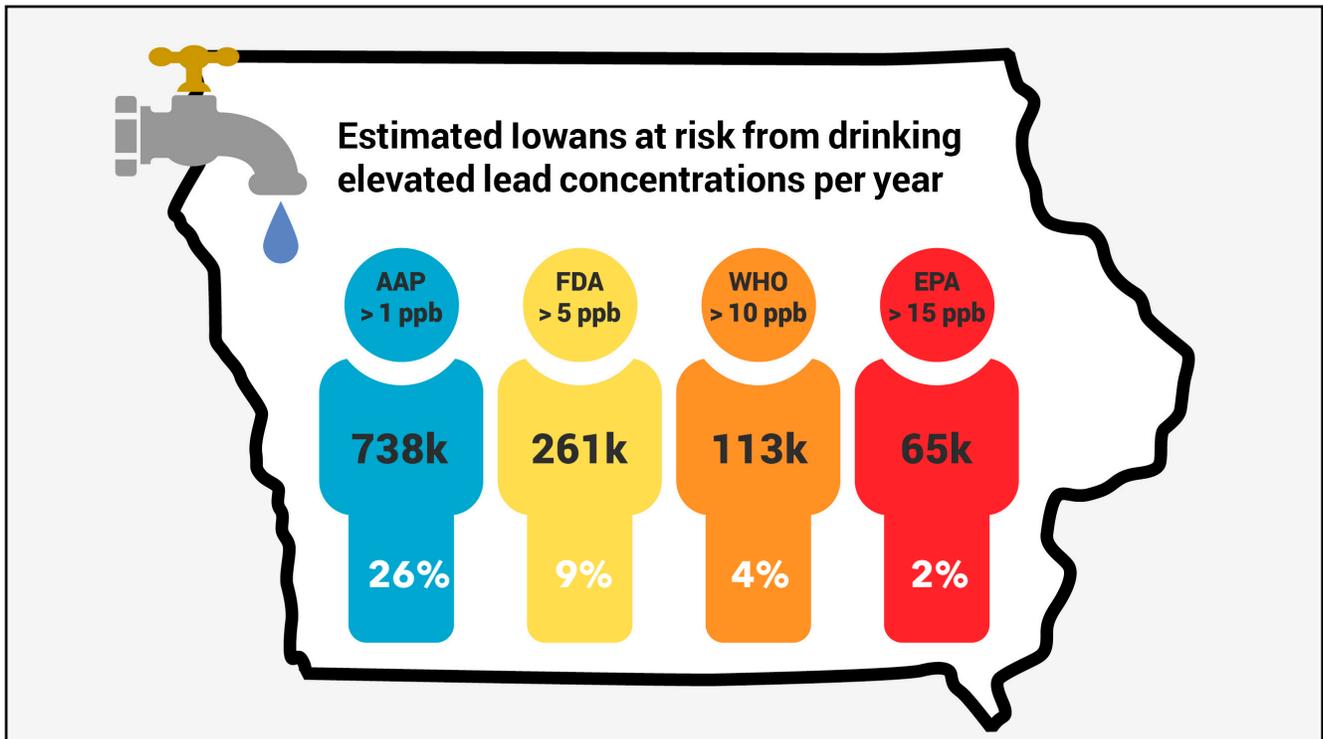
From the LCR data, we know lowans are drinking water with lead above lead guidelines/regulations.

