TESTIMONY OF MAE WU

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NATURAL RESOURCES DEFENSE COUNCIL

BEFORE THE

SUBCOMMITTEE ON ENVIRONMENT AND CLIMATE CHANGE

COMMITTEE OF THE ENERGY AND COMMERCE

HEARING ENTITLED:

"EPA'S LEAD AND COPPER PROPOSAL: FAILING TO PROTECT PUBLIC HEALTH"

FEBRUARY 11, 2020

Good morning Chairman Tonko, Ranking Member Shimkus, and members of the subcommittee. I am Mae Wu, Senior Director for Health and Food at the Natural Resources Defense Council. I have served on the EPA's National Drinking Water Advisory Council and on the Federal Advisory Committee for the Total Coliform Rule and Distribution System Rule revision. I appreciate the opportunity to testify today.

Not long after Danielle, her husband, and young son Theo moved to Newark in 2016, Danielle learned that Theo had 6.6 micrograms per deciliter of lead in his blood. (The Centers for Disease Control and Prevention sets the recommended blood lead level limit for children under age six at 5 micrograms of lead per deciliter of blood. High lead levels in young children have been found to affect the development of their brains.) She soon learned that her drinking water tested at 9.77 parts per billion of lead. It is well known that if multiple tests are done of tap water, levels can vary significantly, so the lead contamination in their water may have been higher at other times.

The family then began drinking bottled water and stopped drinking the unfiltered tap water. When Theo's blood levels came down later, it confirmed that lead in the drinking water was a likely source of lead found in Theo's blood. Danielle felt guilty about bathing Theo in the water since he would sometimes swallow it. Young Theo has been diagnosed with autism, Attention Deficit Disorder, impulse control disorder, and gastrointestinal problems. His behavioral difficulties became so severe that he was expelled from his pre-school. As you might imagine, this has been a life-altering diagnosis for their young family, and Theo's lead exposure and elevated blood lead levels has been devastating to them. It has caused Danielle a lot of stress and concern for his well-being. They have since moved out of Newark because of the ongoing burden of protecting their children from lead.

Over in Michigan, kids who were babies at the height of the Flint crisis are reaching school-age. During this period, Flint has seen the percentage of students who qualify for special education services almost double.[1] The failures of the Lead and Copper Rule and of the city and state's failure to enforce the rules have placed an extra burden on already over-burdened teachers and communities to help these innocent children.

Before Danielle moved to Newark, and before Flint became poster child of the lead in drinking water crisis, Washington, D.C. residents were reeling from their own water crisis. Starting in 2000, Washington, D.C. authorities made changes to their water chemistry that caused massive amounts of lead to leach out of their pipes into the drinking water, with levels of lead in drinking water that were in some cases higher than those seen in Flint. It wasn't until 2004, however, when Washington D.C. residents learned that they were in the midst of a lead in drinking water crisis.[2]

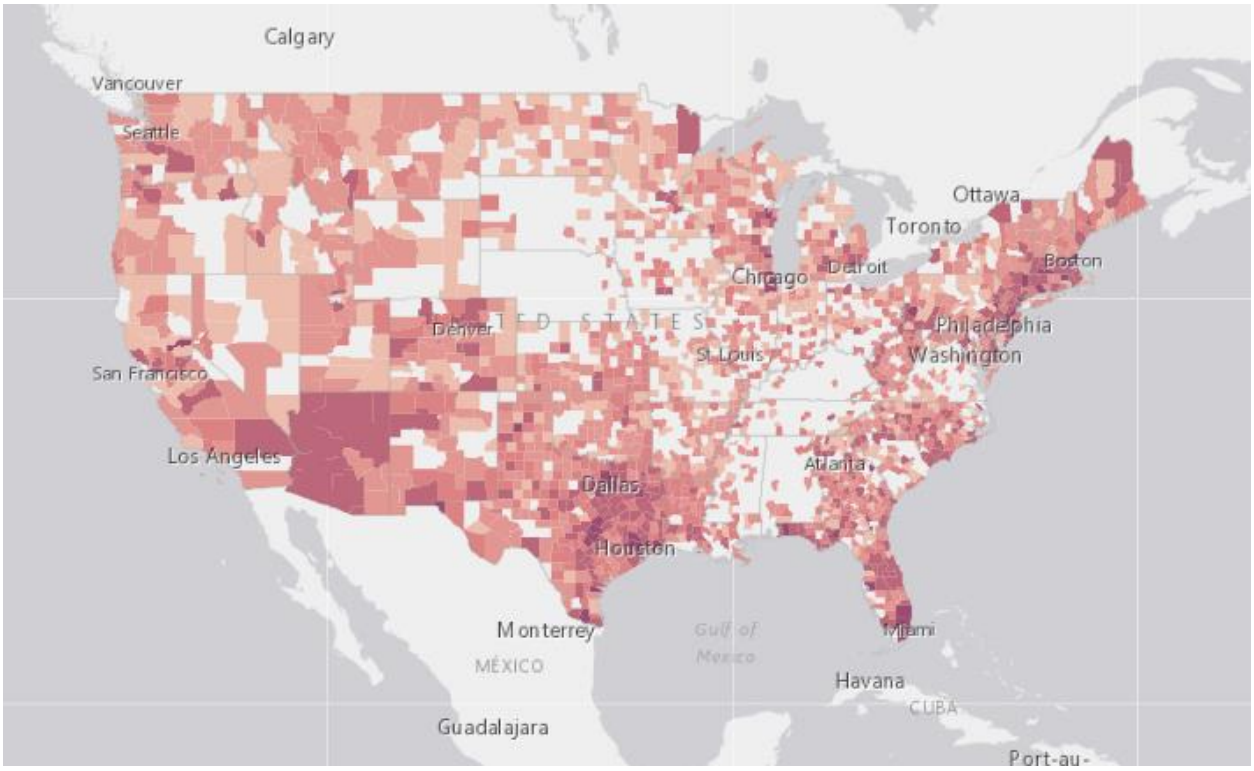
In the wake of the Washington, D.C. lead crisis, EPA embarked on a process to make long-term revisions to the Lead and Copper Rule that were needed to improve public health protection provided by the rule, and to address weaknesses revealed by the DC crisis and subsequent lead crises revealed in water systems nationwide. But no real improvements happened.

