Chapter 19

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THE LONG ROAD OUT OF CRISIS: (RE)BUILDING TRUST IN FLINT'S PUBLIC WATER FROM POISONING TO PANDEMIC

The city of Flint, Michigan, has found itself dealing with crisis upon crisis with the emergence of the Covid-19 pandemic. Since the disastrous switch of its water source to the Flint River in 2014, which resulted in corroded pipes, population-wide lead exposure and a historically deadly outbreak of Legionnaires' disease, Flint has been struggling to repair the damage done to infrastructure, public health, and resident trust.

The pandemic has complicated this ongoing recovery work and other water priorities in Flint in a variety of ways. It has also inspired new policies around water accessibility and affordability that have brought with them their own implementation challenges. In certain respects, however, lessons learned from the Flint water crisis, as well as people and resources mobilized in response to it, have put the city and its water utility in a better position to confront the unique threats posed by Covid-19, and may offer inspiration to other struggling public water operators in the United States and beyond

INTRODUCTION

The first confirmed cases of Covid-19 in Flint and surrounding Genesee County appeared in March 2020. By early June, countywide cases had grown to over 2000, with over 250 deaths, the fourth-most of any county in the State of Michigan, USA. The disproportionate effects of the virus within the county were also notable: African-Americans accounted for about 50% of cases, despite comprising 20% of the population. Most of these cases were concentrated in majority-Black Flint (MLive 2020b; New York Times, 2020).

Even before any cases had been officially confirmed within city limits, Mayor Sheldon Neeley's administration took a proactive approach to the pandemic, issuing an emergency health alert on March 11 and declaring a state of emergency the next day (City of Flint 2020b). Neeley also appointed respected local pediatrician Dr. Lawrence Reynolds to the volunteer position of City Health Advisor to ensure that Flint's pandemic response would be guided by the latest advice coming out of the medical community. To reinforce the State of Michigan's stay-at-home order of March 23, and discourage gatherings at liquor stores and house parties, on April 2 the city announced a curfew forbidding residents from leaving their homes between the hours of 9 p.m. and 6 a.m. except in case of emergency (City of Flint 2020c). Neeley, in defending the strict and somewhat controversial measure (ultimately extended through the month of May), repeatedly expressed his commitment to putting public health first in Flint, even if it meant making unpopular decisions. As talk began to shift locally and nationally to the possibility of lifting lockdown orders and reopening the economy, Neeley appointed a "blue ribbon" task force comprised of a diverse group of residents to advise the city about how to do so safely (City of Flint 2020e).

The Neeley administration's response to the pandemic has emphasized the integral relationship between public health and residents' access to clean, affordable water, especially in light of med-

ical recommendations around regular handwashing. To address residents' water needs during the pandemic, the city has in some instances been able to repurpose or reaffirm roles, resources, and policies created in response to the Flint water crisis. These include grant-funded public health positions at city hall, bottled water distribution sites, and a citywide moratorium on water shutoffs put into place several months before the pandemic hit. Additionally, at the urging of City Health Advisor Reynolds, Neeley issued a water restoration order in conjunction with the emergency declaration of March 12 aimed at helping homes that were shut off prior to the moratorium reconnect to the grid. In April 2020, the city also announced a water bill relief program for residents whose ability to pay Flint's notoriously high water rates had been further compromised by the economic hardship of the pandemic (FlintBeat 2020).

Flint's water-related initiatives in response to the pandemic, as well as its ongoing water crisis recovery work, have required coordination across city departments. However, the water utility and the water department (which handles billing and interfaces with residents) are responsible for their implementation. The city's water employees have faced not only new challenges created by the pandemic itself, but stubborn structural limitations of resources and a lingering lack of public trust that has led some residents to question their efforts and the city's commitment to its own water policies. The success of these policies depends, to some extent, on popular buy-in and participation. Therefore in order to understand how Flint's water and Covid-19 intersect, one must understand the history of crisis that looms over local water management in Flint and how it continues to shape public perception.

IN THE SHADOW OF THE FLINT WATER CRISIS

In April 2014, a State-appointed emergency manager tasked with turning Flint's finances around oversaw the switch of the city's publicly owned and operated drinking water supply from Lake Huron

water (which had been purchased pre-treated from the Detroit Water and Sewerage Department for over four decades) to the Flint River. The switch required the local water utility, for the first time since the mid-1960s, to take responsibility for treating the city's water. In an email to state regulators eight days prior to the source change, Laboratory and Water Quality Supervisor Michael Glasgow warned that the drinking water treatment plant was not ready and that he needed more time for training and planning. Nevertheless, on April 25 the switch was pushed through by Glasgow's superiors, and Flint River water began to flow into the city's distribution system (Clark 2018; Pauli 2019, 2020).

