

Following the Newark, NJ Drinking Water Lead Crisis

Morgan Clauser
Gettysburg College

Abstract: In the summer of 2018, after it was revealed that there were dangerous levels of lead in the drinking water in Newark, New Jersey, the Natural Resources Defense Council and the New Jersey Education Workers Caucus filed a lawsuit against the City of Newark. They claimed the city did not comply with statutes in the Safe Drinking Water Act, Lead and Copper Rule, and New Jersey's Open Public Records Act. This case follows the nationally recognized case in Flint, MI, and both cases present undertones of systemic racism through the inaction of local governments. While the jury is still out on whether the city of Newark will be held responsible, this paper analyzes the case, relevant legislation and stakeholders' strategies.

Keywords: Environmental Justice, Clean Water Act, Open Public Records Act, Natural Resources Defense Council, Newark, New Jersey

Introduction

In the summer of 2018, after it was revealed that there were dangerous levels of lead in the drinking water in Newark, New Jersey, the Natural Resources Defense Council (NRDC) and the New Jersey Education Workers Caucus filed a lawsuit against the City of Newark. They claimed the city did not comply with statutes in the Safe Drinking Water Act, Lead and Copper Rule, and New Jersey's Open Public Records Act. This lawsuit follows years of a similar battle in Flint, MI that became a nationally publicized case where high levels of lead were found in the city after a switch from Detroit's main water system to the Flint River. These cases both present undertones of systemic racism in the inaction by local government and the continued denial of a problem despite resident complaints and state water sampling results suggesting otherwise. This paper analyzes the Newark lead water case, legislation relevant to the case, and its stakeholders and their strategies to further understand the implications of what this court case decision could mean for similar problems in the future.

Traces of lead in drinking water are extremely dangerous for children and pregnant women, leading to developmental issues and birth defects. Even healthy adults can suffer from various health ailments due to lead exposure including high blood pressure, kidney failure, infertility, cardiovascular problems, or cognitive dysfunction. This fact alone begs the question why the City of Newark even tried to deny lead was a problem in their citizens' drinking water instead of investigating further. Water samples from the city showed 20% of

households contained lead levels above the 15 parts per billion (ppb) federal action level threshold. Other factors that come into play in the case are divisions of responsibility, institutional discrimination, and the influence of the ongoing Flint, Michigan lead case in 2014.

Background

This issue centers around a few important pieces of US legislation. The Clean Water Act protects public health and requires certain qualifications for waterways managed by the Environmental Protection Agency (EPA). It began as the Federal Water Pollution Control Act of 1948, which was the first major law in the US to address water pollution. It provided funds for state and local governments to monitor water quality in some communities (Environmental Works 2018). In 1962, Rachel Carson wrote her famous book, *Silent Spring*, which sparked the modern environmental movement, increased public concern about the environment, and instilled a desire to protect our damaged and dwindling natural resources. The Environmental Protection Agency was formed in 1970, taking on the responsibility of the Federal Water Pollution Control Act of 1948. From 1968 to 1970, the Department of Health, Education, and Welfare's Bureau of Water Hygiene reported 30% of drinking water samples in the US had chemicals exceeding recommended Public Health Service limits (Environmental Works 2018). DDT was present in 584 of 590 fish samples, 87% of swordfish showed unsafe levels of mercury, and record numbers of fish died, accounting for millions of dollars in losses to the fishing industry (Environmental

Works 2018). There was clearly an urgent need for more regulations on the previously unchecked pollution of waterways since two-thirds of the nation's waters had become unsafe for fishing or swimming (PBS 2002). While unsafe water was a huge public health issue, there are also undertones of market-based allocation with the influence of the fishing industry on the decisions to regulate water pollution. Without the huge loss of revenue from the contaminated fish, the Clean Water Act may have taken longer to emerge. Finally, in 1972 the Clean Water Act was passed with the goal to "restore and maintain the chemical, physical, and biological integrity of our nation's waters" and for "zero discharge of pollutants into navigable waters by 1985, and fishable and swimmable waters by 1983" (Clean Water Act 2018). The act requires permits to pollute from a point source, implements standards for industry wastewater, and developed national water quality criteria for pollutants in surface waters (Clean Water Act 2018). While the issue in Newark was due to traces of lead in drinking water and not necessarily pollutants, there could have been corrosive pollutants in the water that caused the lead to flake off the old pipelines in older homes and schools. The lack of immediate action by the City of Newark in response to dangerously high lead levels weakens the influence of this historic act.

