

**Testimony of Marc Andrew Edwards
to the House Committee on Science, Space & Technology. October 15, 2019**

“ADDRESSING THE LEAD CRISIS THROUGH INNOVATION & TECHNOLOGY”

Over the last 15 years I have testified to Congress on lead in drinking water crises in Washington D.C. twice (2004, 2010), the Flint water crisis twice (2016), and I am optimistic that today’s hearing related to Newark’s water lead problems will help bring an end to our ongoing national nightmare.

Approaches to protecting consumers from problems with lead in drinking water vary worldwide. Some countries such as Australia [provide some simple recommendations on flushing to avoid high lead](#) and [tell consumers that water lead exposure is not a significant public health concern](#). Other governments take at least some level of responsibility for protecting consumers.

By comparison, our implementation of the U.S. Environmental Protection Agency (EPA) Lead and Copper Rule (LCR) has been a national disaster. It starts with official assertions that [“no safe level of lead exposure has been identified.”](#) with warnings of brain damage and other horrific health consequences, and ends by providing public assurance that drinking water is meeting a legally defined lead standard when it often does not. When consumers occasionally discover that the federal LCR and public trust have been broken, they consider the consequences to their families and communities, and are understandably outraged.

Our 21st century lead in drinking water crises are not primarily about elevated lead in water—they are caused by government agencies first implying that any level of lead exposure is dangerous, and then willfully hiding significant problems with elevated lead in water from the public. These 21st Century water crises are caused by bureaucrats and scientists, who have twisted the Golden Rule, into willful deceptions that ultimately go over like a leaded water balloon.

We have now severely damaged public confidence in the safety of our drinking water systems. Too many of our poorest and most vulnerable citizens, feel compelled to spend too much of their precious financial resources, on purchase of bottled water and filters to protect themselves and their families. Because trust has been repeatedly and justifiably lost, the perception that such deception will likely happen again, and does, has caused uneasiness and outright fear that their own cities and towns may be next. Our nation’s failure to upgrade antiquated water infrastructure and uphold federal law, has effectively ended trust in potable water, as we once knew it.

The following steps could help restore justifiable trust in U.S. potable water supplies and bring an end to future water crises:

- 1) The culture associated with implementation and enforcement of the U.S. EPA Lead and Copper rule is a national scandal that tolerated and even encouraged data manipulation, outright cheating, and unconscionable scientific misconduct at government agencies. Whatever the provisions of the new LCR may be, the U.S. EPA and other entities must no longer engage in public deception—the new rule must be taken seriously, and its provisions must be enforced. As an aside, I was pleased to see that the U.S. EPA, was

much more aggressive in protecting consumers in Newark, NJ in 2019, than they were in prior high profile water crises in Flint, Michigan (2014-2016), Washington, D.C. (2001-2004), or cities like Portland, Oregon where the LCR has been broken for decades.

- 2) Official language that there is “no safe level of lead exposure” should be reconsidered. We routinely identify consensus standards of human exposure for other contaminants, below which health risks are relatively low and should not cause major concern. We should identify such standards for lead. The “no safe level” language, can actually impede replacement of leaded water infrastructure and increase dependency on bottled water and filters, because even modern plumbing systems can contribute trace amounts of lead to drinking water.^{1,2}
- 3) We must identify where millions of lead service line pipes are located. Consumers must be made fully aware of whether they are living with this serious environmental hazard, or whether they can have relative peace of mind because they are not. Ultimately, these lead service line pipes and other plumbing with high-lead content must be replaced.
- 4) Until lead pipes and leaded plumbing are replaced, strategies are needed to help consumers cope with elevated lead in water. These strategies include use of flushing, water filters whose performance is certified, and bottled water. The EPA and HUD have recently funded significant new research projects to investigate filter performance and improve the effectiveness of these strategies.^{3,4}

References

1. Parks, J., K. Pieper, A. Katner, M. Tang and M. Edwards, Potential Challenges Meeting the American Academy of Pediatrics’ Lead in School Drinking Water Goal of 1 µg/L, CORROSION. 2018;74(8):914-917. <https://doi.org/10.5006/2770>
2. Roy, S. and M.A. Edwards. Preventing another Lead (Pb) in Drinking Water Crisis: Lessons from Washington DC and Flint MI contamination events. Current Opinion in Environmental Science & Health. <http://doi.org/10.1016/j.coesh.2018.10.002>
3. U.S. EPA [Untapping the crowd: consumer detection and control of lead in drinking water](#). K. Pieper, A. Katner, E. Berglund, C. Cooper and M. Edwards. EPA Grant Number: 839375. \$1,981,500
4. Housing and Urban Development (HUD). [Identification of factors impacting efficacy and adoption of low-cost point of use filters](#). K. Pieper, A. Katner, M. Edwards. Grant #: VAHHU0036-17. \$600,000