Some of the details of what happened next have been lost due to limited record-keeping at the treatment plant, but the overall picture suggests that plant staff quickly found themselves in over their heads (Masten et al, 2016). Retrospective analysis has shown that chlorine levels fluctuated wildly throughout the system over the ensuing months, likely contributing both to residents' skin problems in the shower (when chlorine levels were too high) and bacterial infections (when chlorine levels were too low) (Zahran et al, 2018). Most famously, the water dispensed by the plant was more corrosive than before, leading to disruption of biofilm and lead-bearing mineral scale on the inside of pipes – contributing to bacterial and lead contamination – as well as pipes rusting through entirely in some parts of the system (Pieper et al, 2018). Not all of the consequences of improperly treating the water were immediately clear, but the overall disruption to the water system that followed the source switch forced the utility to spend much of the next 18 months confronting a variety of aesthetic and safety issues with water quality.

The way that the public utility communicated about and responded to these challenges did little to foster trust among residents. When the utility began to detect high levels of carcinogenic disinfection byproducts in 2014, it waited months to inform consumers, leading to anger at its lack of transparency and lingering suspicions about its intentions. When then-Director of Public

Works Howard Croft participated in public meetings about the water problems in early 2015, many residents felt condescended to and dismissed by him and other officials. When the utility conducted federally mandated lead and copper sampling later that year under the direction of the Michigan Department of Environmental Quality, it minimized the amount of lead in its samples by encouraging pre-flushing of pipes and the use of small-neck sampling bottles, miscategorized sampled homes as having lead service lines when the actual composition of their pipes was unknown, and threw out two high-lead samples that should have trigged remedial action under Environmental Protection Agency guidelines. Furthermore, as it struggled to collect the required number of samples, it resorted to convenience samples clustered in particular neighborhoods, treating them as if they were indicative of water quality across the city as a whole. The resulting picture of water quality downplayed the presence of contamination, and it took an independent sampling effort led by local activists to reveal the city's system-wide lead problem and force the utility to acknowledge it (Clark 2018; Pauli 2019, 2020). The fact that it had required a concerted grassroots initiative to expose the utility's incompetent-at-best and criminal-at-worst behavior (Croft and two utility workers were among those charged with felonies and misdemeanors for their roles in the crisis) offered a powerful and lasting lesson.

Concerns about water affordability added to residents' water-related frustrations during the water quality crisis. Indeed, it was mainly these concerns that first generated popular protest around water in Flint in 2014. Despite the fact that over 40% of Flint residents live below the poverty line, they pay some of the highest water rates in the United States. The high cost is a product of the utility's struggle to maintain an oversized, aging water system built many decades ago for a population more than twice Flint's current size. The city has also had to find ways of recouping the cost of "non-revenue" water – some 40-50% of what it purchases wholesale – that leaks out of its pipes before making it to household water meters.

The water department has regularly resorted to water shutoffs (or the threat thereof) for failure to pay water bills, although the full extent of this practice is clouded by a lack of publicly available data. The department has also been known to threaten residents with tax liens, which require homeowners to pay off accumulated water debt along with their property taxes or risk foreclosure (MLive 2018).

While water quality has improved substantially system-wide since the onset of the crisis, residents continue to raise concerns about household-level quality issues and dangerous pipes that remain embedded in the city's infrastructure. At the time of this writing, Flint is still in the process of replacing its lead and galvanized steel service lines – a process slated to be completed by the end of 2020. Many residents remain skeptical of the tap, regularly waiting in line for hours at the three bottled water distribution sites that remain in the city.

Aside from the profound and lasting damage the water crisis has done to residents' confidence in their public water and local water institutions, the crisis also led to a significant shift in the role and responsibilities of the water utility. Part of the logic of switching to the Flint River in the first place was that it would offer the utility an opportunity to practice treating its own water before making a permanent switch to a new raw water pipeline under construction between Flint and Lake Huron. Through early 2018, the utility operated with the belief that it would assume ongoing responsibility for water treatment after the completion of the pipeline, and it put considerable effort into preparing the treatment plant and its people for that eventuality. When it was announced in April of that year that Flint would be leaving the pipeline project in favor of a long-term contract for pre-treated "Detroit" water (now managed by the regional Great Lakes Water Authority), the utility abandoned its treatment plans and settled into a water distribution role. Consequently, many of its most highly trained employees left for other jobs. Unable to offer competitive salaries that would attract and retain experienced operators, the utility has had to fill much of the

resulting vacuum with entry-level staff.