Ten years later in 2015, the Flint water crisis happened under similar conditions – officials decided to make a major water quality change without any evaluation of the potential impact on corrosion control and on people drinking the water. When the Lead and Copper Rule failed them,

Flint residents took matters into their own hands and brought their drinking water crisis to national attention. Despite well-documented evidence of lead contamination in the water, no one at the EPA, state, or water system level would take enforcement action to protect residents. Not until there was proof that children had already been poisoned.

But Flint, Washington, D.C., and Newark are not alone. NRDC's most recent analysis of EPA data finds that nearly 30 million people in the United States drank water from community water systems that violated the Lead and Copper Rule between January 2015 and March 2018.[3] (See Figure 1.)

Figure 1 Between January 1, 2015 to March 31, 2018, there were 13,991 violations of the Lead and Copper Rule by 8,339 community water systems in the United States. These systems served 29,659,654 people.



Furthermore, about 5.5 million people received water from systems that exceeded EPA's lead action level.[4] Under the Lead and Copper Rule, exceeding the lead action level does not by itself mean there has been a violation. By the time a water system receives a notice of violation as to

additional actions triggered by an action-level exceedance, people may have been exposed to elevated lead for years.

Of the systems with action level exceedances in 2015 to 2018, the top ten systems (based on size of population served) were found in Portland, Oregon; Pittsburgh, Pennsylvania; Providence, Rhode Island; Passiac Valley, New Jersey; Newark, New Jersey; Tualatin Valley, Oregon; Trenton, New Jersey; York, Pennsylvania; Jackson, Mississippi; and Green Bay, Wisconsin.[5] While these systems represent the largest populations affected by known lead contamination issues known at that time, the Lead and Copper Rule offers substantially less protection to water systems that serve fewer than 50,000 people. Moreover, because of inadequate monitoring and loopholes in the Lead and Copper Rule's scheme for monitoring lead contamination, other water systems with serious lead contamination issues almost certainly do not show up on EPA's list of problem systems.

Residents in Newark and Washington D.C., like Lisa, Susana, and Valerie, have taken it upon themselves to educate members of their community or translate information for their non-English speaking neighbors because warnings from officials are often only in English. They do it because they know information isn't getting to everyone and they don't trust the information they get from the city. They are left upset and terrified about the contamination problems.

It is clear: the Lead and Copper Rule and its implementation are seriously broken.

So now, twenty years after Washington, D.C. crisis began, and six years after Flint's began, EPA is proposing modifications to the Lead and Copper Rule. Unfortunately, rather than the major overhaul that this confusing and complicated rule needs, EPA simply has tweaked it at the margins and in some cases made it less protective of public health.

The Lead and Copper Rule

In 1991, EPA established a complex treatment technique rule with a focus on corrosion control treatment to reduce lead levels in tap water.[6] Under the Lead and Copper Rule, all large water systems (serving more than 50,000 people) must treat their water to optimize corrosion control or demonstrate that they don't need to do so because their water isn't corrosive, and they have no lead problems. The rule also generally requires water systems to control corrosion by adding

chemicals, since corrosive water can cause the release of lead from pipes and connectors (or fittings). Many systems use a corrosion inhibiter, such as orthophosphate, which coats the inside of the pipes with a thin film that can reduce the amount of lead that leaches into the water.

All community water systems also are required to test a specified number of drinking water taps in high-risk homes (with lead service lines that bring water from the water main under the street to a residence, or that are likely to have lead in their household plumbing or fixtures). The bigger the system, the more taps must be tested, but only a maximum of 100 samples are required whether the system service 100,000 or 5 million people. Then, if more than ten percent of the tested taps contain lead above an "action level" of 15 parts per billion (ppb), the water system must take measures to reduce lead levels. These measures include removing lead service lines (lead-containing pipes that bring water from the water main running down the street into our homes) over a specified time period and providing educational materials to consumers.

In 2014, the National Drinking Water Advisory Council established a Working Group to address these revisions. Between March 2014 and June 2015, the Working Group met and discussed a set of recommendations for revising the Lead and Copper Rule. In late February 2016, EPA issued a guidance intended to discourage some of the tricks some utilities have used to avoid finding lead problems.[7]

On November 13, 2019, EPA published proposed revisions to the Lead and Copper Rule.[8] The proposed revisions would create a few modest improvements in public health protection, but more importantly it decreases some of the protections provided by the current rule, such as by extending the time that lead service lines must be replaced.

NRDC will be submitting comments to EPA on its proposed revisions of the rule. My testimony today highlights some of the broader points of our comments. But more detailed discussion about each aspect of the revisions will be available in our comments once they are finalized and submitted to the Agency.

Set A Maximum Contaminant Level for Lead

The Lead and Copper Rule is a complicated and confusing rule. Unlike most other drinking water contaminants regulated through an enforceable standard called the "maximum contaminant

level," there is no enforceable standard for lead. Instead, lead is regulated through a treatment technique.

Among other requirements, the rule relies on an action level to trigger a cascade of actions by the utility to address lead. The action level isn't a health-based number. EPA has a health-based number, known as the maximum contaminant level goal, which is the amount of a contaminant at which no health risks are known or expected. The maximum contaminant level goal for lead is zero. Simply put, there is no safe level of lead. So the juxtaposition of these confusing patchworks of levels causes much confusion about the meaning of an action level exceedance.

A major improvement to the rule would be for EPA to revert to a maximum contaminant level for lead at the tap (as it did before 1991), rather than relying on a treatment technique. This change would substantially simplify implementation and enforcement. It would also track the Safe Drinking Water Act, which requires EPA to set a maximum contaminant level unless it is "not economically or technologically feasible to ascertain the level of the contaminant."[9] Since the Lead and Copper Rule requires water systems to ascertain the level of lead, a treatment technique should not be used. It is feasible to ascertain the level of lead in tap water. And setting a maximum contaminant level means lead would be treated with the same urgency as other drinking water contaminants.

