



# Lead in Drinking Water

Angela Logomasini

During the winter of 2004, the District of Columbia discovered elevated levels of lead in its drinking water—levels that exceeded federal standards by many times. The issue raised concerns about lead’s potential impact on children’s learning abilities. Sensationalist coverage in the media captured the attention of Washington policymakers by fostering the impression that there was a serious public health threat in the District and possibly in cities around the nation. After the D.C. story broke, a handful of other cities discovered that they too had excess lead in their drinking water, although at lower levels than were found in D.C. The issue forced both Congress and regulators to examine public health concerns about lead levels. However, the science clearly shows that no action was nec-

essary because the public health threat was minimal.

## Statutory Scheme

The federal drinking water regulations on lead established a treatment practice rather than setting a numeric standard as is done for other water contaminants. The rule calls for “optimum corrosion control,” which is defined as public education and lead service line replacement. Systems must use this practice if lead levels in drinking water exceed 15 parts per billion in 10 percent of samples. Systems must periodically collect and test tap water samples from homes where lead concentration would likely be the highest, such as homes that receive their water through lead pipes.

## Legislative History and Background

After the D.C. story broke, members of Congress held hearings and began considering beefing up the nation's drinking water law. Legislation (H.R. 4268) offered by D.C. delegate Eleanor Holmes Norton and a companion Senate bill (S. 2377) offered by Rep. James Jeffords (I-VT) in 2004 would have demanded that public water systems begin programs to replace lead service lines—replacing portions annually until such lines are eliminated. Administration officials argued at these hearings that new federal regulations for lead were premature.<sup>1</sup> The U.S. Environmental Protection Agency (EPA) pledged to review compliance with the lead rule around the nation and to issue revisions to the rule. In March 2005, it reported that 96 percent of the nation's drinking water systems were in compliance.<sup>2</sup> The EPA produced a new rule for lead, which was finalized in 2006. The new rule made modest revisions—while keeping the action level at 15 parts per billion—with the hope of improving communication and compliance with the rule.<sup>3</sup>

## Lead and Public Health

A study conducted by the Centers for Disease Control and Prevention (CDC) reinforced the EPA view that the situation did not present a public health threat. Nor did the case warrant

panic-driven regulation.<sup>4</sup> In fact, according to the CDC, the lead discovered in D.C. water did not raise the level of lead in anyone's blood to a point of concern. It noted that the amount of lead found in individuals' blood today is largely the result of other exposures—particularly peeling lead paint and dust from such paint. Fortunately, we have seen progress in that area. The average lead blood level has declined substantially (80 percent) since the late 1970s, according to the CDC.<sup>5</sup>

Not surprisingly, the District government and the CDC discovered that every child with elevated lead levels whom they found in D.C. lived in a home with peeling lead paint or lead-containing dust from renovations. Daniel R. Lucey, the District's interim chief medical officer, reported to the *Washington Post* that in tests of about 1,100 children, 14 children were found with elevated lead levels. Six of these children did not even live in homes with lead service lines. Moreover, tests on about 200 people of all ages from homes with the highest lead levels in the water did not find anyone with blood containing lead at levels of concern.<sup>6</sup> Lucey explained, "We are not seeing any widespread lead toxicity attributable to the water in D.C."<sup>7</sup>

1. Statement of Ben Grumbles, acting administrator for water, U.S. Environmental Protection Agency, before the House Committee on Government Reform, May 21, 2004.

2. Patricia Ware, "OMB Concludes Review of Lead, Copper Rule That Would Revise Existing EPA Regulation," *Daily Environment Report*, May 11, 2006, A-4.

3. 40 CFR §141.81-91

4. CDC, "Blood Lead Levels in Residents of Homes with Elevated Lead in Tap Water—District of Columbia, 2004," *Morbidity and Mortality Weekly Report* 53, no. 30 (2004): 268–70.

5. CDC, "Blood Lead Levels in Young Children—United States and Selected States, 1996–1999," *Morbidity and Mortality Weekly Report* 49, no. 50 (December 22, 2000): 1133–37.

6. Avram Goldstein, "Blood Levels Affected by Disinfectant: Study Cites Impact on D.C. Children," *Washington Post*, March 31, 2004, B01.

7. *Ibid.*

## Regulatory Issues

D.C. appears to have the worst case of elevated lead levels yet discovered in the nation—yet it did not present a public health problem. Accordingly, if the federal government had mandated lead service line replacements around the nation, it would have imposed an enormous cost on the public without any effect on lead blood levels. For example, the cost to replace lead service lines in D.C. alone was estimated at \$300 million to \$500 million, plus an additional cost for upgrading lines owned by homeowners of \$50 million to \$60 million, according to the Association of Metropolitan Water Agencies during other hearings on this issue.<sup>8</sup> If communities were forced into such expenditures, they would have much less money available to allocate to other needs, such as upgrading schools and providing essential services to the community. Hence, new, more stringent lead regulations would likely produce significant welfare losses.

The D.C. lead case illustrates why these issues demand local solutions. The city investigated several potential causes of the problem

and potential solutions that do not warrant or require line replacement. In particular, the problem appears to have resulted from an EPA regulation that caused city officials to switch its disinfection products from chlorine gas to liquid chlorine—which potentially led to more corrosion of the pipes, releasing additional lead.

Moreover, a federally mandated policy promoting lead service line replacements assumes that there was a simple solution: replace lines and lead problems would disappear. But the reality is quite different. Because many homes may still have lead lines inside, replacement of service lines might still have failed to provide measurable benefits in many instances. One problem is that lead problems may come not from service lines but directly from the tap.<sup>9</sup> In addition, mandated line replacement means systems do not have any flexibility in determining whether better options exist.

## Key Expert

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8. Patricia Ware, “Aging Water Pipes Cause High Lead Levels, Water Utilities Tell House Subcommittee,” *Daily Environment Report*, 29 April 2004, A-8.

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9. American Water Works Association, “Comments on EPA’s Proposed Minor Revisions to the Lead and Copper Rule,” July 11, 1996.