Governor's Directive on Lead 16-06

Lead Service Line and Component Survey | Summary of Findings

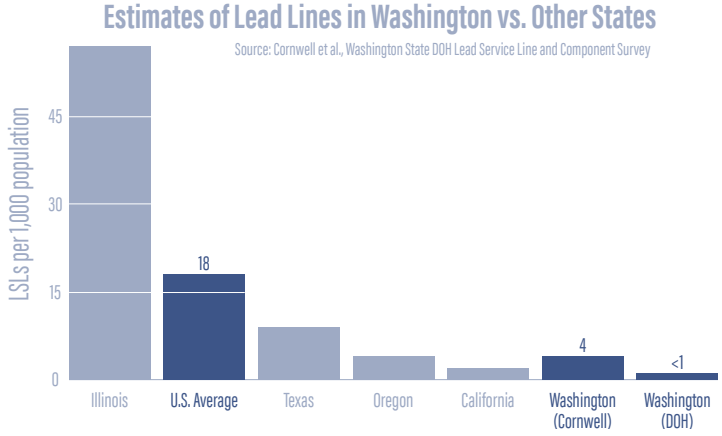
On May 2, 2016, Governor Inslee issued Directive 16-06 in response to increased public concern about lead in drinking water. This directive instructed state agencies to work with partners to address many potential sources of lead exposure and find ways to minimize the exposure of the people of Washington State to lead. The directive designated the Washington State Department of Health (DOH) as the lead agency on this effort. One aspect of this directive was instruction that "DOH shall work with each Group A Public Water system to identify all lead service lines and lead components within two years." This briefing paper summarizes the responses DOH received from water systems in Washington State, identifying what is known about lead components in their distribution systems.

Directive 16-06 was part of a broad effort to assess and address potential sources of lead exposure in Washington State. Lead-based paint and lead-contaminated dust are the main sources of lead exposure. Houses built before 1978 are likely to contain lead-based paint. Other sources could include contaminated soil, drinking water, children's toys and jewelry, workplace and hobby hazards, imported candy, aviation fuel, traditional home remedies, and cosmetics. Nationally, lead paint and dust account for up to 70 percent of elevated blood lead levels in U.S. children (Levin et al., 2008). The U.S. Centers for Disease Control and Prevention estimates that more than 30 percent of current elevated blood lead levels do not have an immediate lead paint source. Numerous studies indicate lead exposures result from multiple sources. While we know lead from drinking water is not the biggest source of exposure in Washington, we also know there is no safe level of lead and we need to take steps to reduce all exposures.

In the summer of 2016, staff within the DOH Office of Drinking Water worked with water systems to develop an online survey to assess the extent to which lead service lines and lead service components, commonly referred to as goosenecks, exist within the state. Agency staff and water systems worked together to develop the questions and determine how best to get the word out to water system owners and operators. We sent the survey to all federally regulated (Group A) public water systems in the state on October 24, 2016. Outreach included owners and operators of transient noncommunity water systems, such as campgrounds not covered under the Lead and Copper Rule.

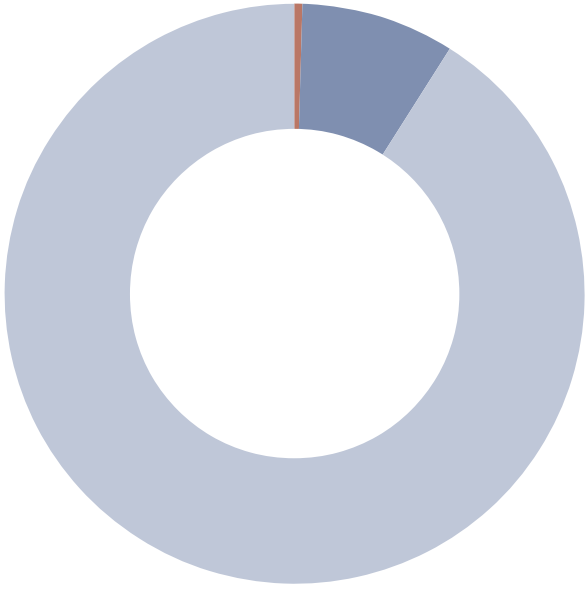
> Responding water systems estimated a combined total of 916 lead service lines out of a total 2.2 million connections served, much lower than the most recent national estimate.

The survey remained open until Friday, December 16 to allow water systems to provide well-researched responses by the deadline. We made an additional effort in early February 2017 to get responses from a limited number of water systems serving over 1,000 connections that had not responded earlier. Response to the survey was



voluntary and reflects the most detailed review to date of the presence of lead service lines and lead service components in the state.

The most recent national assessment of the presence of lead service lines estimated that there were 6.1 million such services nationwide and 27,000 in Washington State (Cornwell et al. 2016). This assessment was based on surveys of several hundred water systems throughout the United States in 2011 and 2013. Based on this assessment, Washington State was reported as having one of the lowest rates of occurrence of lead service lines in the country, with an estimated 4 lead service lines per 1,000 people. This estimated occurrence rate is similar to other western states, and much lower than states like Iowa, Kansas, and Illinois, where the estimated presence of lead service was up to 57 lead service lines per 1,000 people.



Based on the responses from water system staff, we now have a much clearer picture about the presence of lead service lines and lead service components in Washington. We received responses from 686 water systems that serve more than 2.2 million connections out of 2.5 million Group A connections in the state (over 90 percent of such connections). Out of the 686 responding water systems, 5 reported a combined total of 916 lead service lines. This number represents 0.04 percent of the total number of connections served by respondents. In addition, 15 respondents stated they have a combined total of 6,370 lead goosenecks, representing 0.28 percent of the total number of connections served by respondents.

Water systems have existed in the state for more than a century. Providing detailed assessments of service line materials and components is challenging. In some cases, water systems lack sufficiently detailed records to identify all the service line materials. Given time, information, and resource constraints, 48 water systems were not able to estimate the number of lead service lines, if any, within their systems. Similarly, 43 water systems responded they were unable to estimate the number of lead goosenecks. Since there are no commercially available tools or techniques for identifying service line materials without digging up the service connection itself, reviewing records and utility specific databases are currently the only way water systems have to provide material estimates without a significant, and possibly fruitless, expenditure of resources.

We are in the process of following up with water systems to refine these estimates as part of our effort to implement the Governor's Directive. We continue to work with stakeholder groups to develop policy and budgetary proposals with the goal of removing all lead service lines and lead components from Group A public water systems within 15 years.

References:
Levin, R., et al. (2008). Lead exposures in US children, 2008: implications for prevention. Environmental Health Perspectives, Vol. 116, No. 10, pp. 1285-1293
Cornwell, D. A., et al. (2016). National Survey of Lead Service Line Occurrence. Journal AWWA, Vol. 108; No. 4. pp. E182-E191.

Image note: in the graph on this page, the size of the red area has been increased to enhance visibility. If the graph were to scale, the red area would be the width of a human hair.

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