Learning from the Flint Water Crisis: Protecting the Public's Health During a Financial Emergency

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LEARNING FROM THE FLINT WATER CRISIS: PROTECTING THE PUBLIC'S HEALTH DURING A FINANCIAL EMERGENCY

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Executive Summary

In this report, we analyze the complex legal arrangements at the heart of the Flint water crisis and recommend changes to relevant laws and their implementation. The key legal questions we address can be stated simply. Given the appointment of an emergency manager, what legal authority could state, local, and federal public health and environmental agencies use to avert or mitigate the crisis? What legal changes are needed to prevent a similar public health crisis from occurring elsewhere, in Michigan or across the country?

As our report details, we observe failures in both the legal structure and how the laws were implemented that failed to stop and substantially exacerbated the crisis. Public officials failed to coordinate across units or use their legal authority effectively to prevent or mitigate the crisis.

- First, Michigan's Department of Environmental Quality (MDEQ) had primary legal authority and responsibility for safe drinking water monitoring and enforcement in Michigan, including legal power to prevent the Flint water crisis. We agree with the Governor's Task Force that "MDEQ caused this crisis to happen" when the department abdicated its essential and unique responsibilities as the state's environmental health agency.
- Second, although several agencies had legal authority to intervene as the crisis progressed, the Flint water crisis exposed jurisdictional gaps, overlaps, and inconsistencies in the state and federal legal frameworks that elicited confused and ultimately deleterious policy responses. Consequently, this produced missed opportunities to mitigate the crisis.

- Third, though the relevant laws include checks and balances that enable agencies to intervene when a sister or subordinate agency's actions or omissions threaten the public's health, these legal mechanisms are not self-executing. Indeed, legal checks and balances are futile if a supervising or co-equal agency adopts a policy of non-interference or deference without first establishing channels for communication and true cooperation.
- Fourth, the emergency manager's jurisdiction over the City of Flint undermined the local government's ability to respond to an emerging crisis. Once the emergency manager took over, city agencies could no longer act, although state, federal, and county agencies retained legal authority to intervene.
- And fifth, it seems clear that inadequate legal preparedness contributed significantly to how and why the crisis unfolded as it did. The lack of legal preparedness contributed to failures of implementation (especially regarding coordination and communication).

Research Design

The report examines the legal framework in two phases. First, we map the legal roles of federal, state, and local authorities responsible for safe drinking water and the public's health. To do so, we review the relevant jurisdictional framework as it existed prior to the appointment of an emergency manager. Second, we examine how the emergency manager's authority conflicted with the existing jurisdictional framework, leading to decisions that ignored the community's long-term health. To provide additional perspective, we also compare Michigan's emergency manager law to other state laws designed to address local government fiscal distress.

For Phase I, we developed a summary matrix of public health and environmental laws to structure our analysis of each entity's actual or potential relationship to the events that unfolded in Flint. The categories of inquiry in the summary matrix align with important public health functions relative to the crisis: (1) prevention; (2) surveillance and detection; (3) investigation; and (4) intervention.

For Phase II, we examined the specific provisions of Michigan's emergency manager law and how the law was implemented during the Flint water crisis. In addition, we explored emergency manager laws in other states to identify, compare, and contrast key features of these laws. We investigated alternative strategies for addressing local financial distress in states without emergency manager laws. We then mapped the roles of the Michigan Department of Treasury and state-appointed emergency manager onto the Phase I Summary Matrix.

Together, these phases illuminate what went wrong from a public health law perspective and enable an evaluation of whether the failures were inherent in the structural (i.e., objective) legal framework or in how the agencies interpreted and implemented the laws. In turn, the evaluation informs our recommendations for lawmakers, public health practitioners, and emergency managers.

Results

PHASE I

The public health legal framework relative to safe drinking water and public health in Michigan is complex and involves frequent overlap among levels of government and among agencies at each level. Under Michigan law, local entities are responsible for the day-to-day operations associated with providing public health services. Michigan is divided into counties, which are in turn comprised of townships, cities, and villages. Two types of local government operate in the city of Flint: the Genesee County government and Flint city government. The geographic boundaries of these entities overlap, as Flint is located entirely within Genesee County. Accordingly, local legal authority and responsibilities overlap at times.

On top of this structure, jurisdictional overlap exists at the state and federal levels, as both levels exercise oversight and provide assistance to local governmental entities. State agencies provide oversight and/or fill in gaps where significant expertise is needed or where services may be provided more efficiently on a larger scale. Federal entities similarly provide funding, oversight, expertise, and leadership on issues of national import. Under appropriate circumstances, the state or federal government may intervene to protect the public's drinking water and health.

Together with this vertical overlap (between levels of government), there is frequently horizontal overlap among agencies at the same level of government. This is particularly true for environmental health functions because many specific functions are allocated to environmental agencies, while general public health functions remain with health agencies. As a result, when an environmental factor—such as contaminated drinking water—threatens the public's health, multiple agencies may hold relevant powers and responsibilities to ameliorate the threat.

Finally, legal ambiguity regarding assignment of public health responsibilities arises in part from the nonlinear, iterative nature of public health activities. For purposes of this analysis, we have categorized public health activities into four functions: prevention; surveillance and detection; investigation; and intervention. This categorization is based on the purpose and relative timing of a given activity. Certainly, any given activity may not fall neatly into just one of these categories, may be dependent on another agency's performance of a related function, or may be prompted by another agency's actions or omissions. The relationships between activities often require that agencies share information and work together, but the law does not always require or even address this aspect of an agency's role or responsibilities.

Based on our analysis, the existing legal environment resulted in numerous structural and implementation failures. Overall, one of the most alarming gaps that we observed in the public health legal framework relative to safe drinking water is the lack of a specific and defined role for public health agencies. In fact, despite the stated purpose of both the federal and state drinking water laws to protect the public's health, public health agencies are only tangentially involved in their implementation. Rather than having specific powers related to safe drinking water, public health legal authority arises from general grants of authority to monitor or intervene to protect the public's health. Michigan law delegates primary legal authority and responsibility for safe drinking water to MDEQ, independent of public health agencies. Given the enormous public health consequences of a failure to properly regulate safe drinking water, the absence of public health professionals in implementing safe drinking water standards is troubling.

PHASE II

Michigan's local financial emergency law, the Local Financial Stability and Choice Act, empowers the governor to place complete legal control of financially distressed Michigan municipalities in the hands of a state emergency manager. The emergency manager is appointed by and serves at the pleasure of the governor, and is shielded from liability for his or her decisions. A unique aspect of Michigan's emergency manager law is the extent to which it removes all power from locally elected officials, hence completely displacing local democracy.

The appointment of an emergency manager significantly alters the Phase I legal framework in at least two ways. First, the appointment adds two new entities to how the various laws operate and intersect—the Treasury and the emergency manager. More importantly, it removes all legal authority vested in Flint city officials. Because the emergency manager is appointed by and serves at the pleasure of the governor, he or she operates as a state rather than a municipal level actor. As a result, the existing legal framework is inverted, with almost all power concentrated at the state level.

Although an emergency manager is empowered to "act for and in the place and stead of the governing body and the office of chief administrative officer of the local government," the law safeguards "the capacity of local units of government and school districts to provide or cause to be provided necessary services essential to the public health, safety, and welfare." But the statute itself does not impose specific requirements for the ways in which the emergency manager should take the public's health and welfare into account in making fiscal decisions. That is, the statute does not require the emergency manager to balance the public health implications, perhaps through cost benefit or cost effectiveness analyses, relative to the municipality's fiscal needs.

Currently, twenty states have emergency management laws to deal with local fiscal distress. Among these states, laws vary widely. Some states have strong powers to intervene and take over local governmental functions when a municipality is in distress, while other states play a more supportive role to local governments through oversight and technical assistance. Though there are few commonalities between states within the provisions of emergency management laws, our research revealed several common gaps that exist in most state emergency management laws. These gaps could have important effects on the public's health and safety.

Many state laws lack specific criteria for what constitutes a financial emergency, which could provide uncertainty or an arbitrary application of the law to different jurisdictions. The criteria for declaring a financial emergency and appointing an emergency manager should be clear and unambiguous. Many state laws also lack specific criteria for terminating an emergency manager's control of a jurisdiction, raising concerns that a jurisdiction may be subjected to state control for longer than is necessary, especially a possible longstanding absence of democratic representation and accountability for the local community.

DISCUSSION

Why is the legal environment so complex? Among the many reasons for the legal complexity, three stand out as being significant as detailed above. They represent the confluence of structural problems, implementation failures, and the sheer number of actors involved who were not prepared to deal with the complexity.

First is the difficulty of building a structural legal framework that avoids gaps and overlaps when confronting problems that involve the interaction of entirely different legal regimes. In the Flint Water Crisis, relevant actors needed to understand both Michigan's public health laws and the safe drinking water requirements. In the midst of the crisis, it was difficult for the relevant agencies to comprehend and synthesize the two legal regimes and act accordingly, let alone factor in how the emergency manager law would then affect decisions that would have been routine without an emergency manager.

Another is the inherent ambiguity of how laws are written, which exacerbates the challenges of adequate legal preparedness. Though some ambiguity is difficult to avoid, legal uncertainty and inadequate legal preparedness contributed to the implementation deficiencies described above. According to Benjamin and Moulton, there are four core elements of legal preparedness:

- Laws and legal authority (i.e., statutes, regulations, and ordinances)
- Effective use of laws
- Coordination of legal interventions across jurisdictions
- Information resources and dissemination.

Our results suggest that none of these elements was met before or during the Flint water crisis. In fact, the crisis exposed considerable flaws in each element. Our analysis of the gaps and overlaps indicates a lack of cohesiveness across legal regimes that inevitably led to poor coordination across agencies, deficient communication, and inadequate data sharing. In this case, laws that regulate different concerns across different agencies were enacted and implemented in silos, failing to address the need for an integrated, coordinated framework. As Jacobson et al. noted in the context of emergency preparedness, our Flint analysis similarly demonstrates "…substantial weaknesses in the overall clarity, direction, and cohesion of the laws governing…" safe drinking water. Jacobson et al. further concluded that "Legal clarity is … necessary for effective coordination, but is not sufficient. In this sense, "…effective coordination is a precondition for successful implementation of the law."