The utility's financial challenges were only exacerbated by the infrastructural impact of the water crisis: while Flint's water fund is relatively healthy, with USUS$20 million in available cash, the water system's capital needs are so large that current resources fall well short of what is required to address them (upgrading the city's wastewater infrastructure alone will cost an estimated US$114 million (MLive 2019)). (For similar accounts of funding shortfalls for public water operators in other American cities see the papers by Grant (Baltimore) and González Rivas (Pittsburgh) in this volume.) Just as problematic, however, is the utility's failure to use available resources effectively. In late 2016, the US Congress appropriated US$100 million through the Water Infrastructure Improvements for the Nation Act for upgrades to Flint's drinking water system. The money was placed into Michigan's Drinking Water State Revolving Fund, to be used for reimbursement of projects planned and implemented by the city. As of March 2020, however, less than US$13 million of these funds had been used, a reflection of the slow pace of progress on water in Flint even before the pandemic (MLive 2020a).

BUSINESS AS (UN)USUAL DURING THE PANDEMIC

In the immediate lead-up to the Covid-19 pandemic, Flint's water utility, along with water engineering contractors hired by the city, were working on a number of upgrades to the water system that were disrupted or made more complicated by the threat of viral transmission. Among the priorities were: repairs to Flint's ailing wastewater infrastructure (thought to be in imminent danger of collapse); replacement of broken and vulnerable water mains (the city experiences upward of 200 water main breaks each year); installation in every home of a new water meter capable of being read remotely; and extraction of Flint's remaining lead and galvanized steel service lines. According to Director of Public Works Rob Bincsik, the pandemic did not so much alter these priorities as require

the utility to approach them differently (R. Bincsik, personal communication, July 22, 2020).

While the utility was able to implement social distancing measures and temperature screenings early on, it proved difficult to procure adequate personal protective equipment and supplies for utility employees, including masks, suits, goggles, and hand sanitizer. As a consequence, the utility had to limit or eliminate for a time activities that required home visits and direct interactions with residents. Water meter and service line replacements were officially suspended for a period of two months beginning on April 2, and took even longer to get started again (City of Flint 2020a). One takeaway lesson from the pandemic, Bincsik says, is that the utility should always have a stockpile of protective gear on hand in anticipation of similar public health emergencies.

Federally mandated Lead and Copper Rule sampling, already a challenge for the utility under normal circumstances due to low resident participation and uncertainty around the location of lead service lines, has also taken on added difficulty within the context of the pandemic. Having fallen below 100,000 residents, Flint is now required to collect only 60 eligible samples as opposed to 100, but even obtaining this smaller number can be difficult: it requires getting testing kits into the hands of residents with lead pipes – an ever-shrinking pool with the progress of replacements – as well as resident follow-through with the collection and return of samples. For help with distribution of kits and follow-up with residents, the utility has turned to Public Health Manager Billie Mitchell, who originally joined the city as part of a grant-funded public health department formed in response to the water crisis. Prior to the pandemic, Mitchell and a group of community navigators funded by the county health department were already organized around connecting residents with water crisis-related resources, putting them in a good position to assist the utility with outreach during the pandemic. Mitchell and her team have found that handing out kits at water distribution centers – already woven into the fabric of

everyday life for many residents – has proven especially effective.

At the time of writing (August 2020), there has been no confirmed case of Covid-19 within the water utility. The tragic death of a city employee on the customer service side, however – one of two city hall employees to die of the virus – caused the entire customer service department to shut down for a number of days, putting a temporary halt to any projects that required consent or enrollment from residents. Director of Public Works Bincsik also reports that one of the city's construction vendors has experienced COVID cases. Although these do not appear to have been as disruptive to the progress of water work, the ever-present threat of infection has significantly changed the texture of daily operations.

ENSURING WATER ACCESSIBILITY AND AFFORDABILITY

Even at the height of local and national outrage over Flint's tainted water, the City of Flint water department continued to threaten residents and businesses that were behind on their water payments with shutoffs—long deemed a necessary tool in a city where it is not uncommon for more than half of residential water accounts to be delinquent at any given time. In the context of the water crisis, however, legal challenges and public indignation about the policy did occasionally put the city on the defensive and make what was already framed as a policy of last resort even less attractive. When the Neeley administration took office in November 2019, the city had not shut off a water account since August of the same year. In one of his first acts as mayor, Neeley made this de facto moratorium on shutoffs official, pending an audit of the city's finances. By the time the Covid-19 pandemic appeared, no property had been shut off for eight months, and Neeley took the opportunity to reaffirm the no-shutoff policy, reframing it as a public health measure essential to promoting consistent hygiene.