NRDC recommends that EPA reestablish an enforceable maximum contaminant level for lead at the tap of 5 ppb. Canada recently established a 5 ppb standard,[10] and the World Health Organization recommends a 10 ppb standard, while urging that a lower level be adopted as feasible.[11] Moreover, the joint committee governing the American National Standards for drinking water treatment units recently lowered the maximum allowable concentration of lead in treated drinking water to 5 ppb.[12]

Unfortunately, in its proposed revisions to the rule, EPA has doubled down on this non-enforceable level and complicated matters by adding a "trigger level" to the existing "action level." This trigger level sets off a different set of actions, but at its most basic, the new trigger level of 10 ppb underscores that the action level of 15 ppb is too high for systems to begin taking action. Recall, that young Theo from Newark, with elevated lead in his blood, had amounts of lead tested in his water that fell below both levels. If EPA is set on having action levels, rather

than enforceable standards, it would be far simpler, more implementable, and more enforceable to reduce the action level to 5 ppb and not introduce this new trigger level.

Get The Lead Out

Lead is especially toxic to children; even at low levels previously thought to be safe, lead can cause serious, irreversible damage to the developing brains and nervous systems of babies and young children.[13] There are an estimated 6.5 to 10 million lead service lines serving five to twenty-two million Americans,[14] but we really don't know. Most service lines that contain lead were installed fifty or more years ago. Even in homes without lead service lines, most of our plumbing contains lead, in fittings and fixtures, lead solder, and galvanized steel. This creates a continuous risk of lead in drinking water.

The best time to remove a lead service line is before water treatment failure causes it to release high levels of lead into the water. The most effective way to prevent the most substantial lead contamination in drinking water is to proactively and fully remove and replace the lead pipes.

No matter how optimally a corrosion control system is run, there will always be lead contamination issues, if lead service lines are in the ground. The problem of lead service lines is enormous and exists nationwide. Therefore, a truly protective Lead and Copper Rule would focus on eliminating lead service lines. Unfortunately, neither the current Lead and Copper Rule, nor the proposed EPA revisions, focus on preventing lead contamination from this major source.

There are three important components to an effective replacement program:

1) Full replacement of all lead service lines across the country within ten years;

2) Prohibit partial lead service line replacements; and

3) The cost for the replacements cannot be charged to individual homeowners.

Full replacement of lead service lines within ten years.

Full replacement of all the lead services lines on a deadline should be the centerpiece of the Lead and Copper Rule revisions. If we had started this process in 1991, we would be done by now.

Until the entire lead service line – from the water main all the way to the customer's home or residential building, including on the homeowner's property – is gone, even with the best corrosion control, we will continue to see lead contamination in drinking water, and we will always be one error away from another catastrophic failure with permanent consequences.

However, rather than reformulate the rule to put critical lead service line replacements at the forefront of lead exposure prevention, EPA's proposed revisions go in the opposite direction.

Currently under the Lead and Copper Rule, a system that exceeds the action level must start replacing its lead service lines at seven percent each year, taking approximately fourteen years to replace all the lines. Now, EPA's proposed revisions would slow that replacement schedule down to three percent each year, allowing more than thirty-three years to complete lead service line replacements. Further, a water system can stop the replacement program once their lead levels fall below the lead action level. With the weak sampling requirements, a water system will rarely remain on a lead service line replacement program for thirty-three years.

This revision would continue to leave generations of children raised on contaminated water raising their own children on lead-contaminated water. All lead services lines must come out of the ground as soon as possible, and they must start coming out now. We should not have to wait only until corrosion control starts failing and people are exposed to tackle this source of lead.

Prohibit partial lead service line replacements

Partial lead service line replacements are problematic. The practice occurs most often where water utilities require homeowners to cover the cost of replacing the portion of the pipe that runs from the property line to the home. If residents do not replace the pipe – perhaps due to their inability to pay thousands of dollars on short notice, because a landlord refuses to pay to benefit their tenant, or as the result of ineffective utility education and outreach programs, then the utility will often replace only the portion of the pipe that runs from the water main in the street to the curb or property line. The new section, which is typically copper, is then reconnected to the remaining old lead pipe that runs to the house. Counter-intuitively, a partial lead service line can leach more lead than an undisturbed lead service line.

This practice of partial lead service lines must be prohibited. First, a partial replacement leaves lead pipes in the ground. Because lead pipes are a source of lead contaminated drinking water, failure to remove the entire pipe leaves the source of lead contamination in place. This pipe is more likely to contaminate the water with large amounts of lead after construction disturbs the pipes and shakes flakes of lead loose. Second, a chemical reaction called galvanic corrosion can occur when two types of metal (lead and copper) are connected, which can accelerate corrosion of the lead pipe. This further increases the risk of lead-contaminated drinking water.

At best, partial lead service line replacements waste money because they do not reduce levels of lead in drinking water. The EPA's Science Advisory Board noted that partial replacements "have not been shown to reliably reduce drinking water lead levels in the short term, ranging from days to months, and potentially even longer."[15] There are significant cost advantages to replacing the entire lead pipe when the construction crew is on site.

At worst, partial replacements can substantially increase lead levels for months—or longer. According to the Centers for Disease Control and Prevention, partial replacements "may be linked to increased incidence of high blood levels in children."[16] The EPA's Science Advisory Board noted that partial replacements are "frequently associated with short-term elevated drinking water lead levels for some period of time after replacement, suggesting the potential for harm, rather than benefit during that time period."[17] The Science Advisory Board found that, even while the lead levels might stabilize over time, they could remain at levels consistent with those prior to the partial replacement.[18]

Notably, the American Water Works Association prioritized the removal of existing partial lead pipes in its November 2017 lead pipe replacement guidance. "The [AWWA] standard continually recommends avoiding partial replacement, if possible. It can cause more problems than it solves. You're getting rid of some lead, but in the process, you're disturbing the system and may be stirring up more lead than if you had just left the whole thing alone."[19] Washington, D.C. recently banned partial lead service line replacements in almost all circumstances.