Because law can do little to ensure or compel effective coordination and communication across agencies, we are not prepared to argue that a legal regime designed to be more consistent, with better coordination and communication would have avoided the crisis. Nevertheless, it seems fair to conclude that improving legal preparedness would have at least mitigated the ensuing harm.

A final observation is that the number of actors involved at various levels of government made it difficult to communicate and coordinate across agencies and levels of government. Many of the implementation failures we describe could have been avoided had fewer actors been involved. This is where legal preparedness is important. As with disaster preparedness generally, effective responses

depend on communication and coordination that need to be designed and tested ahead of time. For example, the federal government funded bioterrorism preparedness exercises that included all agencies likely to be first responders. Similar preparedness exercises will be needed to prevent another Flint Water Crisis.

Although not specifically part of our study, we would be remiss if we failed to note the various agency cultures that contributed to the Flint Water Crisis. As Jacobson et al. have noted in another context, public health tends toward a risk-averse, procedurally-based culture. From everything we have learned in this project, the environmental agencies acted within similar constraints. It is hard to avoid the conclusion that a culture of punishing openness and summarily denying bad news seemed to pervade the agencies in the Flint tragedy.

KEY RECOMMENDATIONS

Emergency Manager Laws

The Flint water crisis is a case study showing the importance of democracy for protecting the public's health. For this reason, alternative legal strategies for responding to local fiscal distress should be fully explored. For example, municipal bankruptcy laws may constitute a viable alternative to emergency manager laws for municipalities in fiscal distress, while preventive activities such as technical assistance or even temporary financial assistance could alleviate the need for more intrusive state intervention.

Where an emergency manager law exists, a few common sense changes in the process of appointing and overseeing an emergency manager could alleviate subsequent failures. These changes would assure that the emergency manger hears and responds to the community's concerns. In short, more accountability is needed if emergency manager laws continue to be the primary approach for addressing municipal fiscal distress.

- Emergency manager laws should include an explicit requirement that emergency managers must consider the public's health in decision-making.
- Emergency manager laws must be consistent with the expected norms of democracy rather than displacing democracy entirely; accordingly, they must require consideration of local public opinion.
- Replace a single-person emergency manager with a three-person team comprised of a financial expert, a local government operations expert, and a local ombudsman.
- Prohibit cost from being the primary factor in an emergency manager's decision that would directly affect the public's health and safety.
- States should develop a rigorous process for public participation and engagement in decision-making once an emergency manager is appointed.
- States should develop appropriate criteria requiring the emergency manager to take into account the public's health and not just the cost-cutting component.
- States should ensure that emergency managers consult with appropriate experts when proposing changes that implicate public health, the environment, education, etc.

Safe Drinking Water

Public health agencies should be involved in regulating type I water supplies. Structurally, this could be achieved through changes in the permitting process and in environmental regulations.

- State environmental laws should require local health department (LHD) participation in the permitting process for Type 1 water systems, as Genesee County Health Department (GCHD) does with non-Type I water systems. LHDs would need adequate funding to be able to perform this function.
- State law should require public water systems to report waterborne disease outbreaks directly to LHDs and the state health department when they report to state and federal environmental agencies.
- The state environmental agency should develop regulations requiring coordination with state and local health departments regarding actions to be taken and when to notify the public of an environmental disease outbreak.
- Environmental Protection Agency (EPA) should closely examine the culture of a state environmental agency before granting primacy. Perhaps a more rigorous review of state programs is appropriate.

Public Health

In the Flint water crisis, the primary problem was with implementation, not the Public Health Code's structure. Addressing the implementation failures should be a priority for avoiding future similar crises.

- Public health should have a greater role in preventing exposure to environmental health threats. This function should not be managed solely by environmental agencies.
- Public health should focus lead prevention efforts further upstream—rather than waiting to respond to elevated blood lead levels.
- Public health agencies should engage in more rigorous health monitoring following environmental changes with potential public health effects.
- Public health agencies should rigorously employ their investigative authority to protect the public health.
- Public health agencies should develop criteria for when and how to notify the public of threats to their health such as the Legionnaire's disease outbreak.
- Public health agencies should recognize and weigh the risks of delaying action when making decisions. For example, the LHD failed to declare an emergency in Flint immediately upon learning of the extent of the crisis, thus delaying availability of needed resources and response efforts.

Introduction

The Flint, Michigan, water crisis—a manmade disaster that resulted in the poisoning of thousands of children and adults after lead leached into the city's drinking water—is a terrible tragedy, and one that was far from inevitable. The crisis resulted from a cost-driven switch to the city's drinking water in April of 2014, while the financially distressed community was under the control of a state-appointed emergency manager (emergency manager). Despite Flint residents' repeated complaints and requests for assistance, the community endured the escalating crisis for well over a year before a governmental response finally began to trickle in. The response came when it did only because the crisis was exposed by private actors—scientists, physicians, and Flint residents that worked together to examine the undeniable consequences of lead poisoning unfolding in their community.[1]

After the crisis was exposed in the fall of 2015, Flint residents have appropriately cast blame in multiple directions, as dozens of civil lawsuits and unprecedented criminal charges have been filed. Assessing responsibility is important for a variety of reasons. For one thing, the Flint community deserves monetary compensation and governmental resources to address the very real and severe damage they continue to endure. For another, it is essential to ensure accountability of government and private actors, and restore a sense of justice and fairness to a community that has been harmed. Equally important, a retrospective assessment can develop strategies to help prevent the occurrence of similar disasters in the future.

A conscientious response to the Flint water crisis requires more than finding fault. It demands critical examination of the legal, political, and societal contexts in which the crisis unfolded, and compels a comprehensive, prevention-focused response to the ensuing failures that endangered the public's health. Other analyses, particularly the Governor's Flint Water Advisory Task Force Report,[2] have examined the political and societal contexts. Of necessity, our report touches on the political and societal aspects, but the central focus is on the legal aspects that contributed to the crisis.

In this report, we analyze the complex legal arrangements at the heart of the Flint water crisis and recommend changes to relevant laws and their implementation. The key legal questions we address can be stated simply. Given the appointment of an emergency manager, what legal authority could state, local, and federal public health and environmental agencies use to avert or mitigate the crisis? What legal changes are needed to prevent a similar public health crisis from occurring elsewhere, in Michigan or across the country?

The report examines the legal framework in two phases. First, we map the legal roles of federal, state, and local authorities responsible for safe drinking water and the public's health. To do so, we review the relevant jurisdictional framework as it existed prior to the appointment of an emergency manager. Second, we examine how the emergency manager's authority conflicted with the existing jurisdictional framework, leading to decisions that ignored the community's long-term health. To provide additional perspective, we also compare Michigan's emergency manager law to other state laws designed to address local government fiscal distress.

To be sure, the legal failures we detail were not the sole cause of the crisis. But even a cursory examination of the legal context reveals the sheer complexity of the roles and responsibilities governmental officials were expected to meet in maintaining and monitoring the quality and safety of drinking water. To begin with, the legal analysis must assess the relationship between two different but overlapping sets of state legal authorities affecting enforcement of safe drinking water—Michigan's public health code and its environmental laws. Then, we need to understand how Michigan's emergency manager law alters the existing legal arrangements. Juxtaposed on those factors, we must consider how issues of federalism and the relationship between state and local governments influenced public officials during the crisis.

In retrospect, as our report details, several key aspects of the legal analysis stand out. In short, we observe failures in both the legal structure and how the laws were implemented that failed to stop and substantially exacerbated the crisis. Under these circumstances, it should not be surprising that harried public officials, acting under great pressure, failed to coordinate across units or use their legal authority effectively to prevent the crisis or mitigate its extent.

- First, Michigan's Department of Environmental Quality (MDEQ) (see Appendix E for a Glossary of Terms) had primary legal authority and responsibility for safe drinking water monitoring and enforcement in Michigan, including legal power to prevent the Flint water crisis. We agree with the Governor's Task Force that "MDEQ caused this crisis to happen"[3] when the department abdicated its essential and unique responsibilities as the state's environmental health agency.
- Second, although several agencies had legal authority to intervene as the crisis progressed, the Flint water crisis exposed jurisdictional gaps, overlaps, and inconsistencies in the state and federal legal frameworks that elicited confused and ultimately deleterious policy responses. Consequently, this produced missed opportunities to mitigate the crisis.
- Third, though the relevant laws include checks and balances that enable agencies to intervene when a sister or subordinate agency's actions or omissions threaten the public's health, these legal mechanisms are not self-executing. Indeed, legal checks and balances are futile if a supervising or co-equal agency adopts a policy of non-interference or deference without first establishing channels for communication and true cooperation.
- Fourth, the emergency manager's jurisdiction over the City of Flint undermined the local government's ability to respond to an emerging crisis. Once the emergency manager took over, city agencies could no longer act, although state, federal, and county agencies retained legal authority to intervene.
- And fifth, it seems clear that inadequate legal preparedness contributed significantly to how and why the crisis unfolded as it did. The lack of legal preparedness contributed to failures of implementation (especially regarding coordination and communication).

What happened in Flint matters because there is little doubt that the Flint water crisis presages similar critical challenges facing many American cities. Importantly, because emergency manager laws are invoked in financially

distressed communities, they disproportionately affect our most vulnerable populations. Thus, examining how the intersection and implementation of various laws affected decisions addressing a municipality's immediate financial crisis at the expense of the community's long-term health is essential to preventing a similar crisis from occurring elsewhere. This report endeavors to fill some of the gaps in understanding that impede meaningful and effective legal, policy, and practice reforms following the tragedy in Flint.

