



# HUD's Office of Public and Indian Housing, Washington, DC

## HUD's Oversight of Lead in the Water of Housing Choice Voucher and Public Housing Program Units

**Office of Audit, Region 5  
Chicago, IL**

**Audit Report Number: 2020-CH-0004  
August 21, 2020**



**OFFICE OF INSPECTOR GENERAL**  
U.S. Department of Housing and Urban Development

**To:** Dominique Blom, General Deputy Assistant Secretary for Public and Indian Housing, P

**From:** //signed//  
Kelly Anderson, Regional Inspector General for Audit, 5AGA

**Subject:** HUD Needs To Improve Its Oversight of Lead in the Water of Housing Choice Voucher and Public Housing Program Units

Attached is the U.S. Department of Housing and Urban Development (HUD), Office of Inspector General's (OIG) final results of our review of HUD's oversight of lead in the water of Housing Choice Voucher Program and public housing program units.

HUD Handbook 2000.06, REV-4, sets specific timeframes for management decisions on recommended corrective actions. For each recommendation without a management decision, please respond and provide status reports in accordance with the HUD Handbook. Please furnish us copies of any correspondence or directives issued because of the audit.

The Inspector General Act, Title 5 United States Code, Appendix 8M, requires that OIG post its reports on the OIG website. Accordingly, this report will be posted at <https://www.hudoig.gov>.

If you have any questions or comments about this report, please do not hesitate to call me at 312-913-8499.

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**HUD Needs To Improve Its Oversight of Lead in the Water of Housing Choice Voucher and Public Housing Program Units**

## Highlights

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### What We Audited and Why

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We audited the U.S. Department of Housing and Urban Development's (HUD) oversight of lead in the water of Housing Choice Voucher Program and public housing program (assisted) units based on our goal of strengthening the soundness of public and Indian housing. The audit was part of the activities in our fiscal year 2019 audit plan. Our objective was to determine whether HUD's Office of Public and Indian Housing had sufficient policies, procedures, and controls to ensure that households living in assisted units had a sufficient supply of safe drinking water.

### What We Found

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HUD's Office of Public and Indian Housing did not have sufficient policies, procedures, and controls to ensure that households living in assisted units had a sufficient supply of safe drinking water. Public housing agencies had assisted units served by public water systems that reported levels of lead above the Environmental Protection Agency's lead action level. However, HUD had limited requirements concerning lead in the drinking water of assisted units and generally did not require public housing agencies to take action regarding the potential for lead in the drinking water. These weaknesses occurred because HUD relied on the Agency to ensure that public water systems provided water that was safe to drink. As a result, HUD lacked assurance that households, including households with children age 6 or under, lived in assisted units that had a sufficient supply of safe drinking water.

### What We Recommend

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We recommend that the General Deputy Assistant Secretary for Public and Indian Housing develop and implement an action plan that includes sufficient policies, procedures, and controls that address households living in assisted units having a sufficient supply of safe drinking water.

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# Background and Objective

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The U.S. Department of Housing and Urban Development's (HUD) Housing Choice Voucher Program is the Federal Government's major program for assisting very low-income families, the elderly, and persons with disabilities in affording decent, safe, and sanitary housing in the private market. Housing choice vouchers are administered locally by public housing agencies. HUD's public housing program was established to provide decent and safe rental housing for eligible low-income families, the elderly, and persons with disabilities. Public housing comes in all sizes and types, from scattered single-family houses to highrise apartments. HUD administers Federal aid to local public housing agencies that manage the housing for low-income residents at rates they can afford. The units must meet the programs' minimum standards for health and safety.

The Environmental Protection Agency states that although the greatest exposure to lead is swallowing or breathing in lead paint chips and dust, lead also can be found in some household plumbing materials and water service lines. The Agency states that children ages 6 and under are at the greatest risk. Pregnant women and nursing mothers should avoid exposure to lead to protect their children. The Agency estimates that drinking water can make up 20 percent or more of a person's total exposure to lead. Infants who consume mostly mixed formula can receive 40 to 60 percent of their exposure to lead from drinking water. Children's exposure to lead in drinking water may cause (1) behavior and learning problems, (2) a lower intelligence quotient (IQ) and hyperactivity, (3) slowed growth, (4) hearing problems, and (5) anemia. Lead is also harmful to adults. Adults exposed to lead can suffer from increased blood pressure, decreased kidney function, and reproductive problems in both men and women.

The Safe Drinking Water Act requires the Environmental Protection Agency to determine levels of contaminants in drinking water at which no adverse health effects are likely to occur with an adequate margin of safety. Because lead is a toxic metal that is harmful to human health, even at low exposure, the Agency and the Centers for Disease Control and Prevention agree that there is no known safe level of lead in a child's blood. The maximum contaminant level goal for lead is zero.