Utilities should stop this practice unless it's a temporary repair during a water main break or other emergency. A clear definition of emergency replacements during which temporary partial replacements are allowed must be developed. And if an emergency requires a temporary partial

replacement, it must be completed as a full replacement within 30 days of the partial. Dangerous partial lead service line replacements cannot be allowed to remain in place – potentially releasing lead into the drinking water.

The cost for the replacements cannot be charged to individual homeowners.

Individual homeowners should not bear a financial burden when it comes to these lead service line replacements. In places homeowners must pay to replace the portion of the lead service lines that run on private property, moderate to low income families – who cannot afford the upfront cost – often end up with dangerous partial lead service lines. In addition, renters – who cannot force landlords to pay for a lead service line replacement – are also be disadvantaged with dangerous partial replacements. The disproportionate burden on certain communities (as I will discuss in more detail later) will only become further exacerbated if individual homeowners are charged for the replacements. Given that the utility (and not the homeowner) has control over the entire lead service line, and that utilities often required, approved, and sometimes even installed the lead service line, the cost of the full lead service line replacement should not be placed on individual homeowners, but rather on the utilities as EPA had originally required in 1991.

Experts have estimated that it would cost $30 billion to replace all the lead service lines.[20] Compared to the purported $1 trillion price tag for an infrastructure package, spending three one-thousandth of that amount per year for the next ten years would protect children's brains across the country from lead.

Therefore, combining the full lead service line replacement requirement with an appropriation for lead service line replacement would be most efficient. Funding for lead service line replacement should be prioritized for water systems with a high ratio of lead service lines to population served living under the poverty level.

Overall, committing $22.9 billion over five years in the Drinking Water State Revolving Fund, the Indian Reservation Drinking Water Program, School and Child Care Program Lead Testing grants, Lead Drinking Fountain Replacement, Community Water System Risk and Resilience grants, and Public Water System Supervision grants to States, would bring much needed funds to this undertaking. At least tripling the appropriations to the Drinking Water State Revolving Fund

would provide more than $3 billion per year to these replacement projects and other high priority drinking water protections. But this clearly would not be sufficient in itself to address the full array of drinking water needs; a more robust funding approach along the lines of the Moving Forward Framework proposal for a $25.4 billion investment in drinking water infrastructure over the next five years would go a long way towards bridging the enormous current funding gap for this important public health priority.

More than ten years ago, under the American Recovery and Reinvestment Act, $2.829 billion were appropriated to the Drinking Water State Revolving Fund. Ten years later, it has dropped to $1.164 billion. Now is the time to reinvest in the fund. In addition, setting aside specific amounts to cover the cost of full lead service line replacements at no charge to homeowners would bring significant public health benefits. Grants should be prioritized particularly in low-income communities and provide significant new funding for public schools to deploy water filters, conduct mandatory testing, and remediate lead in their drinking water.

Lead Service Line Replacement Programs Are Already Underway

Even as the poster child of how dangerous a poorly-run system can be, Flint is now in its final phases of lead service line replacements.[21] The settlement of the lawsuit brought by NRDC together with local residents and groups required the state of Michigan to provide $97 million to fund the replacement of Flint's lead and galvanized steel service lines within three years. As of December 2019, the City of Flint has conducted a total of approximately 25,000 excavations at replacement eligible households. From those excavations, the City has identified and replaced roughly 9,500 lead or galvanized steel service lines, with the balance of the excavations uncovering copper service lines that did not need replacement. The City expects to complete excavations of the remaining approximately 4,000 service lines (and replace those made of lead or galvanized steel) over the next few months. NRDC, together with community partners, continues to closely monitor the City and State's compliance with the settlement.

Other cities also provide examples of the feasibility of requiring full lead service line replacements at no cost to homeowners in ten years. Lansing, Michigan embarked on a plan in 2004 to replace their lead service lines within ten years.[22] With a cost of approximately $44.5 million, the city spent on average $3.7 million per year on this capital project, with general

support from the community and ratepayers sharing in the cost. In the end, it took about twelve years for the city to replace 12,150 lead service lines.

The City of Newark has initiated a Lead Service Replacement Program to replace approximately 18,000 lead service lines over the next two and a half years.[23] Under this program, the full lead service line replacements are completed at no cost to the homeowner. To date, Newark reports that it has already replaced more than 6,000 lead service lines. Unable (and unwilling) to wait for federal and state money to help with the replacements, the city got a $120 million loan from Essex County (via a 30-year bond), which eliminated the need for homeowners to pay $1000 out of pocket for lead service line replacements.[24] The announcement of this program to replace all lead service lines at no cost is a welcome development, but of course proper implementation (for e.g., without partials) is key.

Pittsburgh, Pennsylvania, the second largest water system to exceed the lead action level in the U.S., has had lead contamination issues since 2016. A settlement with the water authority and a community client represented by NRDC and the Pennsylvania Utility Law Project requires the utility to replace at least 3,400 public-side lead service lines and 2,800 private-side lead service lines at no cost to the residents. Including other requirements, such as providing free filters and replacement cartridges to low income customers with lead service lines or lines of unknown material, the utility will spend about $50 million to address the lead problem through June 2020. The utility has also received a $65 million low interest loan to conduct additional lead service line replacements in conjunction with water main replacements.

Washington, D.C., still dealing with the aftermath of its lead crisis, is riddled with partial lead service lines as well as full lead service lines. There are roughly 90,000 lines with unknown materials, and D.C. Water estimates about 30,000 are full or partial lead service lines. After years of campaigning by local residents, the District recently prohibited new partial replacements in nearly all circumstances and requires landlords and home sellers to disclose the presence of a lead service line. D.C. Water has called for an aggressive ten-year program to replace lead service lines in the District. Without regulatory requirements, it took them sixteen years to finally commit to a lead service line replacement program that will actually begin to address the risk of lead service lines.

Therefore, we call on EPA to require that all lead service lines be fully replaced in ten years, that partial lead service line replacements be prohibited, and that the charges will not be placed on homeowners.