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Context

By now, the Flint water crisis story is well known. In 2015, following a private researcher's discovery of high levels of lead in the city's drinking water, physicians detected elevated blood lead levels in Flint's children, resulting in state and local emergency declarations. In 2014, Flint had changed its source of water to the Flint River. Despite the corrosiveness of Flint River water, the Flint water department failed to treat the water with anti-corrosion control measures that would have cost the city approximately $140 per day.[4] As a result, lead from the aging service lines to homes leached into the drinking water. Even though Flint has returned to its previous water source, the corrosive nature of the untreated river water compromised its aging water pipes and exposed residents to unsafe lead levels. Recent remediation efforts have improved the situation, but the lead exposure will negatively affect the community's health, especially its children, for years. See Appendix A for an abbreviated timeline of key events and decisions associated with the Flint water crisis.

Aside from the lead exposure, the Flint community suffered from a series of Legionnaire's disease outbreaks at McLaren Hospital.[5] Although there is some dispute about the source of the *Legionella*, the switch to the Flint River is the leading suspect. At least 12 people died from Legionnaire's disease in 2014-2015.[6]

Flint changed its water source under the direction of an emergency manager, ostensibly as a cost-saving measure. Michigan's emergency manager statute had been invoked to address Flint's long-standing financial crisis. This law imposes state powers upon the governor's determination that a state of financial emergency exists in a municipal government or school district.[7] The law authorizes a state-appointed emergency manager to take over the operations of the local government to rectify the financial emergency and to assure fiscal accountability and continued provision of necessary governmental services. When the state intervenes, the executive and legislative powers of the local government are suspended and fully vested in the emergency manager. Since the first version of the law was passed in 1988, an emergency manager has been appointed to eleven different municipalities and four different school districts across Michigan.[8]

It is undeniable that Flint was in fiscal distress and that it was defensible under the law to appoint an emergency manager. But investigations and released emails suggest that the emergency manager made three key decisions that were disastrous to the public's health, and contrary to the city's economic best interests. Those decisions were: (1) committing the city to joining the new Karegnondi Water Authority (KWA) at a cost of $85-110 million; (2) terminating the city's decades-long contract for treated water from the Detroit Water and Sewerage Department (DWSD); and (3) using Flint River water filtered through the Flint Water Treatment Plant (WTP).[9] Instead of negotiating a cost-effective contract with the DWSD, the emergency manager's decisions placed the city in an even more precarious financial position than it was before his appointment.[10]

The failure to invest in appropriate WTP upgrades or assure its readiness to distribute safe drinking water most starkly demonstrates the emergency manager's disregard for the public's health. On top of this, MDEQ failed to require the city to implement a relatively inexpensive anti-corrosive treatment that would have substantially mitigated the lead exposure. These short-sighted decisions ignored the public health consequences, resulting in an enormous toll on the Flint community. At this point, direct and indirect costs cannot be fully assessed, but estimates run as high as $300 billion.[11] Equally troubling, Flint residents were deprived of a representative and accountable government, and hence were denied any voice at all in decisions affecting their health and wellbeing.[12] Not surprisingly, city residents have filed multiple lawsuits.[13] And, as of August 1, 2017, criminal charges have been brought against fifteen government officials, with criminal investigations still underway.[14]

To assess the crisis, Governor Snyder appointed a Flint Water Advisory Task Force (Task Force), which released its Final Report on March 21, 2016.[15] Observing that "[t]he Flint water crisis is a story of government failure, intransigence, unpreparedness, delay, inaction, and environmental injustice," the Task Force allocated primary responsibility to MDEQ.[16] In particular, MDEQ ignored sound environmental science in administering the Safe Drinking Water Act (SDWA), which sets standards for municipal water supplies. But the Task Force documented failures at every level of government that permitted the crisis to persist and worsen despite mounting evidence of a public health emergency.[17] These failures included lack of communication, confusion regarding overlapping responsibilities, and disagreement among authorities. The reluctance to intervene plagued government interaction vertically (among federal, state, and local authorities) and horizontally (between agencies at the same governmental level). Perhaps most importantly, the Task Force harshly criticized state authorities for their glaring and repeated dismissals of concerns expressed by local elected officials and Flint residents regarding the safety of their drinking water.[18] In this context, it is worth emphasizing that physicians and outside experts discovered the high water lead and blood lead levels in Flint, demonstrating the need for private intervention and monitoring in the absence of appropriate governmental intervention.

Methods

As mentioned above, we conducted the research for this report in two phases. The first phase of research (Phase I) focused on understanding the legal framework that existed in Flint prior to the appointment of an emergency manager. The second phase (Phase II) considered the impact of Michigan's emergency manager law on the existing legal framework and examined other states' emergency manager laws and/or alternative strategies for addressing local financial emergencies. Together, these phases illuminate what went wrong from a public health law perspective and enable an evaluation of whether the failures were inherent in the structural (i.e., objective) legal framework or in how the agencies interpreted and implemented the laws. In turn, the evaluation informs our recommendations for lawmakers, public health practitioners, and emergency managers.

A. Phase I: Understanding the Existing Legal Framework

The specific aim of Phase I was to clarify the existing public health legal environment in which the Flint emergency managers operated. To begin our analysis, we mapped the overlapping legal roles and responsibilities of the governmental agencies and entities involved in protecting the public's health and ensuring safe drinking water.

We first compiled a list of potentially involved entities by reviewing existing analyses of the Flint water crisis, including the Flint Water Advisory Task Force Report. To supplement the initial list, we identified other entities of interest based on our research questions. The final list of entities includes:

- The federal Environmental Protection Agency (EPA)
- The federal Department of Health and Human Services (HHS) (with particular focus on its primary public health arm, the Centers for Disease Control and Prevention (CDC))
- The Federal Emergency Management Agency (FEMA) (within the Department of Homeland Security)
- The Michigan Governor's office
- The Michigan Department of Environmental Quality (MDEQ)
- The Michigan Department of Health and Human Services (MDHHS)
- The Genesee County Board of Commissioners
- The Genesee County Health Officer and Department of Health (GCHD)
- The Genesee County Board of Health
- The Flint city council
- The Flint mayor
- The Flint Department of Public Works (DPW) (which includes the municipal public water system).

Next, we identified and categorized aspects of legal authority relevant to our goal of understanding the entities' roles and responsibilities for safe drinking water and the public's health. These categories provided the contours for our research regarding each entity and included inquiries about the source and scope of both general and specific authority relative to: (a) environmental health hazards; (b) safe drinking water; (c) protecting the public's health; and (d) conducting public health investigations. Within each of these subcategories (a)-(d), we determined the nature of each entity's jurisdiction (e.g., exclusive, preemptive, primary, concurrent), along with the mandatory and discretionary legal functions assigned to the entity.

We also documented the legal relationships with other entities to assess potential overlapping jurisdiction and gaps in authority. We identified powers shared or monitored by another agency, responsibilities for overseeing another entity's performance, and the authority to intervene if another entity failed to act. Finally, we noted additional areas of inquiry that would facilitate a fuller understanding of legal barriers and requirements applicable to the entity, including legal checks and balances, requirements to respond to citizens' complaints, jurisdictional gaps, and conflicting objectives created through law. The full list of our Phase I research questions is set forth in Appendix B.

Our next step was to develop matrices to document our research. We created a matrix for each entity in which we listed every area of inquiry, and included space to document legal citations as well as immediate recommendations or questions. We then searched for all laws relating to the entity's creation, its general grant of authority, and the agency's specific authority relative to the pre-identified subcategories (environmental health, safe drinking water, public health protection, public health investigation). The laws we identified include:

- The Michigan Public Health Code and regulations
- The federal Public Health Service Act and regulations
- State and federal Safe Drinking Water Acts and regulations
- State and federal emergency management statutes and regulations (note that these differ from emergency *financial* management laws)
- The Michigan Constitution
- Michigan statutes providing for county and city organization and authority
- Michigan Executive Reorganization Orders
- County health and sanitation codes
- City charters and ordinances.

After reviewing each of these laws and recording the results in the matrices, we next identified gaps in our matrices and searched specifically for information responsive to those gaps.[19]

Following completion of the individual matrices, we developed a Phase I summary matrix to structure our analysis of each entity's actual or potential relationship to the events that unfolded in Flint. The categories of inquiry in the summary matrix align with important public health functions that represent windows of opportunity for government activity relative to the crisis: (1) prevention; (2) surveillance and detection; (3) investigation; and (4) intervention. We then mapped the individual entity matrices onto the summary matrix by categorizing grants of clear or ambiguous authority for each entity according to the four public health functions selected. We used the following general definitions to describe the selected public health functions and to categorize legal authority:

Prevention: A standard public health definition for prevention is "action so as to avoid, forestall, or circumvent a happening, conclusion, or phenomenon (e.g., disease)."[20] We use this term to encompass activities and functions aimed at preventing exposure to the primary agents of adverse health impacts associated with the water crisis—lead and *Legionella*.

Surveillance/Detection: The CDC describes surveillance as "the ongoing, systematic collection, analysis, and interpretation of health-related data essential to planning, implementation, and evaluation of public health practice."[21] We use this term to include not only collection of data related to Legionnaire's disease and elevated blood lead levels, but also to capture data collection efforts pertaining to water quality, as this was a key piece of health-related data essential to public health planning. We include the term Detection to reflect the discovery of irregularities, outbreaks, or patterns that may result from routine monitoring accompanied by careful analysis and interpretation.

Investigation: Our use of the term Investigation encompasses activities designed to identify the source of a disease outbreak or threat to the public's health.[22] As compared to surveillance, which is routine and ongoing, we consider investigative activities to include those aimed at seeking information related to an identified problem or irregularity.

Intervention: Intervention may be defined as an "action or ministration that produces an effect or is intended to alter the course of a pathologic process."[23] We have used this term to describe legal actions to arrest the progression or spread of a cause of illness or harm, as well as actions to correct violations of the law which pose a threat to human health.

Finally, we document actions that were actually taken (relying primarily on the factual account provided in the Flint Water Advisory Task Force) versus actions that each entity could have taken. In this format, the summary matrix provides a basis for further evaluating legal gaps, implementation failures, and opportunities for improvement.