The Environmental Protection Agency sets an enforceable regulation called a maximum contaminant level based on the maximum contaminant level goal for most contaminants. Maximum contaminant levels are set as close to the maximum contaminant level goal as possible, considering cost, benefits, and the ability of public water systems to detect and remove contaminants using suitable technologies. However, because lead contamination of drinking water often results from corrosion of the plumbing materials belonging to water system customers, the Agency established a treatment technique rather than a maximum contaminant level for lead, which requires water systems to control the corrosivity of their water. Further, if more than 10 percent of tap water samples exceed the Agency's lead action level of 15 parts per

billion,<sup>1</sup> water systems are required to take additional actions.<sup>2</sup> The Agency's action level of 15 parts per billion for lead is not a health-based standard or a standard for establishing a safe level of lead in a home. It is a measure of the effectiveness of the corrosion control treatment in water systems. Therefore, exposure to lead from water may occur even though the action level is not exceeded. In addition, site specific remediation strategies such as replacement of customer owned lead service lines and plumbing components is typically the responsibility of the homeowner.

The U.S. Food and Drug Administration limits the amount of lead in bottled water to 5 parts per billion.

Based on data in HUD's Public and Indian Housing Data Warehouse, nearly 3.2 million households reside in housing funded through HUD's Housing Choice Voucher Program and public housing program.<sup>3</sup> Further, nearly 800,000 children age 6 or under live in this housing. The following table shows the approximate number of households and number of children age 6 or under living in housing funded through the Housing Choice Voucher Program and public housing program.

Program	Households	Children
Housing Choice Voucher	More than 2.2 million	More than 500,000
Public housing	Nearly 1 million	More than 200,000
Totals	Nearly 3.2 million	Nearly 800,000

Our objective was to determine whether HUD's Office of Public and Indian Housing had sufficient policies, procedures, and controls to ensure that households living in Housing Choice Voucher Program and public housing program units had a sufficient supply of safe drinking water.

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<sup>1</sup> This could also be stated if the 90<sup>th</sup> percentile lead level is greater than the Agency's lead action level of 15 parts per billion.

<sup>2</sup> The additional actions could include taking further steps to control the corrosivity of their water, educating the public about lead in drinking water and actions consumers can take to reduce their exposure to lead, and replacing lead service lines.

<sup>3</sup> HUD's Public and Indian Housing Data Warehouse is a collection of data extracts that includes Housing Choice Voucher Program and public housing program data.



# Results of Audit

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## **Finding: HUD's Oversight of Lead in the Water of Housing Choice Voucher and Public Housing Program Units Had Weaknesses**

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HUD's Office of Public and Indian Housing did not have sufficient policies, procedures, and controls to ensure that households living in Housing Choice Voucher Program and public housing program (assisted) units had a sufficient supply of safe drinking water.<sup>4</sup> Public housing agencies had assisted units served by public water systems that reported levels of lead above the Environmental Protection Agency's lead action level. However, HUD had limited requirements concerning lead in the drinking water of assisted units and generally did not require public housing agencies to take action regarding the potential for lead in the drinking water. These weaknesses occurred because HUD relied on the Agency to ensure that public water systems provided water that was safe to drink. As a result, HUD lacked assurance that households, including households with children age 6 or under, lived in assisted units that had a sufficient supply of safe drinking water.

### **Assisted Units Served by Public Water Systems That Exceeded the Lead Action Level**

We selected the following five public water systems that reported levels of lead above the Environmental Protection Agency's action level of 15 parts per billion: (1) Providence Water, (2) City of Newark's Department of Water and Sewer Utilities, (3) Pittsburgh Water and Sewer Authority, (4) Green Bay Water Utility, and (5) Portland Water Bureau.<sup>5</sup> We then selected the following public housing agencies located in the service areas of the selected public water systems: (1) the Providence Housing Authority, (2) the Newark Housing Authority, (3) the Housing Authority of the City of Pittsburgh, (4) the Green Bay Housing Authority, (5) Brown County Housing Authority, and (6) Home Forward.<sup>6</sup> The public housing agencies had assisted units that were served by the public water systems.

We obtained lead testing results during the period January 2016 through February 2019 from Providence Water, the Pittsburgh Water and Sewer Authority, the Green Bay Water Utility, and the Portland Water Bureau and compared the addresses where the water was tested for lead to the addresses of the applicable public housing agencies' assisted units in HUD's Public and Indian

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<sup>4</sup> See appendix B of this audit report for applicable criteria.

<sup>5</sup> Lead can be found in some water service lines and household plumbing materials, such as pipes soldering, and faucets.

<sup>6</sup> See the Scope and Methodology section of this audit report for how we selected the public water systems and public housing agencies.



Housing Information Center.<sup>7 8</sup> The following table shows for the public housing agencies the number of Housing Choice Voucher Program and public housing program units, as applicable, for which the public water systems provided documentation to support that the water was tested for lead and the lowest and highest amounts of lead detected in the water in parts per billion.<sup>9</sup>

Public housing agency	Housing Choice Voucher	Public housing	Total assisted units	Lowest amount <sup>10</sup>	Highest amount
City of Pittsburgh	92	16	108	No lead detected	28.3
Green Bay <sup>11</sup>		1	1	20.0	26.0
Brown County	3		3	1.9	7.2
<b>Totals</b>	<b>95</b>	<b>17</b>	<b>112</b>		

Further, the following table shows for the public housing agencies the number of assisted units for which the public water systems provided lead testing results, the number of assisted units for which no lead was detected and the number of assisted units for which the amount of lead detected in the water of the assisted units was 1 part per billion or less, more than 1 part per billion but no more than 5 parts per billion, more than 5 parts per billion but no more than 10 parts per billion, more than 10 parts per billion but no more than 15 parts per billion, more than 15 parts per billion but no more than 20 parts per billion, and more than 20 parts per billion.