% of taps tested by LCR

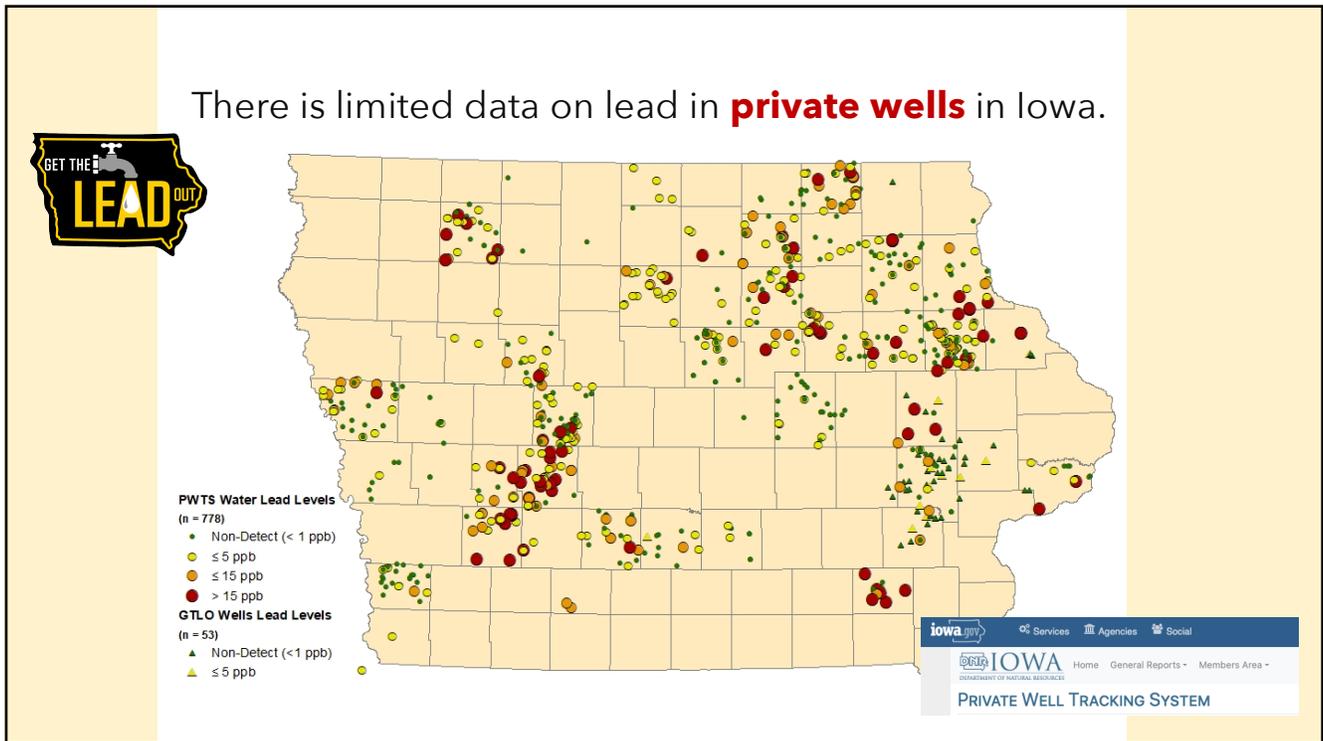
- 3%** > EPA's LCR action level of 15 ppb.
- 5%** > WHO's 10 ppb guideline.
- 12%** > FDA & Canada regulation of 5 ppb.
- 32%** > AAP guideline for schools of 1 ppb.
- 48%** < 1 ppb.



9



10



11

Private wells are not regulated and are at **higher risk** for lead.