Note that while our initial research included examining emergency response activities, we later excluded this information from our analyses because the project focuses on legal authority to prevent or mitigate the progress of a public health threat *before* it rises to the level of an emergency. In other words, we do not critique the emergency response (i.e., activities that occurred after the emergency declaration), but rather assess the existing legal framework in place to prevent public health emergencies from occurring.

B. Phase II: The Impact of the Emergency Manager Law on the Existing Legal Framework

The second phase of our analysis examined how the appointment of an emergency manager in Flint affected the legal environment described in Phase I. In particular, we examined how the Governor's appointment of an emergency manager shaped and limited the ability of other responsible agencies to exercise their legal authority. In addition, we explored emergency manager laws in other states to identify, compare, and contrast key features of these laws. We investigated alternative strategies for addressing local financial distress in states without emergency manager laws. We determined whether particular features of a law or strategy might yield an optimal (be it greater or lesser) impact on the legal landscape described in Phase I and thus on the public's health.

In the first step of Phase II, we developed a list of key areas of inquiry regarding emergency manager laws. Through a literature review, we identified five categories of inquiry, including:

- Legal authority to intervene to prevent a local financial emergency;
- Legal authority to intervene in a local financial emergency;
- Legal authority of the intervener;
- Legal authority to file for Chapter 9 bankruptcy; and
- Other legal mechanisms available to prevent or address local fiscal emergencies.

These categories capture the most important features of state laws regarding measures to address local fiscal distress. We then deconstructed each of these categories into discrete questions to further specify state law requirements for, or alternatives to, intervention, allocation of responsibility, limits on authority, responsibilities or structures imposed to protect the community, and methods for assuring accountability. Through an iterative research process, we developed a set of matrices reflecting these key areas of inquiry, with an individual matrix reflecting each of the states examined. These categories were further refined during the research portion of Phase II. The full set of questions is set forth in Appendix C.

Our next step was to develop criteria for selecting which states, in addition to Michigan, to examine in detail. Through a literature review, we identified states with and without emergency management laws. For states without emergency management laws, we categorized them according to municipalities' legal authority to file for Chapter 9 bankruptcy. These states were divided into three groups: states with blanket authorization to file for Chapter 9 bankruptcy; states that authorize Chapter 9 bankruptcy after a municipality meets specified conditions; and states that do not authorize municipalities to file for Chapter 9 bankruptcy.

Based on this information, we selected twenty states for inclusion in our research—ten states with emergency manager laws and ten states without such laws. To select ten states from among those with emergency manager laws, we considered the demographic characteristics of each state (including geography, population size, and the percentage of the population living in urban versus rural areas). A priority was to select states in which the emergency management law had in fact been implemented. The states with emergency management laws included in our analysis are: Arizona, California, Iowa, Maine, Michigan, Nevada, New Jersey, North Carolina, Oregon, and Rhode Island.

To select ten states without emergency manager laws, we based our initial selection on the type of municipal bankruptcy laws in each state. We categorized states according to those in which state law does not permit municipalities to file for bankruptcy, those setting conditions that municipalities must meet before filing for bankruptcy, and those providing blanket authority for municipalities to file for bankruptcy. We again sought to incorporate demographic characteristics into our selection criteria (geography, population size, and percentage of the population living in rural versus urban areas). From the list of states without emergency manager laws, we first sorted states by type of municipal bankruptcy law. Then we selected an approximately equal number of states from each category with demographic characteristics in mind to provide diversity in our selections. The states without emergency manager laws examined in our research include: Colorado, Connecticut, Kentucky, Maryland, Mississippi, Missouri, Montana, South Carolina, Washington, and

Wyoming. A detailed breakdown of selection criteria is included in Appendix D.

In each of the twenty states selected, we then analyzed emergency manager laws, municipal bankruptcy laws, and other responses to fiscal distress. We used traditional analytic legal research methods to assess each state's laws. As a starting point, we used a summary of state fiscal distress laws published by the Pew Charitable Trusts.[24] The Pew report focused on the role of state governments in local government financial distress, and provided some legal citations for emergency management laws in the selected twenty states. For those states without citations, we conducted key word searches in public statutory databases for each state to identify relevant statutes. For this study, we did not consider state regulations or informal state policies related to fiscal distress laws.

After completing the Michigan emergency management law matrix, we mapped the roles of the Michigan Department of Treasury (Treasury) and state-appointed emergency manager onto the Phase I Summary Matrix. Through this mapping, we identified the role of Treasury and the emergency manager in prevention, surveillance/detections, investigation, and intervention. Moreover, we documented changes to other entities' authority that resulted from the emergency manager's appointment.

Finally, along with analyzing selected states' emergency financial management laws, we assessed the concept of fiduciary duty as applied to emergency managers. For this analysis, we used standard legal research methods. Our research failed to uncover any primary legal sources, as the law of fiduciaries has not been applied in the context of government's duty to citizens during a fiscal crisis. We further consulted secondary authorities including law reviews, legal dictionaries and legal treatises for additional background information on the topic and current legal thinking.

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Legal Analysis

In this section, we assess the legal context relating to safe drinking water and exercising general public health powers. With respect to each, we describe the relevant legal powers and responsibilities of city, county, state, and federal entities. Each entity is responsible for fulfilling a wide range of functions. Our examination focuses primarily on each agency's legal authority and the actions or omissions that led to, enabled, or perpetuated the Flint water crisis.[25] We also identify legal authority and implementation relevant to the Legionnaire's disease outbreak that occurred in Flint.

In Sections B and C below, we discuss the general legal framework that governs safe drinking water and public health powers absent appointment of an emergency manager. In both cases, the framework is dictated to some extent by federal law, but the laws and services are implemented most directly at the state and local levels. Accordingly, after describing the framework, we explore the roles of specific agencies, described in order of importance to the Flint Water Crisis. We conclude our analysis of each agency with a summary of legal implications, including structural gaps and implementation failures associated with that agency.

In section D, we examine how the emergency manager's appointment in Flint affected the existing legal framework. For comparison, we then examine other states' strategies for managing local fiscal distress. We also consider whether the legal concept of fiduciary duty offers insight into an emergency manager's actual or potential legal responsibilities.

A. Analytical Overview

To facilitate reading what is admittedly a complex set of results, we provide two summary Tables. In Table 1, we note the primary gaps and ambiguities in legal authority. This table reflects structural legal failures, i.e., failures inherent in the legal framework. Table 2 identifies key jurisdictional overlaps and isolates failures to perform legal duties in Flint.

Though overlap is not inherently problematic, it is almost inevitable that gaps will occur if the relevant agencies have not communicated and prepared for instances of overlapping authority. Taken together, the issues in Table 2 reflect failures of implementation.

Table 1: Structural Legal Failures (Gaps and Ambiguities)

	Federal		State			County		City		
	EPA	HHS / CDC	Governor	MDEQ	MDHHS	Gen. Cnty. Bd. of Comm'rs	GCHD	Mayor	City Council	DPW
Prevention	Lacks PH expertise but no PH consult required	No authority (narrow exceptions)		Lacks PH expertise but no PH consult required	No authority		No authority for Type 1 water supply			Lacks PH expertise but no PH consult required
Surveillance/ Detection				Not required to report to or support PH			Does not receive all BLL test results			Not required to report to or support PH
Investigation					Unclear w/ regard to drinking water		Unclear w/ regard to drinking water			
Intervention					Unclear w/ regard to drinking water		Unclear w/ regard to drinking water			

Table 2: Failures of Implementation (Jurisdictional Overlap and Failures to Perform)

	Federal		State			County		City		
	EPA	HHS / CDC	Governor	MDEQ	MDHHS	Gen. Cnty. Bd. of Comm'rs	GCHD	Mayor	City Council	DPW
Prevention	Failed to identify/ address MDEQ's cultural issues			Failed to assure Flint's capacity, require OCCT						Failed to complete needed upgrades, implement OCCT
Surveillance/ Detection				Guided DPW to submit inaccurate data, lied to EPA	Failed to facilitate GCHD's access to BLL data					Failed to correctly monitor lead
Investigation	Failed to fully investigate Flint residents' lead concerns	Failed to assist GCHD absent state request	Failed to assure rigorous investigation by agencies	Failed to cooperate with GCHD's LD investigation	Failed to adequately investigate BLL or LD data, support GCHD's LD investigation		Failed to use full authority to investigate			Failed to cooperate with GCHD's LD investigation
Intervention	Failed to override OCCT decision, take enforcement action, issue emergency orde	Failed to declare PH emergency	Failed to take responsibility for agency failures, timely declare emergency	Failed to require Flint to correct violations		Did not urge/require aggressive GCHD action	Failed to issue PH order, sound alarm			Failed to notify public of LD outbreak

The public health legal framework relative to safe drinking water and public health in Michigan is complex and involves frequent overlap among levels of government and among agencies at each level. Under Michigan law, local entities are responsible for the day-to-day operations associated with providing public health services. Michigan is divided into counties, which are in turn comprised of townships, cities, and villages.[26] Two types of local government operate in the city of Flint: the Genesee County government and Flint city government. The geographic boundaries of these entities overlap, as Flint is located entirely within Genesee County. Accordingly, local legal authority and responsibilities overlap at times.

On top of this structure, jurisdictional overlap exists at the state and federal levels, as both levels exercise oversight and provide assistance to local governmental entities. State agencies provide oversight and/or fill in gaps where significant expertise is needed or where services may be provided more efficiently on a larger scale. Federal entities similarly provide funding, oversight, expertise, and leadership on issues of national import. Under appropriate circumstances, the state or federal government may intervene to protect the public's drinking water and health.

Together with this vertical overlap (between levels of government), there is frequently horizontal overlap among agencies at the same level of government. This is particularly true for environmental health functions because many specific functions are allocated to environmental agencies, while general public health functions remain with health agencies. As a result, when an environmental factor—such as contaminated drinking water—threatens the public's health, multiple agencies may hold relevant powers and responsibilities to ameliorate the threat.