Another piece of legislation important to this case is the Safe Drinking Water Act of 1974 (SDWA). This law focuses specifically on the protection of drinking water in America and is more directly a protection of public health than anything else, even though there was still heavy push back from oil lobbyists because of the increased

environmental regulations (Weinmeyer et al. 2017). The SDWA requires the EPA to set standards for and oversee all public water systems' drinking water quality, whether they are privately or publicly owned, and protects the water from natural or man-made contaminants found in drinking water (Weinmeyer et al. 2017). There are over 151,000 public water systems in the US, classified by the amount of people they serve. However, some schools, hospitals or office buildings may have their own non-community non-transient water systems that are still under jurisdiction of the SDWA (Public Water Systems 2018). Weinmeyer, Norling, Kawarski, and Higgins (2017) suggest that while the law has good intentions, its implementation and enforcement are severely flawed because once the federal regulations are set, the states must follow through to fix the problem if: the contaminants might have adverse health effects, are likely to be found in public drinking water systems, or will reduce public health overall. Difficulties arise because of the massive amount of public water systems - excluding private homeowners' wells – that have to account for 83 specific contaminants and each contaminants' specific limits. Because small service providers and private well owners are not under jurisdiction of the SDWA, many water systems are not well regulated in the US. Inadequate funding to the SDWA poses a problem since it is estimated that one trillion dollars is needed to update drinking water systems in the US but only \$32 billion has been allocated in the past 18 years (Weinmeyer et al. 2017). Further budget cuts to the EPA in recent years have reduced funds to specific programs to help states fix water infrastructure like the WPSS (EPA

Office of Water 2017). While larger water systems can bear the cost burden of updating their waterlines, many smaller systems cannot keep up, delaying state action on installing new treatment devices, and making improvements. This has been the main cause of high lead levels in various cities across the country, Newark included. Additionally, with further scientific research comes more contaminants listed as dangerous and reveal health risks of lower concentrations of currently listed contaminants (Weinmeyer et al. 2017). New Jersey specifically has access to grants through the Drinking Water State Revolving Fund, operator contracts, and state ordered consolidations, which show a collaborative effort to supply funds for the state (EPA Office of Water 2017). The state is required to test drinking water, and in Newark specifically, the rule recently changed from 50 samples over three years to 100 samples over a six-month period (Yi 2018).

The Lead and Copper Rule (LCR) issued in 1991 set a required “action level” for lead at 15 parts per billion, even though no level of lead in a human’s blood stream is safe (Jennings and Duncan 2017). Lead-contaminated water is extremely dangerous for children and pregnant women, with high risk of permanent neurological damage or disability. Even trace amounts of lead in the blood of otherwise healthy adults can cause fertility issues, cardiovascular and kidney problems, cognitive dysfunction, and high blood pressure (Anslem 2018; Jennings and Duncan 2017). The protocols set by the LCR were designed to evaluate the effectiveness of water treatments, and can miss important fluctuations which may increase the amount

of human exposure to lead (Jennings and Duncan 2017). Contaminants that include lead are mainly inorganic chemicals, arsenic, asbestos, chromium, copper, fluoride, mercury, nitrate and radionuclides, as well as naturally occurring chemicals, microorganisms and water turbidity (Jennings and Duncan 2017). Corrosion control treatments to protect old pipes are the main mitigation strategy when lead is found in drinking water since these contaminants cause old pipes to flake lead off into the water stream. This current strategy was developed in 1991 and has not since been amended despite lead problems across the country becoming more of a problem in recent years, such as the case of Flint, Michigan.

The lead problem in Flint is very similar to the Newark case, as the Natural Resources Defense Council is leading the lawsuit on both cases. The Natural Resources Defense Council was established in 1970 by law students and attorneys during the environmental movement. They are an international non-profit NGO with the goal of “ensuring the rights of all people to clean air, clean water, healthy communities and the wild” (NDRC 2018). They have over 3 million members and employ 600 scientists, lawyers, and policy advocates to fight environmental issues in court and in Congress (NDRC 2018).

The Flint lead problem began back in 2011 when the State of Michigan took over Flint’s finances to combat an expected \$25 million budget deficit following decades of a declining economy due to their General Motors plant downsizing in the 1980’s (CNN 2018). To reduce the water fund shortage, a pipe switch from Detroit to Lake Huron was proposed but the city had to take water from the Flint River