Public CWSs
~ 2.8 M people

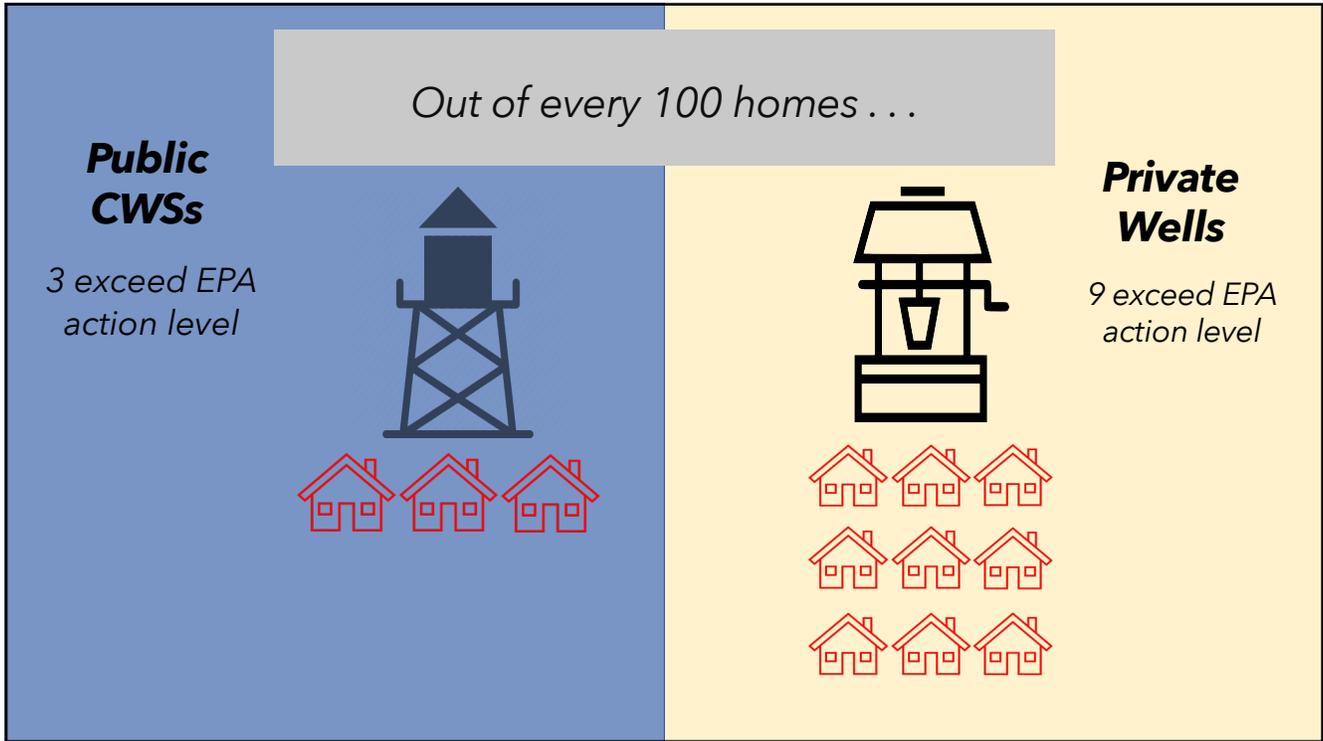



Private Wells
~300 k people



Source	AAP	FDA	WHO	EPA
Private Wells	38.4	18.8	12	8.8
CWSs	32	12	5.2	3.1

12

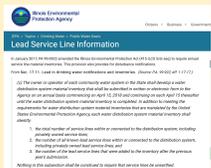


13

Water contributes ~20% to blood Pb levels



13th most LSLs in Nation (~160,000)



The Gazette SUBSCRIBE TODAY

Report: Many Iowa counties underusing private well testing funds

Grants to Counties program pays to test drinking water in private wells, make repairs to reduce contaminants

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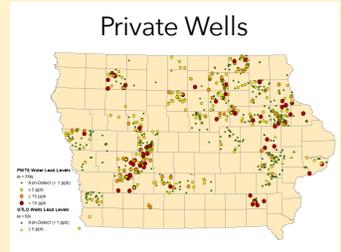
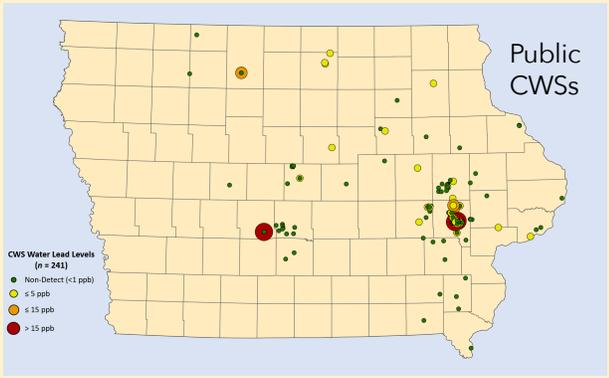
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 319.335.5654



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GTLO Materials

HOW DOES DRINKING WATER WITH ELEVATED LEAD OR COPPER LEVELS IMPACT MY HEALTH?