Other Necessary Improvements To The Lead And Copper Rule

In addition to this centerpiece to revisions of the Lead and Copper Rule, EPA should also incorporate other elements.

Complete, verified service line inventories.

The first step to undertaking an effective full replacement program must begin with a robust identification of all the service lines and the materials delivering water to homes and buildings. The final inventory identifying all unknown service lines must be complete two years after the initial inventory. It should be made publicly available so that everyone knows what material is used in the service line providing water to their home.

Better Sampling

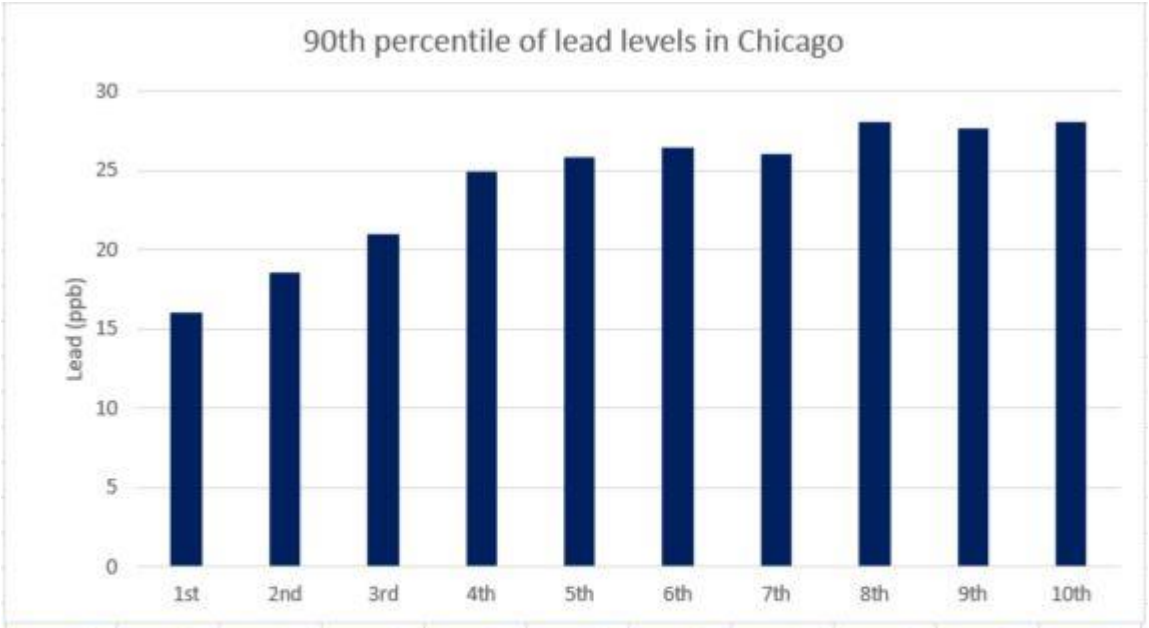
The Lead and Copper Rule relies on sampling water at the tap to track the levels of lead in the water. If the 90th percentile of the sampling results are above the lead action level of 15 ppb, the utility must take further action. But under this system, if the sampling protocol does not target the water with the highest risk of lead in water, then the whole premise of how the rule protects against lead contamination falls apart. And this is what is happening under the Lead and Copper Rule. The samples required for monitoring do not actually represent water from lead service lines, the largest source of lead in contact with drinking water.

Under the Lead and Copper Rule, the 90th percentile is calculated based on the first liter of water taken from the tap after it has sat in the home for at least six hours. But first liter samples reflect what is happening in the fixture and proximate building plumbing, not in the lead service line. These first liter samples are inadequate for identifying at-risk systems, communicating the risk of lead service lines, triggering public education and lead service line replacement programs, and measuring the effectiveness of corrosion control treatment.

In Chicago, sequential samples (i.e. samples taken from the first liter of water drawn, the second liter, continuing through the tenth liter) were taken in homes where the first liter contained lead above the action level. Based on NRDC's analysis of data taken from Chicago, the first liter samples consistently miss the highest levels of lead.

The graph below (Figure 2) shows the 90th percentile results for all the samples taken in Chicago. The lowest levels of lead are found in the first liter sample. The highest levels are captured in later liters – between the fifth and tenth liter. These later liters are more representative of the quality of water that sat in the lead service line – and more representative of the highest levels of lead in the water. Because this is a corrosion control treatment rule, we should be measuring the effectiveness of corrosion control in the highest risk water.

Figure 2 Chicago Drinking Water Sample Results by Liter (for homes initially testing over 15 ppb in the first list)