while it was under construction starting in 2014 (CNN 2018). Residents soon noticed the water tasted and smelled strange, and after tests by the EPA and Virginia Tech, it was discovered that there were dangerously high levels of lead in almost half of Flint's households. A class-action lawsuit was filed by residents of Flint for lack of proper anti-corrosion treatment, a violation of the SWDA and the LCR (CNN 2018; Weinmeyer et al. 2017; Jennings and Duncan 2017). One resident, Lee-Ann Walters' tap water contained lead levels of 104 ppb, almost seven times the EPA's lead threshold, but a second test showed levels as high as 397 ppb after the switch (CNN 2018). The mayor of Flint and other community leaders denied that the lead was even an issue telling residents to "just relax," with the mayor drinking a cup of tap water on WNEM news (WNEM Newsroom 2015). In 2015, the Flint City Council members voted to switch back to Detroit as a water source, but the state-appointed emergency manager claimed the costs were too high for the switch, demonstrating how the government valued costs above the health of its citizens (CNN 2018). A state of emergency was declared in early 2016 allowing FEMA to intervene and the National Guard was brought in to distribute bottled water, almost two years after the initial water testing (CNN 2018). In 2016 the NRDC filed a lawsuit against the state for violating the Safe Water Drinking Act in its slow response to the issue (CNN 2018). The result of several lawsuits was a \$97 million settlement for Michigan to agree to replace all lead water lines, however involuntary manslaughter charges were also brought against state officials for the deaths of at least 12 people during the crisis (CNN 2018). Since then, it was

deemed that the water supply was restored to normal and Flint recently ended the free bottled water program in 2018 (Chavez 2018).

However, there were much deeper implications behind this case including institutional, structural, and systemic racism against the predominantly black, and poor population of Flint, requiring an environmental justice lens (Egan 2017). Housing, employment, and education discrimination led to the dispersal of Flint's current population demographics, and gave way to an implicit bias against the residents' complaints by the state. Flint has a population of 98,918 - of which 54% is black - a 41.9% poverty rate, median household income of \$25,650 and median property value of \$30,000 (Data USA, Flint 2018).

This environmental justice lens can also be applied to the Newark case. Newark has a much larger population of 218,770 people and a poverty rate of 28.2% but a median household income of only \$31,100 (Data USA, Newark 2018). Additionally, Newark is 48.7% black and 34.4% Hispanic (Data USA, Newark 2018). Newark has high property values because of its proximity to New York City, however this creates a huge gap between those who work in the city and make more money, and the residents below the poverty line. These residents' concerns about the lead in their water were largely ignored in the beginning, much like those in Flint. It makes one wonder if the same lead levels were found in richer, white communities what the response would be.

One more important piece of legislation to consider for this case is New Jersey's Open Public Records Act, which the Natural

Resources Defense Council claims the city also violated (Kelly and Nunez 2018). The act requires that all government records be available unless they violate a citizen's personal information such as hospital records, criminal investigation documents, victim's records, or court orders (NJ Open Public Records Act 2018). However, while the act states that agencies have a right to prohibit access to information regarding ongoing cases, they cannot do so before the investigation officially begins if information was already publicly accessible (NJ Open Public Records Act 2018). The City of Newark repeatedly denied there was a lead problem and denied citizens' public records requests of water sampling results for their homes (Kelly and Nunez, 2018).

Stakeholders, Arguments, & Strategies

The main stakeholders in this case are Newark City residents, city officials, the Natural Resources Defense Council, and the New Jersey Education Workers Caucus. Water testing in Newark is done by the city's Water and Sewage Department. The department is now required to test 100 samples every 6 months, but there are no regulations about testing every neighborhood (Imperiale and Wood 2018). Newark is predominately older homes and despite the threat they face having lead service lines, many households did not receive testing (Figure 1, Appendix A). It was reported in 2017 that Newark has some of the highest recorded lead levels for a large water system in the entire nation (Kelly and Nunez 2018). Newark has consistently reported the highest levels of childhood blood lead of any

municipality in the state, and 22,100 homes in Newark have known lead service lines, meaning those lines are more likely to leech lead into their water (Kelly and Nunez 2018; New Jersey Department of Health 2016). The federal threshold for lead levels in drinking water is 15 ppb, but 20% of homes in Newark exceed this limit with 10% reporting lead levels over 26 ppb (Kelly and Nunez 2018). A recent test in 2018 contained tap samples over 182 ppb – more than 12 times the federal action level – with 30 school water samples in Newark containing traces of lead (Kelly and Nunez 2018). The New Jersey Department of Environmental Protection issued two non-compliance notices to the City of Newark in July 2017 and January 2018, but despite pressure from the state, the city still did nothing to remedy the situation at the time (Kelly and Nunez 2018).