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<sup>7</sup> The City of Newark's Department of Water and Sewer Utilities had not provided lead testing results as of February 2020.

<sup>8</sup> HUD's Public and Indian Housing Information Center maintains and gathers data about all of HUD's Office of Public and Indian Housing's inventories of housing agencies, developments, buildings, units, housing agency officials, HUD offices and field staff, and Public and Indian Housing Information Center users.

<sup>9</sup> Due to multiple issues with information included in the lead testing results provided by the public water systems and HUD's Public and Indian Housing Information Center, we may not have been able to match addresses where the water was tested for lead to the addresses of public housing agencies' assisted units. Therefore, there may be additional lead testing results associated with the assisted units. Further, we were not able to definitively match any addresses associated with Providence Water or the Portland Water Bureau to the addresses of the Providence Housing Authority's and Home Forward's assisted units, respectively.

<sup>10</sup> Analytical methods for lead testing have a minimum reporting level, or the smallest measured concentration of lead that can be reliably measured. Results that are less than the minimum reporting level are represented as no lead detected or less than the minimum reporting level. An attorney for the Pittsburgh Water and Sewer Authority stated that the Pittsburgh Water and Sewer Authority used seven different laboratories to test water for lead and no lead detected represented different minimum reporting levels for several of the laboratories. The highest possible minimum reporting level that no lead detected represented was less than 5 parts per billion. However, it would take the Pittsburgh Water and Sewer Authority substantial research to identify the minimum reporting levels associated with the no-lead-detected results.

<sup>11</sup> The Green Bay Water Utility provided two lead testing results, dated May and August of 2016, for one of the Green Bay Housing Authority's public housing units. Therefore, the lowest and highest amounts of lead detected in the water was for the same unit on different dates. Note that this unit was also one of the units for which the Green Bay Housing Authority tested the water in June 2016. The amount of lead detected in the water when the Green Bay Housing Authority tested the water was 2 parts per billion.

Public housing agency	Amount of lead detected in the water of assisted units						
	No lead detected <sup>12</sup>	≤ 1	> 1 through 5	> 5 through 10	> 10 through 15	> 15 through 20	> 20
City of Pittsburgh	43	5	48	6	3	2	1
Green Bay <sup>13</sup>							1
Brown County			2	1			
<b>Totals</b>	<b>43</b>	<b>5</b>	<b>50</b>	<b>7</b>	<b>3</b>	<b>2</b>	<b>2</b>

### Limited Requirements Concerning Lead in Drinking Water of Assisted Units

We reviewed HUD's requirements applicable to lead in drinking water. For units under HUD's Housing Choice Voucher Program, HUD's regulations state that the water supply must be free from contamination and that the acceptable criterion is that the dwelling unit must be served by an approvable public or private water supply that is sanitary and free from contamination. For units under HUD's public housing program, HUD's regulations state that each building's domestic water system must be free of health and safety hazards and that when applicable, a dwelling unit must have an adequate source of potable water.<sup>14</sup>

HUD's Office of Public and Indian Housing did not consider any amount of lead in drinking water to be acceptable. However, it did not require testing for or actions to reduce the levels of lead in the water of assisted units unless local, State, or Federal authorities deemed the public water supply to be unsafe to drink.<sup>15</sup>

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**HUD did not require actions to reduce the levels of lead in the water of assisted units when public water systems exceeded the lead action level.**

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Therefore, it did not require testing for or actions to reduce the levels of lead in the water of assisted units when a public water system exceeded the Environmental Protection Agency's action level for lead of 15 parts per billion. Further, HUD's guidance for when a child under the age of 6 is identified with an elevated blood lead level states that a public housing agency must conduct an environmental investigation of the child's unit and the common areas servicing the unit and that testing of drinking water should be

<sup>12</sup> Because the Pittsburgh Water and Sewer Authority did not provide the minimum reporting levels associated with the no-lead-detected results (see footnote 10), the highest possible minimum reporting level that no lead detected represented was less than 5 parts per billion, and we wanted to include in the table the number of assisted units for which the amount of lead detected in the water of the assisted units was 1 part per billion or less and more than 1 part per billion but no more than 5 parts per billion, we included a separate column for the no-lead-detected results.

<sup>13</sup> Because the Green Bay Water Utility provided two lead testing results for one of the Green Bay Housing Authority's public housing units, we included the most recent result in the table.

<sup>14</sup> Potable water is water that is considered safe to drink.

<sup>15</sup> See HUD's former Deputy Assistant Secretary for Public Housing and Voucher Programs' and former Deputy Assistant Secretary for Multifamily Housing's joint memorandum on April 6, 2016, to the Director of HUD's Detroit Office of Public Housing and the former Asset Management Division Director/Satellite Office Coordinator in HUD's Office of Multifamily Housing Program's Detroit regional satellite office, in response to the water crisis in the City of Flint and Genesee County, MI.

done only if the community drinking water is known to be at risk, the family's home is served by a private well, history suggests contamination, or no other sources of lead can be found.