Where Neeley went beyond previous policy was in issuing a water reconnection order aimed at ensuring that every occupied home

had water flowing from the tap. The reconnection order presented some special challenges with respect to implementation. While the city had a list of homes without active water accounts, many of these homes were almost certainly abandoned, given Flint's high vacancy rate, or owned by landlords who did not have any current tenants. The problem was that the water department was not able to tell which were which from afar: determining whether a house is actually inhabited requires a site visit. Consequently, the success of the reconnection policy has been largely dependent on residents themselves taking the initiative to call the department and request reconnection.

Public Health Manager Mitchell says she expected thousands of calls, but as of July 2020, under 500 had come in (B. Mitchell, personal communication, June 29, 2020). There were indications, however, that some residents had failed to get the message about reconnections. There were also reports circulating through the activist community that the process of applying for a reconnection was overly burdensome, requiring documentation that was difficult to get and submit in the context of the pandemic. Some residents also said they had been asked to pay a fee to reconnect. Finally, there were concerns that the utility's insistence on inspecting homes for potential leaks prior to reconnection was leading to unnecessary delays (although reconnection work, unlike some other infrastructure-related work, did continue through the lockdown months of April and May).

Skeptical that the city was taking its reconnection order seriously, some local water activists began conducting their own outreach to residents living without water. Additionally, on June 10, 2020, the Flint Democracy Defense League and the Environmental Transformation Movement of Flint held a joint, socially distanced press conference on the lawn of city hall raising concerns about the overhead involved in getting reconnected and demanding clearer communication from the city about its reconnection policy. The same day, the city put out a press release claiming that it had "turned on water

service to 518 properties," calling it "a monumental achievement for the City of Flint, marking the first time in Flint's history that this many users have been on the water system at its current population level" (City of Flint 2020d). The number seemed suspiciously high to the activists, who later learned that the actual number of reconnections was closer to 100, with the 518 figure representing all new connections to the grid since March of that year.

Episodes like these contributed to a feeling among activists and residents that it took scrutiny and pressure from below to keep the city honest and hold it to its promises about water. That much had been learned from the water crisis; what was new about the political dynamic under Covid-19 was the support activists now felt they had from above, at the state level. On March 28, at the urging of water activists and the Michigan Environmental Justice Advisory Council, Governor Gretchen Whitmer issued a statewide shutoff moratorium/reconnection order, making Michigan one of only five States in the country to mandate reconnections (the order was eventually extended through the end of 2020) (Office of Governor Gretchen Whitmer 2020). Activists came to see the State order as offering a clearer, more detailed, and more authoritative set of reconnection guidelines – guidelines that could be used to keep pressure on the city. For example, they appealed to the State order to insist that the city confirm that reconnections were to be entirely free, without any kind of fee involved (a point the city did, in fact, emphasize in its June 10 press release). The State order also required cities to speed up reconnections and report on progress, which ultimately made it possible to get a more accurate number than the mayor's office had released initially.

When announcing the City of Flint's reconnection order, and repeatedly over the ensuing weeks, Mayor Neeley stressed that the policy was not a "free-for-all," and insisted that residents still pay whatever they could of their water bills to maintain the integrity of the city's water fund (which experienced a 15-20% decline in revenue during the first five months of the pandemic). At the same

time, Neeley acknowledged that the pandemic had created even more economic hardship than usual for residents. In early April, his administration and the Flint City Council announced an innovative pilot program, the Water Payment Assistance Fund, which involved diverting US$74,000 of federal Community Development Block Grant money (out of about US$3.5-5 million typically awarded to the city on an annual basis) to help residents with water bills. The program allowed moderate- to low-income residents, as well as those on unemployment due to the pandemic, to receive up to US$75 per month of matching assistance on water payments for up to three months (FlintBeat 2020). Demand proved to be overwhelming, with the city only able to choose 230 households of over 1000 that applied. The State Department of Health and Human Services made further support available by providing reimbursements to utilities to forgive past due bills and fees, as well as a 25% rebate on water bills for eligible customers (Office of Governor Gretchen Whitmer 2020).