The health risks from lead contamination are extremely dangerous. For this to occur in a community composed of more than 83% people of color and 28.2% below the (already underestimated) national poverty line, the additional health burdens these faulty lines put on the community becomes an environmental justice issue. Low-income communities of color disproportionately face negative health exposure compared to their wealthier, white counterparts (Kelly and Nunez 2018). “Access to safe drinking water is particularly important in low-income communities of color where residents often face multiple sources of exposure and stressors on their health from environmental burdens,” said Sara Imperiale (2018), an NRDC Environmental Justice attorney during an interview. The EPA has since contributed \$75 million in funds to replace old lead service lines,

with a maximum cost of \$1,000 to homeowners, however many people are not able to afford that (Carter 2018).

The position of Newark's residents relies heavily on state-based science as that is where all the data regulations regarding drinking water originates. Laws established during the environmental movement like the Clean Water Act of 1972 and the Safe Drinking Water Act of 1974 were put in place to protect people from public health concerns and took into consideration scientific evidence of problems through identification of harmful contaminants. Their position also reflects liberal pluralism – a collaborative approach to local government - in their attendance of city hall meetings to voice their concerns, and inclusion of other perspectives such as the NDRC to assist them in the legal battle (Carter 2018). A resident of Newark attended one of those meetings to learn how to use her lead water filter. “It made me feel like the city actually gave a crap, after them denying the whole thing all summer. It was so up in the air for a while but at least now we know what’s going on” (Adams 2018).

When the Natural Resources Defense Council caught wind of the situation in Newark, they filed a lawsuit along with the New Jersey Education Workers Caucus against the city of Newark on June 26, 2018 for non-compliance with the Safe Drinking Water Act, the Lead and Copper Rule, and the Open Public Records Act (Anselm 2018). They sued the Newark city officials as well as the NJ Department of Environmental Protection for the slow responses to the issue and lack of mitigation strategies. Newark was supposed to be fixing the presented lead problem through anti-corrosive treatment,

distribution of water filters and alternative water sources to affected homes, replacing old lead pipelines, and notifying the public. The lawsuit itself has largely been used to bring the issue to light and further inform the public. The city's failure to implement these strategies and comply with federal requirements puts them at risk of losing this lawsuit and may face criminal charges or pay out a settlement, much like Flint in 2017 (CNN 2018). A powerful strategy employed by the NRDC was comparing it to Flint, Michigan (Newark City Communications 2018). The high-profile case caught national attention in 2014 and 2015 with videos and news stories featuring sick children, brown water in containers from local taps, and long lines for access to safe drinking water. This comparison is an effective tool because demographics in Newark and Flint are fairly similar, hosting a population of predominantly poorer people of color, and convincing residents to expect a similar lack of concern and action seen in Flint, in their own situation. This strategy is arguably the most impactful because it incites fear in the community and generates media buzz that brings attention to the issue and puts pressure on city officials.

The NRDC relies on state-based science as well, with their employment of over 600 scientists and lawyers throughout the organization working to provide means for communities to fight for their rights to clean air, water, and land. Their collaboration with community members and the interdisciplinary crossovers between science and law also reflects the philosophy of liberal pluralism. Both of these philosophies aim to benefit the residents, whether it be in the form of public health in state-based science or making sure their voice

is heard. Underprivileged communities face higher health risks due to environmental stressors. Their concerns are often overlooked as well, creating areas of our country that are experiencing severe environmental struggles with no means of fixing them. Liberal pluralism works to combat this disconnect between the people and their governments by promoting collaboration and offering spaces for community members to voice their concerns.

The initial strategy of the City of Newark, much like Flint, was to deny there was a problem with the drinking water. Andrea Adebowale, the city's director of Water and Sewer Utilities released a statement following the lawsuit on June 26th claiming the accusations that Newark residents were suffering from dangerous levels of lead were "absolutely and outrageously false" (Newark City Communications 2018). The statement also specified that even though they owned the water mains, service lines that connect water supplies to homes were not under their jurisdiction, leaving the replacement responsibility to the homeowners (Newark City Communications 2018). They also claimed when the Watershed Conservation and Development Corporation – the water service responsible for water treatment of the city - went bankrupt, "very few documents were turned over to us [...] NRDC requested reports that we simply do not have" (Newark City Communications 2018). When contacted, Andrea Adebowale's secretary declined to make a statement, only saying "we're doing everything we can about the situation" (Newark City Communications 2018).