HUD and the public housing agencies relied on the Environmental Protection Agency, public water systems, and local health departments to determine whether water was potable and sanitary and free of contamination. An official with HUD's Office of Public and Indian Housing said that HUD's requirements applicable to drinking water were written under the assumption that water from public water systems was safe for households in assisted units to drink. However, an environmental engineer in the Agency's Office of Ground Water and Drinking Water said that even if a public water system's 90 percentile value for lead did not exceed the Agency's action level of 15 parts per billion, it did not mean that the water was safe to drink in the homes that were not tested. Further, the Centers for Disease Control and Prevention stated that the only way to know whether tap water contains lead is to have it tested and no safe level of exposure to lead has been identified.

In response to the water crisis in the City of Flint and Genesee County, MI, HUD's former Deputy Assistant Secretary for Public Housing and Voucher Programs and former Deputy Assistant Secretary for Multifamily Housing issued a joint memorandum, dated April 6, 2016, to the Director of HUD's Detroit Office of Public Housing and the former Asset Management Division Director/Satellite Office Coordinator in HUD's Office of Multifamily Housing Program's Detroit regional satellite office. The joint memorandum stated that HUD was in the process of drafting a notice that would provide further guidance on the housing quality standards and uniform physical condition standards on water supply. However, as of February 2020, HUD had not issued a notice that provided further guidance on the housing quality standards and uniform physical condition standards on water supply. As of February 2020, HUD's Office of Public and Indian Housing was not working on policies, guidance, or controls specific to lead in the water associated with HUD's Housing Choice Voucher Program or public housing program. However, HUD is drafting a proposed rule for the implementation of the National Standards for the Physical Inspection of Real Estate (NSPIRE)<sup>16</sup> in which HUD plans to include a description of a water building system. Through the draft proposed rule, HUD plans to also seek comments on a revision to its existing regulations for water safety. Further, the President's fiscal year 2021 budget for HUD included \$30 million to replace lead service lines associated with public housing program units.

In addition, on August 9, 2019, the Environmental Protection Agency informed the City of Newark that it was unable to assure the City's residents that their health was fully protected when drinking the City's water and believed that it was essential for the City to advise residents with known or suspected lead service lines to use bottled water for drinking and cooking. HUD's Offices of Public and Indian Housing and Multifamily Housing Programs prepared a joint memorandum regarding requirements for addressing lead contaminated water in assisted

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<sup>16</sup> In 2017, HUD began a wholesale reexamination of its uniform physical condition standards inspection process and is currently modernizing its physical housing inspection model through the NSPIRE demonstration program. The NSPIRE demonstration program will assess all aspects of the physical inspection process, including the evaluation of physical inspection data and a new scoring model, to ensure housing is decent, safe, and sanitary.



and multifamily units located in the City, similar to the joint memorandum issued in response to the water crisis in the City of Flint and Genesee County, MI.<sup>17</sup> On October 24, 2019, a senior advisor in HUD's Office of Multifamily Asset Management and Portfolio Oversight sent the joint memorandum to HUD's Office of Multifamily Housing Programs' New York regional center. However, the Office of Public and Indian Housing did not provide the joint memorandum to HUD's Newark Office of Public Housing. It provided the Newark Office verbal guidance, including having the Newark Office coordinate with HUD's Detroit Office of Public Housing to find out how the Detroit Office assisted and advised public housing agencies in the water crisis in the City of Flint and Genesee County, MI. If HUD had sufficient policies, procedures, and controls that addressed households living in assisted units having a sufficient supply of safe drinking water, HUD would not have to prepare joint memorandums or provide verbal guidance regarding requirements for addressing lead contaminated water for specific communities, and the requirements would be readily available when needed.

The official with HUD's Office of Public and Indian Housing said that the Environmental Protection Agency had not set a maximum contaminant level for lead. A senior advisor to the Director of Lead Hazard Control and Healthy Homes said that because the Agency had not set a maximum contaminant level for lead, it would be inappropriate for HUD to set a maximum contaminant level for lead applicable to assisted units. Further, the Director of HUD's Lead Hazard Control and Healthy Homes' Program and Regulatory Support Division said that because the Agency's maximum contaminant level goal for lead is zero, it would be difficult for HUD to set a maximum contaminant level for lead greater than zero. Therefore, HUD's position is that it would not be appropriate or practical for HUD to require testing for lead in the water of assisted units.

### **Agencies Generally Not Required To Act Regarding the Potential for Lead in Water**

We interviewed staff members from HUD's Boston, Newark, Pittsburgh, Milwaukee, and Portland Offices of Public and Indian Housing that had oversight responsibilities for the selected public housing agencies. Staff members from three of the five field Offices were aware of elevated levels of lead in the water in the communities served by the public water systems. However, only HUD's Pittsburgh Office recommended that the Housing Authority of the City of Pittsburgh test the water in its public housing projects for lead and share information from the Pittsburgh Water and Sewer Authority with its Housing Choice Voucher Program participants.<sup>18</sup>

We also interviewed staff members from the selected public housing agencies to determine whether they had taken actions to address the potential for lead in water. Staff members from five of the public housing agencies said that they were aware of the elevated levels of lead in the

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<sup>17</sup> The joint memorandum from HUD's Deputy Assistant Secretary for Multifamily Housing and Deputy Assistant Secretary for Public Housing and Voucher Programs to the Director of HUD's Newark Office of Public Housing and the Asset Management Division Director in HUD's Office of Multifamily Housing Programs' New York regional center was signed only by HUD's Deputy Assistant Secretary for Multifamily Housing and was not dated.