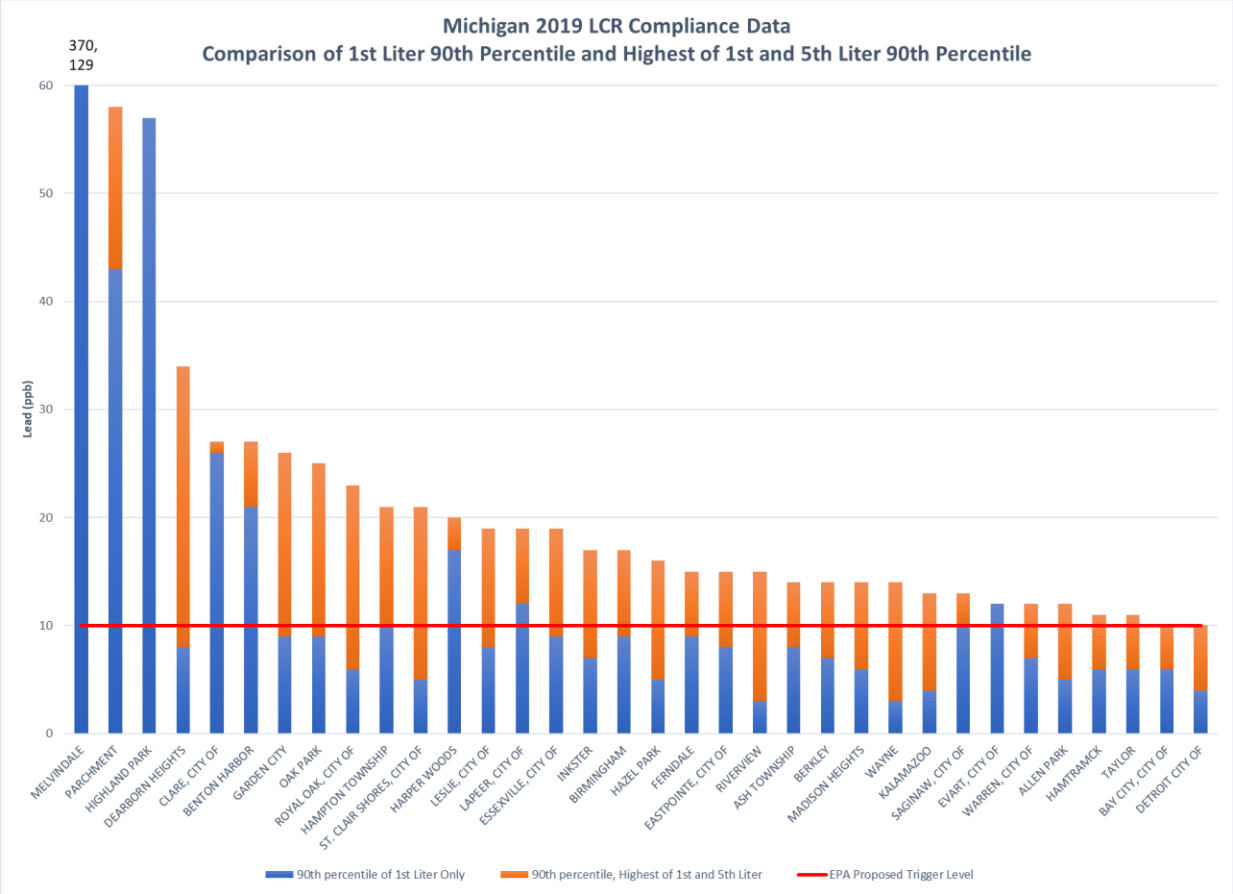


year	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
2019	13.5	18	18.9	24.1	22.2	24.4	24.4	26.8	26.2	27.8
2018	19.2	16.4	23.4	24.1	28.5	27.5	26.6	28.3	27.6	25.2
2017	16.8	20.4	29.5	35.9	36.5	35.1	34.5	34.4	32.5	29.5
2016	15.5	18.1	20.7	21	21.8	24.4	23.6	25.8	26.9	26

Therefore, to ensure that the sampling results represent what is coming out of the lead service line and the highest levels of lead in the water - and to reduce the lead exposure in water systems and homes that need it most, EPA must require the fifth and tenth liters in its compliance samples. Otherwise, the protective provisions included in EPA's proposal will only apply to a very small number of systems where first liter samples (from household plumbing) exceed the trigger and lead action level.

Results from Michigan show a similar pattern (see Figure 3). Of the 34 systems that exceeded the lead trigger level, only ten (29%) would have exceeded the lead trigger level based on first liter samples alone.

Figure 3 The 90th percentile data from Michigan water supplies that collected first and fifth liter sample data during compliance sampling in 2019 that meet or exceed EPA's proposed trigger level of 10 ppb for lead.



Unfortunately, there are unintended but significant incentives for water systems to monitor the lead levels in ways that fail to detect lead problems (such as using monitoring techniques that are less likely to find lead). These techniques are allowed by the current Lead and Copper Rule and in the recent revisions proposed by the EPA.

Corrosion Control Treatment

Because there is lead throughout household plumbing, corrosion control treatment will still be necessary to manage smaller magnitude sources of lead in drinking water even after lead service lines have been fully replaced. Corrosion control is complicated, dependent on water quality, history of treatment, and materials used in the distribution system. The Lead and Copper Rule must include robust requirements for identifying optimal corrosion control treatment that is consistent with the latest scientific research.

Protecting school children

In April, NRDC's analysis of New York State data showed that 82 percent of public schools reported one or more taps that tested above 15 ppb.[25] Furthermore, more than 56 percent of public schools tested above the state action level at 5 percent or more of their taps, and almost 2 percent of public schools found elevated levels for at least half of the taps tested. Most troubling, sixteen public schools exceeded the state action level at every outlet tested.

The EPA's proposed revisions attempt to address the concern with lead in drinking water at schools and child care facilities, but the proposed water sampling requirements are inadequate, misleading, and would waste money. They require such minimal monitoring that they will result in widespread false negatives giving parents, administrators, and teachers the false belief that they do not have a lead problem simply because the lead wasn't detected, not because they don't have a lead problem.

Unless there is regular monitoring of each site at which water can be consumed, lead contamination will be missed at some of the locations where children drink water.[26] Lead release is sporadic.[27] A single non-detect sample at a single tap does not guarantee that the water in that tap is always safe to drink. Repeat sampling frequently identifies elevated lead levels at taps that were not detected during previous sampling efforts.[28]

In the end, the minimal sampling requirements would cause schools and childcare facilities to miss many lead contamination problems. Furthermore, the lack of requirements to remediate detections of lead leaves school children no better off.

For these reasons, NRDC recommends one of two options to address lead in schools and child care facilities. EPA should propose a much more robust and ongoing monitoring program in schools and child care facilities, sampling every tap at least twice per year. Or, better yet, EPA should require certified filters to be installed before testing because we know that lead is prevalent in plumbing throughout schools and therefore in the unfiltered drinking water. The Agency has proposed such a point of use filter approach as an option for small water systems; it should be an option for protecting school children as well. It is important to note that such filtration works when filters are properly installed and maintained.

Going to the Source

We have learned from our experiences with Washington, D.C., Flint, Newark, and other water systems that a change in source water (as in Flint) or in water treatment (as in Washington, D.C. and Newark) can result in widespread lead contamination. They also in some cases have triggered other serious problems with simultaneous compliance with other rules such as violations of the Total Coliform Rule, the disinfection byproduct rules, and a Legionella outbreak. Therefore, requirements to study and test the changes before they are adopted are critical to preventing similar types of crises. Notifying the public that when these changes are contemplated and studied is an important component to protect residents.