Finally, legal ambiguity regarding assignment of public health responsibilities arises in part from the nonlinear, iterative nature of public health activities. For purposes of this analysis, we have categorized public health activities into the four functions described above: prevention; surveillance and detection; investigation; and intervention. This categorization is based on the purpose and relative timing of a given activity. Certainly, any given activity may not fall neatly into just one of these categories, may be dependent on another agency's performance of a related function, or may be prompted by another agency's actions or omissions. The relationships between activities often require that agencies share information and work together, but the law does not always require or even address this aspect of an agency's role or responsibilities.

Table 3 below graphically depicts the three different ways in which responsibility is divided and assigned among agencies. Ideally, each point of intersection in each matrix, as well as the intersection between the matrices, would represent a clean transition of authority from one agency to another, whether through clearly written laws, formal memoranda of understanding between agencies, or simply through interagency communication and coordination. In reality, these intersections present opportunities for gaps, either in the law or in implementation, that are unfortunate aspects of operating in a complex legal and public health practice environment. The intersections may also reflect overlap, which may lead to gaps if two or more agencies defer to one another but fail to communicate. Planning, preparedness, and communication are keys to assuring that gaps and areas of jurisdictional overlap are navigated before a public health threat emerges, rather than in the midst of an ongoing crisis.

Table 3: Vertical, Horizontal, and Functional Intersections

SAFE DRINKING WATER										
	Federal		State			County		City		
	EPA	HHS / CDC	Governor	MDEQ	MDHHS	Gen. Cnty. Bd. of Comm'rs	GCHD	Mayor	City Council	DPW
Prevention	X			X				X	X	X
Surveillance/ Detection	X			X						X
Investigation	X		X	X				X	X	
Intervention	X		X	X				X	X	

PUBLIC HEALTH (LEAD IN WATER AND LEGIONNAIRE'S DISEASE)										
	Federal		State			County		City		
	EPA	HHS / CDC	Governor	MDEQ	MDHHS	Gen. Cnty. Bd. of Comm'rs	GCHD	Mayor	City Council	DPW
Prevention	X			X				X	X	
Surveillance/ Detection		X		X	X		X			X
Investigation		X	X	X	X		X		X	
Intervention		X	X	X	X	X	X	X	X	

B. The Safe Drinking Water Legal Framework

The general legal structure pertaining to safe drinking water is set forth in the federal Safe Drinking Water Act (SDWA), which establishes standards applicable to public water systems across the country.[27] The SDWA assigns responsibility for administering the Act, including promulgation of regulations and enforcement, to the EPA.[28] Nonetheless, the SDWA delegates primary supervision and enforcement responsibility (primacy) for public water systems to the states if they meet certain statutory requirements. These requirements include: adopting drinking water regulations that are at least as stringent as federal regulations; implementing adequate enforcement and monitoring procedures; adopting authority to impose administrative penalties for noncompliance; and adopting an adequate plan to ensure safe drinking water during emergencies.[29] Currently, all states and territories except Wyoming and the District of Columbia have primacy.[30] EPA's responsibility in most states—including Michigan—is therefore supervisory and preemptive in nature.

The EPA is responsible for promulgating national primary drinking water regulations (NPDWRs) for contaminants that are likely to occur in public water systems and are harmful to health. NPDWRs must establish either (1) the maximum permissible level of a harmful contaminant which may be in public drinking water (i.e., the Maximum Contaminant Level or MCL), or (2) if measurement of the contaminant level is not feasible, require use of treatment technique(s) known to adequately reduce the level of the contaminant.[31] Because state regulations must be at least as stringent as federal regulations, the NPDWRs provide a floor for public drinking water safety standards across the country. NPDWRs generally prescribe monitoring requirements as well, including sampling techniques and analytic and reporting requirements.[32] The EPA has promulgated NPDWRs regarding over 90 contaminants, including treatment technique requirements pertaining to lead and *Legionella*.[33]

An important regulation for understanding the Flint crisis is the Lead and Copper Rule (LCR).[34] The Maximum Contaminant Level Goal (MCLG) for lead is zero because lead exposure is dangerous at any level.[35] Rather than establishing an enforceable MCL, the LCR specifies treatment techniques designed to prevent harmful concentrations of lead and copper in drinking water.[36] Specifically, public water systems must install and operate optimal corrosion control treatment (OCCT) as provided

in the LCR.[37] The rule establishes detailed monitoring and analytic requirements for lead and copper,[38] and identifies action levels for both contaminants that, if exceeded, elicit additional requirements such as OCCT review, source water treatment, lead service line (LSL) replacement, and/or public education.[39]

Scientists have criticized the LCR for years, observing scientific weaknesses and legal loopholes in the rule that prevent it from effectively protecting the public's health.[40] One of the LCR's most troubling shortcomings is that the lead action level is a technological standard designed to screen water systems for generally effective corrosion control rather than a health-based standard to assure safe drinking water in every household.[41] In response, some scientists have recommended that the LCR include health-based benchmarks that would initiate additional household-level remedial measures.[42] A further problem is that the LCR, first promulgated by EPA in 1991, has been updated only through interim revisions in 2000 and 2007.[43] Although EPA has revisited the rule, the agency has failed to promulgate the robust revisions urged by scientists.[44] With respect to *Legionella* and several other microbiological contaminants, the EPA has established an MCLG of zero.[45]

MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY

As the primary enforcement agency under the state and federal SDWAs, the Michigan Department of Environmental Quality (MDEQ) has the power and responsibility to assure the safety of Michigan's public drinking water. MDEQ is tasked both with developing state drinking water standards and with enforcing them.[46] State drinking water standards must be at least as stringent as the NPDWRs, and the Michigan SDWA incorporates NPDWRs by reference until MDEQ promulgates standards covering the same contaminant.[47] MDEQ's enforcement responsibilities also include permitting, monitoring, and advising public water systems and deploying enforcement techniques as needed to assure compliance.

As the Governor's Task Force determined, MDEQ's repeated failure to properly discharge its responsibilities or to develop an appropriate response as the crisis unfolded was a major contributor to the water crisis.[48] Although organizational culture is not a specific criterion that EPA must consider when evaluating a state's capacity for primacy, it seems clear that MDEQ's culture placed a priority on technical compliance over public health that was a major contributing factor to the Flint water crisis. This section focuses first on MDEQ's legal authority and activities specifically in Flint, and then assesses MDEQ's design and implementation of its safe drinking water program more generally.

a. MDEQ in Flint

PERMITTING AND PREPARATION

MDEQ is responsible for permitting new Type 1 water systems and alterations to Type 1 water systems, and must determine that the proposed system will protect the public's health before issuing a permit. To grant a permit, the agency must "evaluate the adequacy of the proposed system to protect the public health by supplying water meeting the state drinking water standards."[49] MDEQ must also conduct a capacity assessment to determine whether the public water system has adequate technical, financial, and managerial capacity to assure compliance.[50]

Reports on the water crisis indicate that multiple engineering firms conducted studies to assess and evaluate Flint's drinking water options and determine whether upgrades were needed to prepare the Flint WTP to treat Flint River water.[51] The firms produced conflicting conclusions regarding the feasibility of using the Flint River as a drinking water source and offered vastly different cost estimates for Flint WTP upgrades—seemingly dependent on what the city could afford rather than what would assure safe drinking water. Although initial estimated costs for the Flint WTP upgrades exceeded $60 million, it appears that MDEQ ultimately approved plans involving upgrades amounting to only $8 million because this was all the city could afford.[52] Even more alarming than the inconsistent cost estimates, reports indicate that a mere two years before Flint began using the Flint River for its drinking water, MDEQ had advised the then-emergency manager against switching to the Flint River because of safety concerns.[53]

Without question, MDEQ had sufficient legal authority and information to deny Flint's permit application or to condition permit approval on changes to the city's construction plans. Alternatively, MDEQ could have required Flint to obtain additional, independent engineering analyses to resolve informational inconsistencies. Instead, MDEQ approved the city's permit based on studies that were at best inconclusive. Rubber-stamping a permit application reflects an implementation rather than structural legal failure.

Even after this initial misstep, MDEQ continued to abdicate its responsibilities in Flint. For example, Flint DPW staff knew that the system was not prepared to distribute drinking water and expressed their concerns to MDEQ, explaining that Flint city administrators were pushing for start-up even though the system was not ready. Indeed, an email from a Flint WTP employee to MDEQ staff within days of start-up stated the following:

> I have people above me making plans to distribute water ASAP. I was reluctant before, but after looking at the monitoring schedule and our current staffing, I do not anticipate giving the OK to begin sending water out anytime soon. If the water is distributed from this plant in the next couple weeks, it will be against my direction. I need time to adequately train additional staff and to update our monitoring plans before I will feel we are ready. I will reiterate this to management above me, but they seem to have their own agenda.[54]

This and other publicly released emails suggest that the Flint DPW staff were under pressure to operate the system despite being unprepared, and that MDEQ staff were well aware of this reality. As the primary enforcement authority, it is unclear why MDEQ did nothing to respond to these concerns. As a direct result, the Flint public water system was not equipped to protect the public's health even when it first launched.

MISAPPLYING THE LCR

As required under the federal LCR, MDEQ exercises a very direct role in preventing lead contamination because it is responsible for determining whether optimized corrosion control exists in a water system and, if necessary, determining an appropriate OCCT method.[55] In the event that the selected OCCT method does not effectively prevent lead from entering the drinking water, the state is responsible for assuring that the water system implements additional measures designed to prevent lead contamination.[56] Here, MDEQ improperly interpreted the LCR to allow for two six-month monitoring periods prior to implementing any corrosion control treatment at all, rather than requiring OCCT immediately upon start-up.[57] The determination not to implement corrosion control was contrary to the LCR and to industry practice.[58] Moreover, MDEQ misled EPA officials for approximately two months, falsely stating that Flint had implemented OCCT though it had not.[59] Actions contrary to law reflect implementation rather than structural failures.