<sup>18</sup> Note that HUD's Office of Public and Indian Housing did not have policies, procedures, or controls to require a public housing agency to test for or take action regarding the potential for lead in the water of its assisted units.

water in their communities. However, only two of the public housing agencies had tested the water for lead at their public housing properties. In 2016, the Green Bay Housing Authority tested the water in 42 units of its single-family scattered-site properties and tested the water at a fountain and in a kitchen in the common area and in one unit on each of the second through eighth floors of its eight-story public housing project. Further, in 2016, the Housing Authority of the City of Pittsburgh tested the water for lead at 18 sites. However, the Authority tested the water in only one unit at one public housing project and appeared to have tested the water at only a fountain or sink in a common area of 15 other public housing projects. The remaining tests at two other sites were of the water in a vacant unit and a water fountain in a common area, but we were not able to confirm that the sites were in the Authority's public housing projects. Of the 51 units and 18 common area sources of water that the Green Bay Housing Authority and the Housing Authority of the City of Pittsburgh tested for lead, the results ranged from no lead detected to 14.7 parts per billion. Staff members from the Green Bay Housing Authority and the Housing Authority of the City of Pittsburgh said that they would have taken steps to remediate lead in the water of their public housing program units if the tests had shown levels of lead above the Environmental Protection Agency's action level of 15 parts per billion. However, because the results of the tests were all below the action level, they did not feel it was necessary to take further action.

None of the public housing agencies tested the water for lead in their Housing Choice Voucher Program units. In addition, the executive director of the Housing Authority of the City of Pittsburgh said that the Authority notified its Housing Choice Voucher Program tenants of water filters that were available from the Pittsburgh Water and Sewer Authority.

### **Households at Risk of Living in Assisted Units With Lead in the Drinking Water**

Based on data in HUD's Public and Indian Housing Data Warehouse, more than 37,000 households reside in the six public housing agencies' housing funded through HUD's Housing Choice Voucher Program and public housing program. Further, more than 80,000 people, including nearly 8,000 children age 6 or under, live in this housing. Therefore, HUD lacked assurance that households, including households with children age 6 or under, lived in assisted units that had a sufficient supply of safe drinking water.

### **Conclusion**

HUD's Office of Public and Indian Housing did not have sufficient policies, procedures, and controls to ensure that households living in assisted units had a sufficient supply of safe drinking water. These weaknesses occurred because HUD relied on the Environmental Protection Agency to ensure that public water systems provided water that was safe to drink. As a result, HUD lacked assurance that households, including households with children age 6 or under, lived in assisted units that had a sufficient supply of safe drinking water.

### **Recommendations**

We recommend that the General Deputy Assistant Secretary for Public and Indian Housing

- 1A. Develop and implement an action plan that includes sufficient policies, procedures, and controls that address households living in assisted units having a sufficient supply of safe drinking water. Such policies, procedures, and controls should include but not be limited to (1) developing and implementing internal



procedures to be notified, and share with public housing agencies, when the public water systems' water exceeds the Environmental Protection Agency's lead action level and (2) revising HUD's applicable regulations, providing guidance to public housing agencies and Housing Choice Voucher Program landlords, and taking appropriate actions so that households living in assisted units have a sufficient supply of safe drinking water.

# Scope and Methodology

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We performed our audit work from December 2018 through February 2020 at HUD's Chicago regional office located at 77 West Jackson Boulevard, Chicago, IL, and HUD's Detroit field office located at 477 Michigan Avenue, Detroit, MI. The audit covered the period January 2016 through September 2018 but was expanded through February 2020 to determine whether the public water systems could provide documentation showing that the water in assisted units had been tested for lead and HUD's Office of Public and Indian Housing had implemented or planned to implement policies, procedures, and controls to ensure that households living in assisted units had a sufficient supply of safe drinking water.

To accomplish our objective, we reviewed

- Applicable laws;
- HUD's regulations at 24 CFR (Code of Federal Regulations) Parts 5, 35, 902, 965, 966, and 982;
- The U.S. Environmental Protection Agency's national primary drinking water regulations located at 40 CFR Part 141;
- HUD's Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing, 2012 edition;
- HUD's Public and Indian Housing Notice 2017-13 and Office of Lead Hazard Control and Healthy Homes Notice 2017-01;
- Data in HUD's Public and Indian Housing Information Center and Public and Indian Housing Data Warehouse, and the Environmental Protection Agency's Safe Drinking Water Information System Federal Reporting Services System; and
- The results of water tests for lead and public water systems' annual water quality reports.

In addition, we interviewed HUD's staff, employees of public housing agencies, and employees of the Environmental Protection Agency's Office of Ground Water and Drinking Water and Centers for Disease Control and Prevention.