Lax Safe Drinking Water Act Enforcement

Even with the most protective drinking water rules, the protections will not be realized without diligent enforcement by EPA or the states. However, violations of regulated contaminants standards rarely lead to enforcement actions either by EPA or the states.

States with primacy under the SDWA (all states except Wyoming) are supposed to carefully oversee drinking water systems to ensure that they comply with EPA requirements such as the Lead and Copper Rule. As part of this requirement, primacy states are to regularly report violations and certain other information to EPA. Under the Act, if EPA finds that a water system

is in violation in a state with primacy, EPA is to notify the water system and state of the violation. If the state fails to take enforcement action within thirty days, EPA is legally required to issue an administrative order or file an enforcement case in court against the violator. EPA and states often ignore these important mandates in the law.

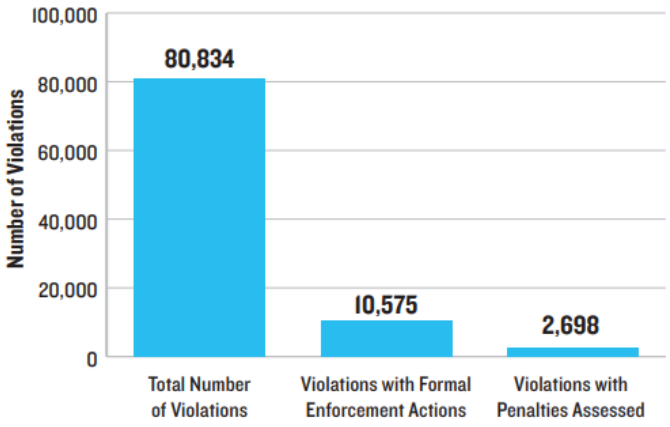
Additionally, EPA is authorized to immediately issue an administrative order or to bring a case in court if a contaminant "may present an imminent and substantial endangerment to the health of persons," even if no violation of the law is proven. Unlike some other laws, the Safe Drinking Water Act does not allow citizens to bring an action in such cases to protect their health from an imminent and substantial endangerment—a major shortcoming that should be rectified.

The Safe Drinking Water Act does authorize citizens to sue public water systems that have violated the requirements of the Act after providing sixty days advance notice to the violator, the state, and EPA. Unfortunately, this can mean substantial delays while there is an ongoing health threat. In Flint and Newark, NRDC brought such an action on behalf of local residents.

Flint is but one example where neither state authorities nor EPA took enforcement action until far too long after the problem began. But lack of enforcement in Flint was not anomalous. In fact, according to NRDC's May 2017 Threats on Tap[29] report analyzing EPA's enforcement data, states and the EPA took formal enforcement action against just 12 percent of the over 8,000 Lead and Copper Rule violations that occurred in 2015. Formal enforcement actions were taken against just one in seven health-based violations (14.2 percent). Most troubling, only about 1 in 20 violations (6.2 percent) returned to compliance within the calendar year. And for health-based violations, less than 1 in 12 (8.6 percent) returned to compliance within the calendar year. Non-health-based violations (e.g., monitoring and reporting violations) can mean that a water system isn't even collecting enough information to know whether there is a risk to public health. This lack of accountability sends a clear message to water suppliers that they can knowingly violate the Lead and Copper Rule, with state and federal complicity.

This is not just a problem with the Lead and Copper rule. Of all the drinking water violations in 2015, formal enforcement actions were only taken against 13 percent of them.[30] (See Figure 4.)

Figure 4 Formal Enforcement Actions For All Drinking Water Violations (2015 data)