MONITORING AND SURVEILLANCE

Another MDEQ responsibility is to enforce state monitoring and reporting requirements, including the use of appropriate sampling techniques and analytic processes.[60] The Department performs several related surveillance functions. These include: assuring monitoring capacity within the state through a laboratory certification program and by operating a laboratory;[61] conducting systematic surveillance and inspections;62 and reporting required data to EPA.[63]

Reports do not seem to indicate complete failures to perform these functions, but rather failures to perform these tasks properly and accurately. For example, MDEQ guided DPW to employ flawed sampling techniques, did not require DPW to identify high-risk homes for inclusion in its lead and copper sampling pool, and even suggested that DPW submit samples below the lead action level in order to skew the city's overall lead monitoring results.[64] At best, the reports demonstrate that MDEQ performed its responsibilities with the goal of achieving "nominal LCR compliance" rather than protecting the public health.[65] Unfortunately, MDEQ even fell short of this low bar.

INVESTIGATION AND INTERVENTION

MDEQ has broad authority to investigate public water supplies. The Department can require changes to its operations or treatment (such as changes to its OCCT method),[66] issue an emergency order requiring immediate action to protect the public's health,[67] and/or limit water use until improvements are made to the water supply.[68] MDEQ could have taken any one of these actions in Flint, given the urgent health threat widespread lead contamination poses. Of course, these powers are unlikely to come into play in a situation where MDEQ has played such a significant role in creating the crisis to which a response is needed. Moreover, MDEQ's failure to collect and analyze data in a manner designed to protect the public's health effectively concealed the need for intervention.

Public water supplies must report the occurrence of a waterborne disease outbreak to MDEQ, which needs the information to develop an appropriate response.[69] But the law does not mandate action by MDEQ in response to this information, and does not even require that MDEQ relay such information to MDHHS. Though MDEQ was well aware of public concerns about the potential link between Legionnaire's disease in Flint and the water switch, it does not appear that MDEQ attempted to provide information to or assist MDHHS or GCHD. To the contrary, MDEQ asserted that dealing with the outbreak was GCHD's responsibility and refused to cooperate with GCHD's investigation.[70]

b. MDEQ's Safe Drinking Water Program

Two key design flaws stand out when examining Michigan's safe drinking water program against the backdrop of lead contamination in Flint. First, MDEQ's lead and copper rule reflects many of the same shortcomings that characterize the federal LCR. MDEQ has legal authority to fix these flaws as long as the state rule continues to provide at least the same level of protection as the federal rule.[71] For example, throughout the period when Flint used water from the Flint River, the lead action level in Michigan matched the federal action level of 15 parts per billion (ppb).[72] MDEQ could have lowered the state action level through rulemaking, but instead adopted (and failed to properly implement) the federal level. A lower lead action level would prompt remedial action sooner. MDEQ also could have developed a health-based benchmark to generate health department alerts or household-level mitigation actions.[73] Responding to the water crisis in March 2017, MDEQ introduced possible changes to the state lead and copper rule that would lower the lead action level to 10 ppb by 2020.[74]

Second, and more to the point, a conspicuous gap stands out in Michigan's safe drinking water program: the absence of public health. Even though protecting the public's health is the primary stated purpose of both the federal and state SDWAs, consultation with public health experts is not required during permitting and surveillance activities, when developing rules or drinking water standards, or even when MDEQ becomes aware of a waterborne disease outbreak. MDEQ was not required to notify MDHHS of any of its activities in Flint, despite the strong and direct connection between environmental exposures, drinking water, and health. Though involvement of public health experts in analysis and decision making may have prevented or mitigated the crisis, MDEQ's failure to alert and involve MDHHS reflects a structural legal gap in addition to an implementation failure.

LEGAL IMPLICATIONS

Structural gaps:

- Absence of requirement to alert and cooperate with MDHHS when faced with waterborne disease outbreaks.
- Absence of public health expertise in analysis or decision-making relative to safe drinking water.

Implementation failures:

- Failed to carefully or rigorously analyze Flint's WTP permit application.
- Failed to listen to DPW staff concerns about WTP readiness.
- Misapplied LCR requirements relative to OCCT.
- Lied to EPA about Flint's lack of OCCT implementation.
- Misapplied LCR requirements relative to sampling techniques and monitoring.
- Advised DPW to use water samples that were likely to produce desirable results rather than reflect actual lead levels in Flint.
- Failed to notify the public of Legionnaire's disease outbreak and refused to cooperate with GCHD's investigation.
- Failed to require DPW to take action to fix issues causing lead to leach into the drinking water.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

The Environmental Protection Agency (EPA) has authority to investigate and/or intervene to protect the public's health. Indeed, the EPA may override state decisions regarding issues such as OCCT and source water treatment,[75] and may also inspect facilities and records.[76] If states fail to take enforcement action within applicable time frames, EPA may issue administrative orders or commence civil actions.[77] The agency can issue emergency orders when state or local authorities fail to respond adequately to imminent and substantial public health threats.[78]

EPA plays the primary federal role in protecting the public's drinking water. The agency is responsible for setting national minimum drinking water standards through NPDWRs that establish MCLs, treatment techniques, and monitoring requirements applicable to harmful contaminants, including lead and waterborne bacteria such as *Legionella*.[79] NPDWR standards must not only assure drinking water safety as implemented, but also allow for a margin of error sufficient to allow mitigation of potential threats before they cause serious harm to the public's health.[80] EPA may also protect the public through robust public notification requirements.[81] As noted above, longstanding critiques of the LCR are the subject of renewed and reinvigorated calls to action following the Flint water crisis.

With respect to ensuring the safety of drinking water, EPA delegates most enforcement responsibility to the states (as noted earlier). But EPA is required to monitor and oversee how the states perform their responsibilities.[82] Before granting primary enforcement authority to a state, EPA examines a state's operational plan and must confirm that the state is able to properly perform its responsibilities under the SDWA.[83] EPA annually reviews and either reapproves or retracts a state's primacy.[84] To monitor the performance of public water systems, EPA has established monitoring requirements applicable to states and public water systems, including specifying the frequency of monitoring, sampling techniques, and analytic requirements.[85] The agency has also established quarterly, annual, and special reporting requirements applicable to states that enable the Administrator to review public water systems' actual NPDWR violations, new enforcement actions a state has taken, and certain state monitoring and treatment determinations (such as whether to require OCCT).[86]

EPA's remaining responsibilities allow it to exercise preemptory jurisdiction. Under the LCR, an EPA regional administrator (RA) can override a state determination about OCCT if the state determination is not defensible under federal law.[87] The RA can then issue a federal treatment determination in its place. EPA's enforcement authority could also be understood to retain general preemptory jurisdiction, since EPA is able to bring an enforcement action against a public water supply if the state fails to do so. EPA must first notify the state of a public water supply's noncompliance and give the state 30 days to address it; EPA can then issue an administrative order or commence a civil action if the state doesn't take appropriate action within that timeframe. [88] If it determines an emergency exists and that state and local authorities have not taken appropriate action, EPA has broad authority to issue emergency orders necessary to protect the public, including ordering those who caused the endangerment to provide an alternative water supply.[89]

EPA's role in Michigan is primarily supervisory because the state of Michigan has primacy. But between DPW's improper sampling protocols (implemented at MDEQ's behest) and MDEQ's inaccurate reports regarding Flint's lack of OCCT, EPA's ability to supervise water quality in Flint was significantly compromised.[90] In fact, it appears that EPA did not learn of elevated water lead levels in Flint until February 2015, when a private resident, LeeAnne Walters, contacted EPA's Region 5 (Chicago) to express concern after DPW detected lead levels substantially exceeding the lead action level in her home water system.[91] EPA then contacted MDEQ to inquire about Flint's OCCT and sampling techniques. A released MDEQ internal email shows that MDEQ incorrectly informed EPA that Flint had an optimized corrosion control program in place.[92]

Over the next two months, EPA continued to receive additional complaints from Flint residents regarding water quality[93] and learned that GCHD was investigating an uptick in Legionnaire's disease in Flint.[94] EPA repeatedly expressed concerns to MDEQ about both lead and Legionnaire's disease,[95] and finally learned on April 24, 2015, that Flint had not in fact installed OCCT.[96] EPA continued to express concern to MDEQ and suggested that Flint should have OCCT in place, but MDEQ argued that conducting a corrosion control study would be "of little to no value" because the city would soon be switching its water source to the KWA.[97]

In contrast to MDEQ's indifference, EPA expert Miguel Del Toral provided an interim report on June 24, 2015, outlining his concerns regarding Flint's lead levels, sampling techniques, and lack of OCCT.[98] Mr. Del Toral's memo included grave warnings about the risk posed to Flint residents and a recommendation that EPA take immediate action, including potentially overriding the state's OCCT determination.[99] Despite continued communications with MDEQ and the city of Flint,100 EPA did not take official action until October 2015 after private citizens, including Ms. Walters, exposed the water crisis.

On October 16, 2015, EPA established the Flint Safe Drinking Water Task Force (now called the Flint Drinking Water Technical Support Team) to provide technical assistance to MDEQ and the Flint DPW.[101] A few weeks later, on November 3, EPA disseminated a memorandum to all EPA Regional Water Division Directors clarifying its interpretation of the LCR's OCCT requirements, including how they should have been applied in Flint.[102] On November 10, EPA announced its intention to audit MDEQ's drinking water program to examine the agency's implementation of the SDWA, the LCR, and rules relating to total coliforms, nitrates, and ground water.[103]

Finally, on January 21, 2016—only after every level of government had declared a state of emergency in Flint—EPA issued an Emergency Administrative Order finding that lead and other contaminants in the Flint public water system posed an "imminent and substantial endangerment" to the public's health and that state and local actions to address the danger were inadequate. The Order compelled MDEQ and DPW to: take specified actions

to improve public transparency; submit plans to EPA relating to water treatment and monitoring; demonstrate adequate staffing of the Flint water system; and appoint an Independent Advisory Panel to provide expert advice and recommendations to the City, the public, and EPA regarding harm mitigation strategies.[104]

Certainly, EPA's lack of access to accurate data hindered its ability to prevent or respond to the Flint water crisis. And perhaps MDEQ's cultural shortcomings that resulted in EPA's lack of data (e.g., its culture of nominal compliance and its reluctance to cooperate with other agencies) could have been identified and addressed when EPA reviewed the state program to grant primacy. But even after becoming aware of elevated water lead levels, receiving numerous citizen complaints, and learning that the Flint DPW had not installed OCCT, EPA did not take immediate action. EPA had authority to investigate facilities and records[105] and authority to override MDEQ's OCCT determination[106] (as Mr. Del Toral urged). EPA could have provided technical assistance,[107] initiated administrative or judicial enforcement actions,[108] or issued emergency orders necessary to protect the public.[109] Most importantly, EPA could have ordered Flint to provide an alternative water supply.[110] Thus, EPA had all of the legal tools necessary to intervene; the agency's reluctance to act reflects primarily failures of implementation rather than of law.