Based on data in the Environmental Protection Agency's Safe Drinking Water Information System Federal Reporting Services System, we selected a nonstatistical sample of the following five public water systems that reported levels of lead above the Agency's action level of 15 parts per billion: (1) Providence Water, (2) City of Newark's Department of Water and Sewer Utilities, (3) Pittsburgh Water and Sewer Authority, (4) Green Bay Water Utility, and (5) Portland Water Bureau. We reviewed the public water systems' annual water quality reports. We used a nonstatistical sample because we knew enough about the population to identify a relatively small number of items of interest that were likely to be misstated or otherwise have a high risk and we were not projecting the results to the population that we did not review. The

following table shows the location of the public water systems and the 90<sup>th</sup> percentile value of lead detected that the public water systems reported for 2015 through 2018 in their annual water quality reports (the 90<sup>th</sup> percentile values highlighted in gray represent the years in which the public water systems reported in their annual water quality reports levels of lead above the action level of 15 parts per billion).<sup>19</sup>

Public water system	Location	2015	2016	2017	2018
Providence Water	Providence, RI	15.0	16.0	17.0	22.3
City of Newark's Department of Water and Sewer Utilities <sup>20</sup>	Newark, NJ	10.0	10.0	26.7	47.9
Pittsburgh Water and Sewer Authority	Pittsburgh, PA	14.8	18.0	21.0	20.0
Green Bay Water Utility <sup>21</sup>	Green Bay, WI	27.0	18.0	16.0	11.0
Portland Water Bureau	Portland, OR	14.0	17.4	17.0	11.9

Further, the websites for Providence Water, the City of Newark, the Pittsburgh Water and Sewer Authority, the Green Bay Water Utility, and the Portland Water Bureau generally included a press release, public notice, brochure, or newsletter which included the risks of lead in water and steps customers could take to reduce their exposure.

We then selected the largest public housing agency, based on the total number of assisted units, located in the service area of each of the selected public water systems. We selected the following public housing agencies: (1) the Providence Housing Authority served by Providence Water, (2) the Newark Housing Authority served by the City of Newark's Department of Water and Sewer Utilities, (3) the Housing Authority of the City of Pittsburgh served by the Pittsburgh Water and Sewer Authority, (4) the Green Bay Housing Authority served by the Green Bay Water Utility, and (5) Home Forward served by the Portland Water Bureau. However, because the Green Bay Housing Authority administered only a public housing program, we also selected the Brown County Housing Authority, which administered a Housing Choice Voucher Program and was also served by the Green Bay Water Utility.

We relied in part on data in the Environmental Protection Agency's Safe Drinking Water Information System Federal Reporting Services System to select a sample of public water systems that reported levels of lead above the Agency's action level of 15 parts per billion. Although we did not perform a detailed assessment of the reliability of the data, we found the data to be sufficient for our purpose by comparing the selected public water systems' data in the Agency's System to data in the public water systems' annual water quality reports.

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<sup>19</sup> If a public water system reported in its annual water quality report on more than one period of testing for a year, we included only the 90<sup>th</sup> percentile value of lead detected for the most recent period of testing for that year.

<sup>20</sup> The 90<sup>th</sup> percentile value of lead detected that the City of Newark's Department of Water and Sewer Utilities reported for 2016 was based on testing done in 2015.

<sup>21</sup> The 90<sup>th</sup> percentile value of lead detected that the Green Bay Water Utility reported for 2015 was based on testing done in 2012.

Further, we relied in part on data in HUD's Public and Indian Housing Information Center to determine the public housing agencies' assisted units for which the public water systems provided lead testing results during the period January 2016 through February 2019. Although we did not perform a detailed assessment of the reliability of the data, we found the data to be sufficient for our purpose by comparing the addresses of the units and the customers and owners or tenants associated with the units.

We also relied in part on data in HUD's Public and Indian Data Warehouse to provide the number of households, including children, which resided in the six public housing agencies' housing funded through HUD's Housing Choice Voucher Program and public housing program. Because we used the data only for information and our recommendations are not specific to these assisted units, we believe that the data are adequately reliable for our purposes.

We conducted the audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objective(s). We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective.

# Internal Controls

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Internal control is a process adopted by those charged with governance and management, designed to provide reasonable assurance about the achievement of the organization's mission, goals, and objectives with regard to

- effectiveness and efficiency of operations,
- relevance and reliability of information, and
- compliance with applicable laws and regulations.

Internal controls comprise the plans, policies, methods, and procedures used to meet the organization's mission, goals, and objectives. Internal controls include the processes and procedures for planning, organizing, directing, and controlling program operations as well as the systems for measuring, reporting, and monitoring program performance.

## **Relevant Internal Controls**

We determined that the following internal controls were relevant to our audit objective:

- Effectiveness and efficiency of operations – Policies and procedures that management has implemented to reasonably ensure that a program meets its objectives.
- Relevance and reliability of information – Policies and procedures that management has implemented to reasonably ensure that operational and financial information used for decision making and reporting externally is relevant, reliable, and fairly disclosed in reports.
- Compliance with applicable laws and regulations – Policies and procedures that management has implemented to reasonably ensure that resource use is consistent with laws and regulations.

We assessed the relevant controls identified above.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, the reasonable opportunity to prevent, detect, or correct (1) impairments to effectiveness or efficiency of operations, (2) misstatements in financial or performance information, or (3) violations of laws and regulations on a timely basis.

## **Significant Deficiency**

Based on our review, we believe that the following item is a significant deficiency:

- HUD's Office of Public and Indian Housing did not have sufficient policies, procedures, and controls to ensure that households living in Housing Choice Voucher Program and public housing program units had a sufficient supply of safe drinking water (finding).