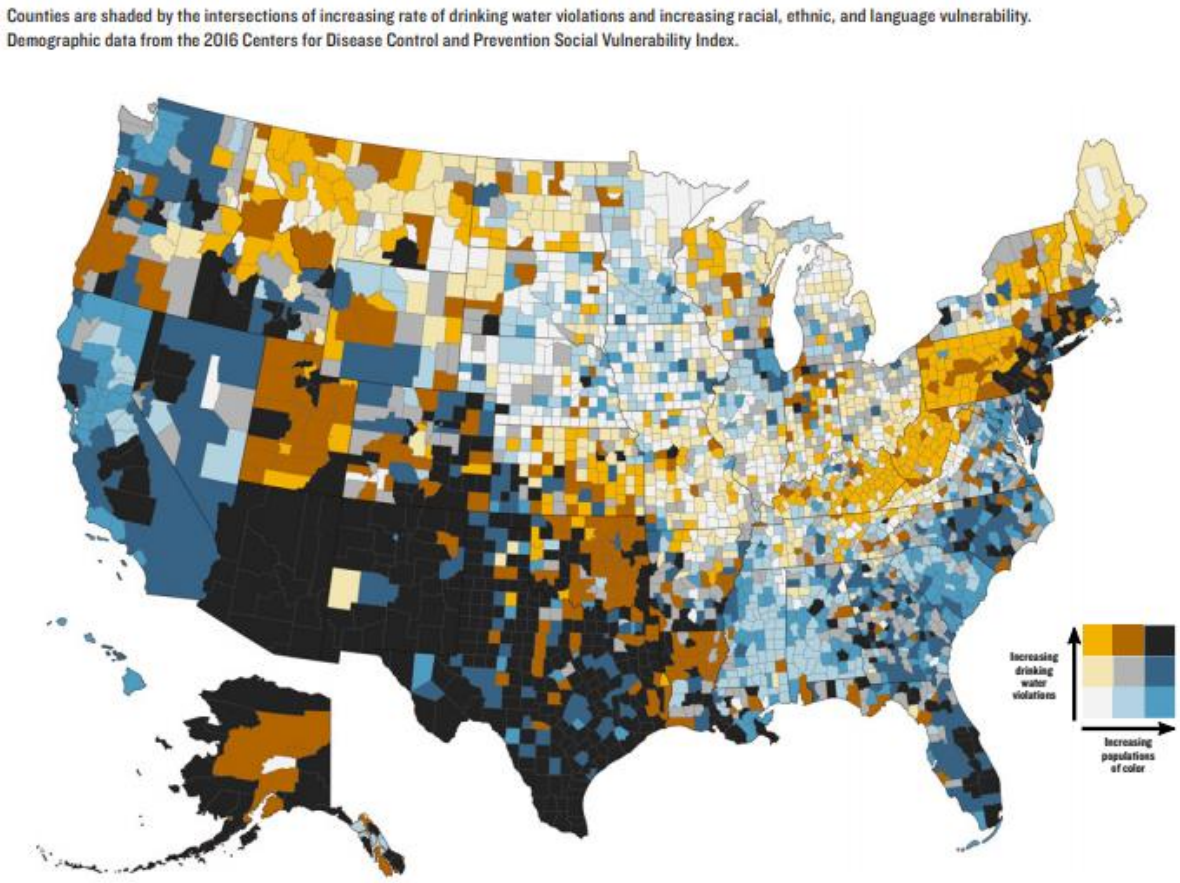


Violations of regulated contaminants standards rarely lead to enforcement actions either by EPA or the states.

Disproportionate Impacts

Communities of color all over this country often bear the burden of environmental contamination and the resulting health problems. In our recent report, Watered Down Justice, we found that the rate of drinking water violations are higher in communities of color, low-income communities, areas with more non-native English speakers, areas with more people living under crowded housing conditions, and areas with more people with sparse access to transportation.[31] (See Figure 5.)

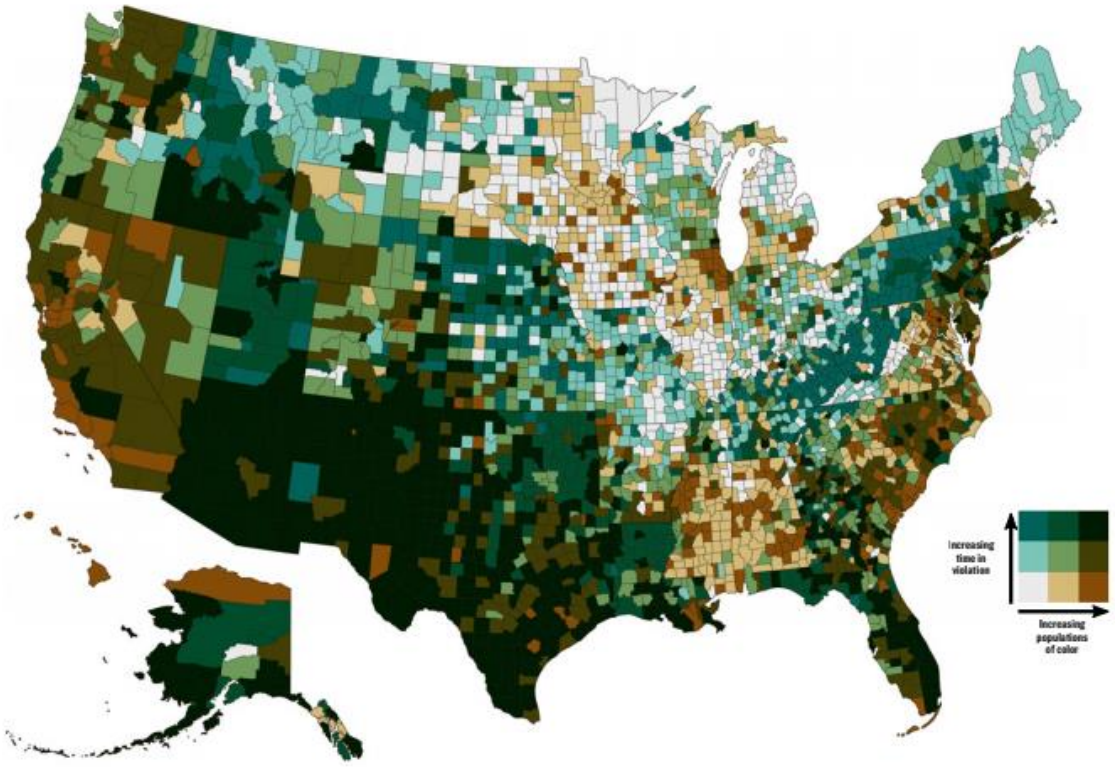
Figure 5 Intersection of All Drinking Water Violations and Racial, Ethnic, and Language Vulnerability by County (June 1, 2016 to May 31, 2019)



Our analysis also revealed that race, ethnicity, and language had the strongest relationship to slow and inadequate enforcement of the Safe Drinking Water Act. (See Figure 6.) That means that water systems that serve the communities that are the most marginalized are more likely to be in violation of the law—and to stay in violation for longer periods of time.

Figure 6 Intersection of Length of Time Out Of Compliance and Race, Ethnic, and Language Variability by County (June 1, 2016 to May 31, 2019)

The most darkly shaded counties are those with the highest average number of quarters out of compliance per drinking water system (counties in the top third, nationally) and the highest racial, ethnic, and language vulnerability (counties in the top third, nationally). Racial, ethnic, and language vulnerability data from the 2016 Centers for Disease Control and Prevention Social Vulnerability Index.



For communities already facing severe burdens due to racism, social conditions, and/or environmental and health hazards, the inability to turn on a tap and receive clean, safe water is particularly devastating—and unjust. These findings are consistent with the long-standing pattern of disproportionate and cumulative hazards in communities of color and low-income communities.

There are clear challenges to ensuring that every American gets safe drinking water. We don't want to create a two-tiered system where the wealthy get water that is clean and safe for their families, and the less well-to-do get second-class water that poses risks to their health.

Conclusion

The EPA's proposed revisions to the Lead and Copper Rule will not solve the nation's lead in drinking water woes. The rule needs a strong and complete overhaul, including a mandate that all lead service lines be fully replaced within ten years at utility expense. The rule must also be vigorously enforced. Congress also has an important role to play. We recommend $22.9 billion over five years to a variety of drinking water programs and grants, with targeted funding going to replacement of all lead service lines, especially supporting communities with a high percentage of low-income residents.

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