

Elevated lead in private wells could pose health risks

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Since the Flint Water Crisis in Michigan, concern in the U.S. over lead in drinking water has increased. Information about water from private wells has been limited because such wells are exempt from the 1974 Safe Drinking Water Act, the 1986 Lead Ban and the 2011 Reduction of Lead in Drinking Water Act. Now, researchers report a case study in ACS' journal *Environmental Science & Technology* that sheds some light on the hidden health risks.

Lead can end up in [drinking water](#) when pipes are corroded. Lead pipes are an obvious culprit, but even newer, "lead-free" pipes can contain a small amount of the element that can leach into the water. Several years ago in Macon County, North Carolina, the health department found countywide lead contamination in private wells due to this type of corrosion. Kelsey J. Pieper and colleagues wanted to systematically assess the lead levels in private wells in Macon County.

The team first examined well water in the county at two homes with children who had elevated blood-lead levels. After the health department advised the families to avoid consuming well water, the children's blood-lead levels went down over time. Follow-up water testing revealed that samples contained relatively high levels of lead. In the second part of the study, the researchers examined 15 private wells throughout the area to identify patterns of lead leaching and evaluate remediation options. The greatest concentrations were observed immediately after the faucets were turned on. The group notes that the lead levels in some wells fluctuated during continued water use as particulate lead was mobilized.

The team demonstrated that accurately quantifying lead in well water will depend on which sampling protocols are used, and remediating lead in well [water](#) will be site specific.

More information: Elevated Lead in Water of Private Wells Poses Health Risks: Case Study in Macon County, North Carolina, *Environmental Science & Technology* (2018).
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