# Appendixes

## Appendix A

### Auditee Comments and OIG's Evaluation


#### Ref to OIG Evaluation

#### Auditee Comments

Comment 1

Comment 2

Comment 2

	
U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT WASHINGTON, DC 20410-5000	
ASSISTANT SECRETARY FOR PUBLIC AND INDIAN HOUSING	
June 25, 2020	
MEMORANDUM FOR:	Kelly Anderson, Regional Inspector General for Audit, 5AGA
FROM:	Dominique Blum, General Deputy Assistant Secretary, P
SUBJECT:	Response to Draft Report, "HUD Needs To Improve Its Oversight of Lead in the Water of Housing Choice Voucher and Public Housing Program Units"
<p>Thank you for the opportunity to review and discuss the subject draft Office of Inspector General (OIG) audit memorandum, and for your allowance of additional time for my response. I reviewed your report and wish to convey that I take the issue of exposure to lead in water seriously.</p> <p>As discussed, it is the responsibility of the U.S. Environmental Protection Agency (EPA) to ensure that municipal water utilities provide safe water. EPA's authority to monitor drinking water and achieve compliance with lead safety standards is under the Safe Drinking Water Act, and more specifically, the Lead and Copper Rule. Municipal water authorities are required by EPA to monitor water safety through system-wide testing and to alert the public when exceedances require controls. This process is overseen by EPA.</p> <p>Because of EPA's authority and oversight of public water utilities, Recommendation 1A's inclusion of a requirement for the Office of Public and Indian Housing (PIH) to collect information from public water systems and to notify public housing agencies of lead exceedances would be nearly impossible for PIH to achieve. There is no statute or rule that compels local water utilities to report to HUD or its field offices. Accordingly, PIH requests that this portion of the recommendation be removed. As an alternative, the OIG could include a recommendation that PIH continue to work with HUD's Office of Lead Hazard Control and Healthy Homes (OLHCHH) on lead in water issues and to develop internal and external guidance for response when PIH becomes aware of water exceedances. Proposed revisions to the Recommendation are provided below:</p> <p><b>Recommendation</b> We recommend that the General Deputy Assistant Secretary for Public and Indian Housing</p> <p>1A. Develop and implement an action plan that includes sufficient policies, procedures, and controls that address households living in assisted housing units having a sufficient supply of safe drinking water. The action plan should include but not be limited to (1) revising HUD's applicable regulations through the NSPIRE rulemaking and providing guidance, based on HUD's authority and capacity, to public housing agencies and</p>	
<p>www.hud.gov      espanol.hud.gov</p>	

**Ref to OIG  
Evaluation**

Comment 2

Housing Choice Voucher landlords on appropriate actions when their assisted units are identified as being located within the portion of a public water system's service area that exceeds the Environmental Protection Agency's lead action level, and (2) continuing to work with the Office of Lead Hazard Control and Healthy Homes on lead in water issues and developing internal guidance on notifying owners upon HUD's being informed of their impacted properties and the proper actions they should take to address this issue.

Comment 3

As the OIG noted, PIH is undertaking a demonstration and rulemaking effort to align its housing standards through NSPIRE, the National Standards for the Physical Inspection of Real Estate. These standards, once finalized, will cover public housing, the Housing Choice Voucher program and project-based rental assistance. Further noted by the OIG, HUD plans to seek public comment on proposed regulatory requirements for water in assisted housing. Because this rule is not yet public, PIH requests that the OIG amend the report's language to read:

However, HUD is drafting a proposed rule for the implementation of the National Standards for the Physical Inspection of Real Estate (NSPIRE)<sup>6</sup> in which HUD plans to include a description of a water building system and seek comments on a revision to its existing regulations for water safety. [Emphasis added for visibility here.]

I appreciate the work of your staff to seek input from PIH staff and other experts on this report and its recommendation. I look forward to working with the OIG to establish a management decision and target completion dates to implement this recommendation.

## OIG Evaluation of Auditee Comments

Comment 1 HUD stated that it is the Environmental Protection Agency's responsibility to ensure that municipal water utilities provide safe water. Further, the Agency requires municipal water authorities to monitor water safety through system-wide testing and to alert the public when there are exceedances.

We agree with HUD's comment. However, the Agency's action level of 15 parts per billion for lead is not a health-based standard or a standard for establishing a safe level of lead in a home. It is a measure of the effectiveness of the corrosion control treatment in water systems. Therefore, exposure to lead from water may occur even though the action level is not exceeded. In addition, site specific remediation strategies such as replacement of customer owned lead service lines and plumbing components is typically the responsibility of the homeowner.

Comment 2 HUD stated that because the Environmental Protection Agency is responsible for the oversight of public water utilities, it is not practical for its Office of Public and Indian Housing to collect information from public water systems and notify public housing agencies of lead exceedances.

HUD proposed the second sentence of the recommendation be revised to the action plan should include but not be limited to (1) revising HUD's applicable regulations through the NSPIRE rulemaking and providing guidance, based on its authority and capacity, to public housing agencies and Housing Choice Voucher Program landlords on appropriate actions when their assisted units are identified as being located within the portion of a public water system's service area that exceeds the Agency's lead action level, and (2) continuing to work with HUD's Office of Lead Hazard Control and Healthy Homes on lead in water issues and developing internal guidance on notifying owners upon being informed of their impacted properties and the proper actions they should take to address this issue.