In late October, a significant change in the case occurred. It was discovered by outside experts that lead was not leeching in through the service lines but that the city's water treatment plant had malfunctioned, and the anti-corrosive chemicals were no longer adhering to the pipes (Yi 2018). This revelation changed the course of Newark's mitigation strategies. At first, they were facing a \$60 million, 8-year process to replace all lead service lines in the city and assist homeowners with costs (Yi 2018). Now the city has to do damage control and insist that they were unaware of the true underlying issue. They began community outreach and education programs to show residents how to install lead filters for the 3- to 8-month period it would take the treatment plant to fully flush out the old water (Carter 2018). The city is also going door to door handing out lead filters to the most at-risk households and providing tools to determine if your house has lead service lines (Yi 2018). One resident of Newark City stated, "I was put at ease when [the mayor] said 'This is not Flint,'" (Carter 2018). The city's strategy previously relied heavily on state-based science when they insisted that the lead was coming from the service lines, not the main line and therefore did not violate the Safe Drinking Water Act or the Lead and Copper Rule. Their community outreach and city hall sessions show influences of liberal pluralism as well. With the new discovery, the City of Newark could be held liable for violating these statutes by not having sufficient upkeep of their water treatment plant.

Conclusion

This case raises many important points about responsibility of action, discriminatory influence, and the power of previous cases on current ones. As shown in the Newark case, the division of responsibility in the Clean Water and Safe Drinking Water Acts presents difficulties between state and local governments. Even after the DEP issued two non-compliance warnings to the City of Newark, they still did nothing to remedy the situation. This lack of enforcement creates a gap between the levels of government, creating significant problems when the localities are not complying with federal laws.

The discriminatory bias shown in both the Flint and Newark cases sheds light on a larger issue in the United States as a whole. Poorer, non-white communities are not treated as equally as their affluent counterparts. If either of these lead issues had occurred in a place like Saddle River, NJ which is 75% white with a poverty rate of 0.51%, their concerns probably would have been taken more seriously (Data USA 2018). However, because the victims in the parts of Newark with the oldest pipes and more degraded infrastructure were predominantly black or Hispanic, an implicit bias may have been applied to the mitigation strategies. The city's lack of urgency, as well as flat out denying there was a lead problem in Newark demonstrates a bias that was also seen in Flint. This nation's institutional and historical racism through housing, employment, and educational discrimination achieved a pseudo-segregation that resulted in certain groups of people disproportionately bearing environmental burdens, and not being heard when the issue reaches crisis-level. Luckily for

Newark, once the city realized its mistake in diagnosing the source of the lead, it worked to help those in need.

Their lack of initiative in the beginning of the investigation when 20% of homes were testing above the federal action level suggests that the city did not know about the treatment plant problems. Their failure to act despite warnings weakens the power of the State as well as the Clean Water Act, SDWA, and Lead and Copper Rule. It would have been significantly more expensive to replace all existing lead service lines in Newark than to fix the treatment plant and would have put the cost burden on individual homeowners in the area (Yi 2018). The City of Newark should be held accountable for not complying with the two notices issued by the DEP, whether they were aware of the treatment plant problem or not. Lead is different from many other contaminants because no level is safe to humans. Especially since the city has a history of reporting the highest childhood blood lead levels in the nation, they should have taken the warnings more seriously instead of denying there was even a problem. If they had started proper investigations earlier on, they could have prevented thousands of residents from probable lead exposure.

Finally, the comparison of the Flint, MI case to Newark's shows the power of previous public health disasters and their impacts on current issues. Once the real problem was identified, Newark worked much faster than the City of Flint to provide safe drinking water to their citizens and other solutions to the lead problem. Flint took almost four years to reach a point of being able to drink water from taps again, while Newark took a little over a year once the old

water was flushed out. The City of Newark knew this issue could blow up as much as Flint did and acted quickly to reassure citizens and the media that they are doing everything they can to remedy the situation. The jury is still out (literally) on whether the City of Newark will be held legally responsible for the lead problem in Newark, but it is likely they will be, once factors of non-compliance and institutional discrimination are considered.

Appendix A: Figures

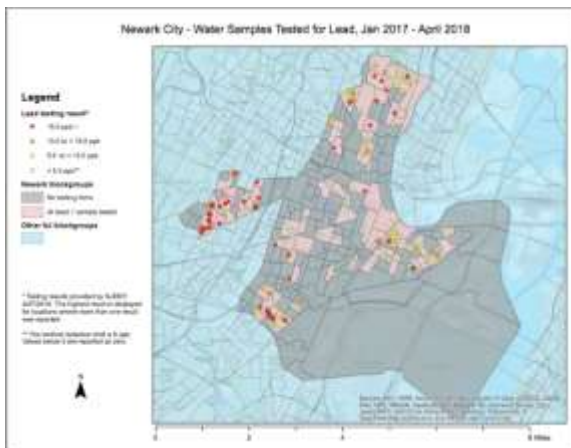


Figure 1. Map created by the Natural Resources Defense Council tracking Newark City water testing (Imperiale and Woods 2018).

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