LEGAL IMPLICATIONS

Structural gaps: None.

Implementation failures:

- Failed to identify and address cultural flaws in MDEQ's drinking water program when reviewing primacy.
- Failed to rigorously investigate potential lead issues in Flint raised by city residents, instead continuing to defer to MDEQ even after EPA expert Mr. Del Toral identified specific reasons for continued concern, including Flint's use of inappropriate sampling techniques, and outlined proposed actions.
- Failed to rigorously investigate or assist with investigating Legionnaire's disease outbreak.
- Failed to immediately override MDEQ's OCCT determination in Flint upon learning that OCCT was not in place.
- Failed to initiate enforcement action upon learning of MDEQ's failure to address Flint's noncompliance.
- Failed to issue an emergency order immediately upon learning of widespread lead contamination in Flint.
- Failed to order a responsible party (such as MDEQ or the emergency manager) to provide an alternative water supply, even when finally issuing an emergency order in January 2016.
- Failed to timely correct gaps and loopholes in the LCR despite decades of criticism from scientists and drinking water policy experts.

FLINT DEPARTMENT OF PUBLIC WORKS

As noted above, Flint's Department of Public Works (DPW) bears primary responsibility for operating, maintaining, and managing the water supply on a day-to-day basis.[111] DPW is responsible for assuring compliance with state and federal laws and, accordingly, for prevention and surveillance activities necessary to assure the safety of public drinking water. While DPW may offer important expertise and recommendations regarding water supply options, it does not have the authority to make final decisions on issues of this magnitude. Instead, it implements decisions made by the mayor with approval of the city council.

PERMITTING AND PREPARATION

Preventing contaminants from entering the public's drinking water requires careful preparation of plans and specifications prior to constructing or altering a public water system facility. To obtain a permit for construction, a public water system in Michigan must submit plans and specifications to MDEQ demonstrating the water supply's ability to protect the public's health.[112] If MDEQ requests, the water supply must also submit an engineering report, a basis of design, or both for the proposed project.[113] The water supply must assure competent staffing of personnel certified to operate the type of water system involved.[114] Finally, prior to distributing water, the public water supply must work with MDEQ to determine an appropriate OCCT method assuring that treated water is free of lead and copper, and must establish monitoring plans appropriate to the water and system characteristics.[115]

Flint's emergency manager contracted with an engineering firm, Lockwood, Andrews, and Newman (LAN), to develop

plans for upgrades to the Flint water treatment plant (WTP).[116] As noted above, despite multiple prior engineering assessments indicating that necessary upgrades to the WTP would cost upwards of $60 million—including an assessment LAN prepared just a few years before—only $8 million was ultimately spent on upgrading the plant, with MDEQ's approval.[117] The reason is that Flint had limited financial capacity to pay for the upgrades. The Task Force questioned whether LAN was qualified to provide the services Flint needed[118] and others have questioned whether conflicts of interest may have influenced the approval of the upgrades.[119] One report suggests that the permitting process and transition to Flint River water were rushed to facilitate the continued progression of the KWA project, rather than based on timelines necessary to protect the public's health.[120] Contrary to the law's requirements, the public's health does not appear to have been a subject of careful or genuine consideration for those making decisions.

The city of Flint, through DPW, was also responsible for assuring proper staffing of the WTP, and for implementing MDEQ's directives regarding OCCT and monitoring requirements. It appears that mere weeks before the Flint WTP began distributing water, DPW staff did not feel prepared to operationalize the system.[121] DPW staff anticipated significant revisions to water quality and lead and copper monitoring plans, and articulated concerns about its preparedness to MDEQ staff and city officials.[122] Equally important, Flint DPW staff failed to implement corrosion control treatment in violation of the LCR, again at MDEQ's direction.[123] In fact, Flint DPW staff asked MDEQ about adding phosphate, a corrosion control agent, to the water, but MDEQ advised that an OCCT determination would be made after completing two six-month monitoring periods, directly contrary to the LCR and common practice.[124] As a result, Flint's premature launch of its inadequately staffed and unprepared WTP resulted from a failure of implementation (at the direction of the emergency manager and MDEQ) rather than a failure of law.

MONITORING

Once a system is running, a public water system continues to hold primary responsibility for complying with federal and state safe drinking water requirements, including following sampling protocols and analytic requirements to monitor regulated contaminants.[125] Proper monitoring is key to accomplishing the surveillance needed to detect and address public health threats associated with drinking water. If monitoring reveals elevated lead levels or the presence of other regulated contaminants, or in the event of a waterborne disease outbreak or other emergency, the public water system is required to notify the public in order to prevent consumers from being exposed to the contaminant.[126] In response to a problem, the system may need to alter treatment methods to bring the water back into compliance with safe drinking water standards and often must comply with heightened monitoring requirements to assure that the problem has been alleviated.[127]

In Flint, evidence suggests that under MDEQ's guidance, DPW utilized sampling techniques that were contrary to industry standards and/or the LCR.[128] First, DPW pre-flushed water lines and used inappropriate bottles.[129] Second, DPW failed to establish an appropriate sampling pool (i.e., one that targeted high-risk homes[130]) in part because it had not conducted a census of Lead Services Lines (LSLs).[131] Released emails further indicate that MDEQ staff improperly encouraged DPW to submit water samples below the lead action level to avoid application of additional LCR requirements.[132] Consequently, DPW significantly underreported water lead levels, allowing the water crisis to grow rapidly and for far longer than it likely would have had lead levels been reported accurately.

PUBLIC NOTIFICATION

As the law requires, DPW notified the public of several SDWA violations and made adjustments to treatment techniques to correct these issues. For example, after finding elevated levels of *E. coli* and total coliform bacteria in the water in August and September 2014, DPW issued boil water advisories and increased use of chlorine disinfectants.[133] Though DPW did not issue notices or alter treatment techniques in response to elevated lead levels, this is presumably because inappropriate sampling protocols enabled the erroneous conclusion that lead levels were not elevated. Each of these actions and omissions again suggest failures of implementation—at MDEQ's direction—rather than failures of the law.

Finally, MDEQ rules require public water supplies to report to MDEQ as soon as possible if there is a waterborne disease outbreak which may potentially be attributable to the water system.[134] Public notification is required for situations in which short-term exposure to drinking water is likely to have negative effects on human health, such as due to a waterborne disease outbreak.[135] Despite GCHD's notification to and repeated requests for cooperation and information from DPW of the potential link between the public water supply and the outbreak of Legionnaire's disease in Flint, DPW failed to provide the requested information or otherwise cooperate with the health department and never notified the public of the possible link.[136]

LEGAL IMPLICATIONS

Structural gaps:

- Absence of public health expertise in analysis or decision-making relative to safe drinking water.
- Absence of requirement to alert and cooperate with GCHD or MDHHS (in addition to MDEQ) when faced with waterborne disease outbreaks.

Implementation failures:

- Failed to complete all necessary upgrades to Flint WTP (with MDEQ's approval).
- Failed to assure competent and prepared staff (with MDEQ's acquiescence).
- Failed to implement OCCT (at MDEQ's direction).
- Failed to conduct appropriate lead monitoring (at MDEQ's direction).
- Failed to notify the public of Legionnaire's disease outbreak and refused to cooperate with GCHD's investigation.

C. The Public Health Legal Context in Flint

The structure for general public health legal authority emanates from the federalist framework established in the United States Constitution. Under this framework, the federal government is one of enumerated powers, while the States retain all powers of a sovereign entity—i.e., the police powers—except for those expressly ceded to the federal government.[137] The police powers include the power to regulate "to protect, preserve, and promote the health, safety, morals, and general welfare."[138] Thus, states possess the primary legal authority and responsibility to protect the public's health. Because federal public health legal authority must be rooted in one of the federal government's enumerated powers, it is most frequently exercised in response to issues that cross state or national borders or by attaching rules and requirements to federal grants and contracts.[139]

States may develop their own framework for exercising public health powers, as Michigan did through the passage of a comprehensive public health code in 1978.[140] Michigan's Public Health Code (Code) provides for parallel authority at the state and local levels to protect the public's health,[141] with qualified local health departments (LHDs) having primary responsibility for investigations and remedies.[142] LHDs—which are organized primarily at the county level, either as single county health departments or multi-county health districts—exercise primary jurisdiction over the organization, coordination, and delivery of services and programs in their service area,[143] while the state health department retains preemptive jurisdiction. That is, if the state health department director determines that an LHD is unwilling or unable to perform a particular function, the state department may intervene.[144] The state health department also retains jurisdiction over services or programs that are so specialized or complex that local administration is not justified.[145]

GOVERNOR OF MICHIGAN

The governor is responsible for overseeing the faithful execution of state law, including accountability for state agency decisions.[146] With regard to Flint, there are conflicting accounts as to when the Governor became aware of the water quality issues or Legionnaire's disease outbreak. But reports, interviews, and released emails suggest that by October 2014, the Governor's staff was sufficiently aware of water quality issues in Flint that several top aides were arguing that Flint should return to using water from DWSD.[147] It appears that the Governor received regular assurances from MDEQ and MDHHS officials that the water was safe and healthy, but also that the Governor and/or his staff were aware of Flint residents' mounting complaints about the water.[148] Given the number of emails circulating among his own staff about Flint water quality concerns, the escalating complaints from Flint residents, and even state offices' determinations to stop using Flint drinking water due to water quality concerns,[149] critics are skeptical about the Governor's claimed ignorance of the crisis as it unfolded.