However, staff members from two of HUD's five field Offices of Public and Indian Housing that had oversight responsibilities for the selected public housing agencies were not aware of elevated levels of lead in the water in the communities served by the public water systems. Further, the executive director from one of the six selected public housing agencies was not aware of the elevated levels of lead in the water in their community. Therefore, we believe that HUD should have internal procedures to be notified, and share with public housing agencies, when the public water systems' water exceeds the Agency's lead action level. This does not require HUD to obtain information directly from the public water systems. HUD could (1) request that the Agency inform HUD when the Agency becomes aware that a public water system's water exceeds the Agency's lead action level or (2) periodically search the Agency's Safe Drinking Water Information System Federal Reporting Services System for public water systems that reported levels of lead above the Agency's action level.

In addition, we believe that revisions to HUD's applicable regulations and guidance to public housing agencies and Housing Choice Voucher Program landlords should not be limited to the appropriate actions to take when assisted units are identified as being located within the portion of a public water system's service area that exceeds the Agency's lead action level. Revisions to HUD's applicable regulations and guidance should also include but not be limited to the appropriate actions to take when lead is detected in the water of an assisted unit.

We did not revise the second sentence of the recommendation as HUD proposed. However, we revised the sentence to state that such policies, procedures, and controls should include but not be limited to (1) developing ***and implementing*** internal procedures to be notified, and share with public housing agencies, when the public water systems' water exceeds the Environmental Protection Agency's lead action level and (2) revising HUD's applicable regulations, providing guidance to public housing agencies and Housing Choice Voucher Program landlords, and taking appropriate actions so that households living in assisted units have a sufficient supply of safe drinking water.

We look forward to working with HUD in the audit resolution process to resolve the recommendation.

Comment 3 HUD requested that we revise the report to state that HUD is drafting a proposed rule for the implementation of NSPIRE in which HUD plans to include a description of a water building system and seek comments on a revision to its existing regulations for water safety.

We revised the report to state that HUD is drafting a proposed rule for the implementation of NSPIRE in which HUD plans to include a description of a water building system. Through the draft proposed rule, HUD plans to also seek comments on a revision to its existing regulations for water safety.



## Appendix B

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### Applicable Requirements

HUD's regulations at 24 CFR 5.703(c) state that each building's domestic water; electrical system; elevators; emergency power; fire protection; heating, ventilation, and cooling; and sanitary system must be free of health and safety hazards, functionally adequate, operable, and in good repair. Section 5.703(d)(1) states that each dwelling unit within a building must be structurally sound, habitable, and in good repair. All areas and aspects of the dwelling unit must be free of health and safety hazards, functionally adequate, operable, and in good repair. Section 5.703(d)(2) states that when applicable, a dwelling unit must have hot and cold running water, including an adequate source of potable water.

HUD's regulations at 24 CFR 902.21(a) state that public housing must be maintained in a manner that meets the physical condition standards set forth in 24 CFR Part 902 to be considered decent, safe, and sanitary housing in good repair. Section 902.21(b)(3) states that a building's systems include such components as domestic water; electrical system; elevators; emergency power; fire protection; heating, ventilation, and air conditioning; and sanitary system. Each of the building's systems must meet the standards at 24 CFR 5.703(c). Section 902.21(b)(4) states that each dwelling unit within a building must meet the standards at 24 CFR 5.703(d).

HUD's regulations at 24 CFR 982.2 state that 24 CFR Part 982 contains the program requirements for the Housing Choice Voucher Program. Regulations at 24 CFR 982.401(a)(1) state that section 982.401 states the housing quality standards for housing assisted under the Housing Choice Voucher Program. Section 982.401(a)(3) states that all program housing must meet the housing quality standards performance requirements, both at commencement of assisted occupancy and throughout the assisted tenancy. Section 982.401(i)(1) states that the water supply must be free from contamination. Section 982.401(i)(2) states that the acceptable criterion is that the dwelling unit must be served by an approvable public or private water supply that is sanitary and free from contamination.

Section 1 of HUD's Public and Indian Housing Notice 2017-13 and Office of Lead Hazard Control and Healthy Homes Notice 2017-01 states that the notice provides general guidance to public housing agencies and Housing Choice Voucher Program property owners on the required actions they must take when a child in a family that receives public housing or Housing Choice Voucher Program assistance is identified as having an elevated blood lead level. Section 5 states that for Housing Choice Voucher Program and public housing program units, when a child under the age of 6 is identified with an elevated blood lead level, the public housing agency must conduct an environmental investigation of the child's unit and the common areas servicing the unit in accordance with chapter 16 of HUD's Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing.

Section II.B. of chapter 16, Investigation and Treatment of Dwellings That House Children With Elevated Blood Lead Levels, of HUD's Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing, July 2012, states that testing should include the following at a minimum: house dust, paint and coatings that are not intact or subject to friction, and bare soil, especially in play areas. Testing of drinking water should be done only if the community



drinking water is known to be at risk, the family's home is served by a private well, history suggests contamination, or no other sources of lead can be found.