LEAD

Lead is a toxic metal that is harmful to human health. Lead is carried in the bloodstream and can harm the nervous system and brain. Lead that does not leave the body through excretion is absorbed into the bones, teeth, and organs—where it can collect for a lifetime. Young children are especially vulnerable to lead exposure because their bodies absorb metals faster than the average adult. Children's nervous systems are still developing, so they are more vulnerable to damage from toxic metals like lead. Pregnant and nursing mothers should also be aware of how harmful lead exposure is to nursing infants and developing fetuses of pregnant women.

COPPER

Copper is an essential nutrient, but some people who drink water containing copper in excess of the drinking water standard over a relatively short period of time could experience gastrointestinal distress (upset stomach). The drinking water standard for copper is 1,300 micrograms of copper per liter of water (µg/L). Some people who drink water containing copper in excess of high levels of copper over many years could suffer liver or kidney damage. There are extra risks for some people with genetic disorders that affect copper absorption and metabolism (Wilson's Disease).

Even if your water results came back safe to drink, continue to check your water every year to make sure it stays safe—unless you know your plumbing is lead free (i.e., installed after 2014). Lead and copper levels can vary or fluctuate over time.

—Adapted from the Environmental Protection Agency's 2013 for Reducing Lead in Drinking Water Bulletin 2-2013/1 (www.epa.gov/epa-lead-and-drinking-water/2013-bulletin-2)

GET-THE-LEAD-OUT@UIOWA.EDU

WHAT DO MY LEAD (Pb) RESULTS MEAN?

LEAD RESULT	WHAT DOES THIS MEAN?	WHAT CAN I DO?
ALL samples are less than 1 µg/L.	Lead was NOT detected in your tap water. Your tap water is safe to consume.	You may use your tap water as normal.
ALL samples are between 1 and 5 µg/L.	Lead was detected at low levels. Your tap water is acceptable to consume. However, this level may be of concern for pregnant women, infants, and children under six.	If a pregnant woman, infant, or child under six drinks this water, consider using a water filter and/or bottled water.
Any sample is between 5 and 15 µg/L.	<p>The lead in your tap water is of CONCERN. Your next actions depend on your 45-Second Flush sample:</p> <p>If your flush sample is less than 1 µg/L, your water will be safe to consume after flushing. Lead may be in your home faucets or plumbing.</p> <p>If your flush sample is between 1 and 5 µg/L, your flushed water is acceptable to consume. Lead may be in your home faucets or plumbing. This level, however, may be of concern for pregnant women, infants, and children under six.</p> <p>If your flush sample is between 5 and 15 µg/L, your water is of concern. Lead may be in your home faucets or plumbing, water service line, or both.</p> <p>If your flush sample is greater than 15 µg/L, your water is NOT safe to consume. Lead may be in your home faucets or plumbing, water service line, or both.</p>	
Any sample is greater than 15 µg/L.	<p>The lead in your tap water is of SEVERE CONCERN. It is NOT SAFE to consume. Your next actions depend on your 45-Second Flush sample:</p> <p>If your flush sample is less than 1 µg/L, your flushed water is safe to consume. Lead may be in your home plumbing faucets or plumbing.</p> <p>If your flush sample is between 1 and 5 µg/L, your flushed water is acceptable to consume. Lead may be in your home faucets or plumbing. This level, however, may be of concern for pregnant women, infants, and children under six.</p> <p>If your flush sample is between 5 and 15 µg/L, your water is of concern. Lead may be in your home faucets or plumbing, water service line, or both.</p> <p>If your flush sample is greater than 15 µg/L, your water is NOT safe to consume. Lead may be in your home faucets or plumbing, water service line, or both.</p>	

*If considering a water filter, make sure to purchase a filter that says it removes lead. Not all water filters remove lead.

GET-THE-LEAD-OUT@UIOWA.EDU