The fact that assistance programs are typically temporary and/or partial and often involve considerable amounts of paperwork for people who are already overburdened has led to demands for a more fundamental restructuring of water rates in Flint. For at least fifteen years, activists in Flint have called for the city to establish a water affordability plan, preferably tying the rate residents pay for water to their household income. Specific recommendations of this nature have, in fact, already been drawn up by experts and are being discussed not only within activist groups but among a group of residents brought together by the C.S. Mott Foundation. There are indications that some of the people overseeing Flint's finances may be open to change: city Financial Advisor Eric Scorsone agrees with those calling for affordability that there is a need to break out of the "uniform rates" box (E. Scorsone, personal communication, July 16, 2020). Furthermore, there is a growing sense among advocates that potential legal hurdles created by the Michigan Constitution – which some have claimed forbid affordability plans as a form of

"price discrimination" – can be overcome. Whether the pandemic generates enough pressure to move affordability measures forward, however, remains to be seen.

Given the continued mistrust of the tap in Flint, and the Genesee County Medical Society's standing recommendation that some medically vulnerable residents avoid even filtered tap water, making water available to residents during the pandemic has required going beyond ensuring access to the municipal water grid. Since 2014 when the water quality issues emerged, residents have depended on a mixture of private and public water distribution sites, as well as one-off charitable water giveaways for free cases of bottled water. The number of distribution sites began to dwindle in 2017, when the State began to withdraw its support for them, and the last four State-sponsored sites closed in April 2018. That same month, the State ended its sponsorship of water delivery to homebound residents.

On both fronts, there has been an effort to fill the gap through a combination of grassroots initiatives and private donations of water. Three main church-based water distribution sites have remained open, supplied by the 100,000 water bottles that the Nestlé corporation donates every week. Even before the pandemic, these locations had already become important sites of food and water distribution – a service made more important by the complications of visiting the grocery store in the COVID era. Although these sites have had to adopt new protective measures and limit person-to-person interaction, the city continues to direct residents to them and utilize them for certain forms of outreach. Churches have also taken the lead in assuming responsibility for home water delivery, but they have struggled for lack of resources. On March 30, and with the coordination of the Neeley administration, Nestlé announced that it would step up its donations to help get water directly to those most at risk of Covid-19 (City of Flint 2020f). Private-public partnerships of this kind (especially with Nestlé, a favorite target of activists for its aggressive extraction of Michigan groundwater) typically draw

mixed reviews in Flint. The local culture includes a proud commitment to public institutions and services, but residents have learned that, in times of crisis, principle must sometimes be combined with practicality.

CONCLUSION

The layering of crisis upon crisis has made water issues in Flint even more challenging: residents wait for service line replacements and try to obtain bottled water; the public water utility attempts to juggle infrastructural priorities and accessibility initiatives; and the water department tries to keep the water fund's revenue stream flowing during a global economic collapse. In some ways, however, the fact that certain crisis-response pieces were already in place has put the city in a better position to respond to the pandemic than it may otherwise have been. The overriding lesson of the Flint water crisis has shone through the pandemic response at both the city and State levels: public health must come first, even when it creates logistical complications, and even when it is expensive. Like the crisis that preceded and merged with it, the Covid-19 pandemic has shown the world that water "has a lot of public good aspects that we didn't really consider before," in the words of city Financial Advisor Scorsone. It is time, he suggests, to "rethink the whole model," from shutoffs to rates to reconnections (E. Scorsone, personal communication, July 16, 2020).

If there is any other essential lesson to take away from the Flint water crisis, it is that it matters not only what particular decisions are made about our water, but how they are made. For several years, after Flint's affairs were taken over by the State of Michigan in 2011, residents watched a series of unelected emergency managers make critical decisions about water, without meaningful public involvement and regardless of whether or not they had popular support. Some of these decisions – above all, the decidedly unpopular switch to the Flint River – proved to be disastrous. The moral of the story

is clear, at least to many Flint residents and activists: water and democracy must go hand-in-hand.

Among the changes to State law that followed the water crisis was a requirement that every water system of moderate size have an advisory council comprised at least in part of local residents, with annual public meetings to facilitate popular awareness of, and feedback about, the water utility's operations. It could be an important step toward creating systems that are not only publicly owned, but democratically run, transparent, and accountable. Two years after passage of the statute, residents of Flint are still waiting for their city to take that step, and in a time of renewed crisis, there is a danger that democratic reform will be sacrificed to the demands of the moment as other priorities take precedence. On the other hand, residents know well by now that there is truth in the old cliché that with crisis comes opportunity. It may be that this part of the "whole model," too, will be reimagined – with residents themselves playing a significant role – in the days to come.

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