Even setting aside the Governor's appointment of an emergency manager, discussed more fully below, he bears

significant legal responsibility for the crisis based on his supervisory role over state agencies. The Governor had adequate legal authority to intervene—by demanding more information from agency directors, reorganizing agencies to assure availability of appropriate expertise where needed, ordering state agencies to respond, or ultimately firing ineffective agency heads[150]—but he abjured, either due to ignorance or willful neglect of duty. Flint residents' complaints were not hidden from the Governor, and he had a responsibility to listen and respond.

The governor also has exclusive authority to issue a state-level declaration of emergency or disaster.[151] Upon doing so, the governor may request federal emergency assistance (financial or otherwise), suspend statutes, orders, or rules as necessary for the emergency response, issue necessary orders or directives that have the force and effect of law during the emergency, and allocate resources, including personnel and public or private property (with appropriate compensation), to respond to the emergency.[152] The Governor finally declared an emergency in Flint on January 5, 2016—three months after Flint and Genesee County declared local emergencies.[153] The Governor's declaration was crucial to getting needed supplies to Flint and should have been made as soon as the extent of the water contamination in Flint came to light.

LEGAL IMPLICATIONS

Structural gaps: None.

Implementation failures:

- Failed to demand MDEQ and MDHHS to conduct further investigation and/or take action in Flint.
- Failed to take Flint residents' complaints seriously by timely investigating and/or responding to the issues they raised.
- Failed to take responsibility for the MDHHS and MDEQ directors' performance, both of whom were under his direct authority to supervise, correct, or fire.
- Failed to declare an emergency in Flint immediately upon learning of the extent of the crisis in Flint, thus delaying availability of needed resources and response efforts.

MICHIGAN DEPARTMENT OF HEALTH AND HUMAN SERVICES

The Michigan Department of Health and Human Services (MDHHS) has primary responsibility for implementing the Public Health Code and protecting the public's health.[154] Since 1978 via executive reorganization orders, several significant public health functions have been reassigned to other agencies, including environmental health to MDEQ.[155] Simultaneously, MDHHS has added new functions, such as Medicaid administration[156] and mental health.[157] Nevertheless, MDHHS retains broad general and specific powers to regulate for the public's health in Michigan.

SAFE DRINKING WATER

Of particular import for the Flint Water Crisis, the transfer of environmental health and safe drinking water functions to MDEQ stripped MDHHS of specific roles relative to preventing contamination of safe drinking water. Instead, the agency's primary responsibilities and opportunities exist in the context of monitoring the public health's health, investigating public health threats, and intervening to protect the public.

MDHHS has promulgated regulations that establish reporting requirements relative to both blood lead test results and specified communicable and non-communicable reportable diseases, including Legionellosis. The Blood Lead Analysis Reporting rules require clinical laboratories and users of portable blood lead analyzers to make reports directly to the state health department.[158] When MDHHS receives notice of a blood lead level above 10 micrograms/deciliter, it must initiate contact with the local health department, physician, or both, of the child with the elevated blood lead level.[159]

With respect to blood lead data, it appears that an epidemiologist within MDHHS and a data manager within the agency's Childhood Lead Poisoning Prevention Program (CLPPP) separately analyzed 2014 blood lead data in July 2015 and came to different conclusions regarding concerns with Flint children's blood lead levels.[160] Rather than investigating further, CLPPP's director concluded that there was no lead issue in Flint and communicated this to MDHHS leadership.[161] Though the department began preparing lead education materials for Flint parents in August 2015 after Professor Marc Edwards publicly shared data showing elevated water lead levels, MDHHS failed to respond when Dr. Edwards and Dr. Hanna-Attisha separately requested state blood lead level data.[162] It was not until Dr. Hanna-Attisha publicly shared her data showing elevated blood lead levels among children at Hurley Medical Center that MDHHS decided to re-analyze its data.[163] Even then,

released emails suggest that MDHHS was still searching for a way to discredit Dr. Hanna-Attisha's data rather than seeking answers.[164] Ultimately, MDDHS concluded that Dr. Hanna-Attisha's conclusions were accurate.[165]

LEGIONELLOSIS

With regard to Legionellosis, MDHHS rules require physicians and laboratories to report the confirmed or suspected presence of reportable diseases, as well as unusual occurrences, outbreaks, or epidemics (including healthcare-associated infections), to the appropriate local health department, which must in turn report these occurrences to MDHHS.[166] Critics have accused MDHHS of failing to timely notify the public and take action.[167] MDHHS appears to have known of the increased incidence of the disease in October 2014, when GCHD expressed concern.[168] In January 2015, MDHHS directed GCHD to investigate the outbreak. An MDHHS epidemiologist advised GCHD to map the Legionellosis cases to determine whether they were linked to the change in the water supply.[169] GCHD then continued its investigation for several months with little success because it received almost no cooperation from MDEQ and the Flint DPW, and relatively little involvement or assistance from MDHHS.[170] It is unclear whether GCHD requested further assistance from MDHHS.

GCHD reached out to CDC in February 2015 to request assistance with its investigation, but MDHHS resisted the request, apparently because the department felt equipped to handle the investigation internally.[171] When CDC again offered assistance to GCHD in April 2015, MDHHS intervened to reject the offer, reminding both parties that the state health department is the intermediary between federal and local agencies.[172] Even after this incident, there is conflicting evidence as to whether MDHHS provided adequate assistance to GCHD. Nevertheless, MDHHS published a report in May 2015 concluding that the Legionellosis outbreak was over,[173] even as cases continued to occur and increase throughout the summer.[174] MDHHS finally notified the public of the outbreak in January 2016.[175]

INVESTIGATION

According to some accounts, MDHHS believed that it lacked sufficient information to intervene.[176] If there was insufficient information available to justify intervention in Flint, it remains unclear why the department did not undertake more rigorous investigative activities to find the information needed that might support an intervention. MDHSS has broad authority to investigate potential public health threats, including threats which surface through required disease reporting.[177] The agency has authority—with a warrant—to inspect any facility, incident, or condition in the state for the purpose of identifying the cause of a public health threat.[178] It is also perplexing that MDHHS refused CDC's assistance, yet failed to provide GCDH with additional support. Rather than pursing further information where indicated, MDHHS deferred to GCHD's investigation as the responsible LHD, despite doubts about its capacity to conduct a thorough investigation.

Had MDHHS thoroughly investigated the increased blood lead levels among children or the increased incidence of Legionellosis and determined the existence of a public health threat, the Department possessed sufficient legal authority to intervene. For instance, the Department could issue an imminent danger order (for immediate removal of a harmful condition)[179] or an order to abate a nuisance,[180] or bring an injunctive action to compel a response to a public health threat.[181] More importantly, Michigan's Public Health Code states that if the MDHHS director "determines that conditions anywhere in this state constitute a menace to the public health, the director may take full charge of the administration of applicable state and local health laws, rules, regulations, and ordinances in addressing that menace."[182] In short, the Code permits the state health department to take over an investigation if it concludes that the LHD is ether unwilling or unable to conduct an adequate investigation.[183] Certainly, taking over a local investigation would be unprecedented in Michigan and any attempt to do so could have further interfered with the investigation.

LEGAL IMPLICATIONS

Structural gaps:

- Absence of legal authority relative to safe drinking water prevented MDHHS from performing preventive functions absent a request for assistance from the Flint DPW or MDEQ.
- Absence of clear legal authority to investigate and intervene to enforce laws pertaining to public health but not specifically within the ambit of the state health department, such as the SDWA.

Implementation failures:

- Failed to implement rules and/or procedures to assure that all blood lead test results are reported to local health departments (described below).
- Failed to assure that MCIR, the primary system for local health departments to access children's blood lead data, produces reports that are functional for epidemiological examination and study (described below).
- Failed to promptly analyze blood lead data (delaying analysis of 2014 blood lead levels until July 2015).[184]
- Failed to reconcile MDHHS staff members' conflicting conclusions regarding the implications of Flint children's elevated blood lead levels. This failure may have resulted from a staff failure to communicate the conflict to leadership.
- Failed to promptly re-analyze the department's own blood lead data in light of external analyses, instead seeking to discredit conflicting conclusions.
- Interrupted GCHD's communication with CDC regarding the county's Legionnaire's disease investigation, yet failed to provide robust support for GCHD's investigative efforts.
- Inadequately communicated with GCHD in concluding that the Legionnaire's disease outbreak was over.
- Failed to employ its full investigative legal authority to identify causes of elevated blood lead levels and the Legionnaire's disease outbreak in Flint.
- Failed to issue an imminent danger order or an order to abate a nuisance or cause of illness, or to seek a court order to correct dangerous conditions.
- Failed to preempt or take over GCHD's activities to the extent that it found GCHD unable or unwilling to act.

GENESEE COUNTY HEALTH DEPARTMENT

Michigan's Public Health Code requires that LHDs provide a range of basic public health services specified by MDHHS, but permits providing any services not inconsistent with the Code.[185] An LHD can also exercise authority delegated to it from other agencies, such as MDEQ, insofar as the delegation is consistent with the Code.[186] For instance, MDEQ delegates authority to Genesee County Health Department (GCHD) to regulate non-Type 1 water supplies,[187] and GCHD is further authorized to perform this function under Genesee County Environmental Health Regulations.[188] Accordingly, GCHD regulates most small waters supplies in the county, but MDEQ retains jurisdiction over Flint's Type 1 public water supply (the issue at the heart of the Flint water crisis). In contrast to GCHD's significant role relative to preventing contamination of non-Type 1 water supplies, the department did not have direct legal authority to regulate Flint's public water supply.

In the context of the Flint water crisis, GCHD was the responsible public health agency for investigating the Legionnaire's disease outbreak. The department was not a mandatory recipient of blood lead data and therefore was limited in its ability to monitor Flint children's blood lead levels.[189] Overall, GCHD's most significant express legal authority related to the functions of surveillance/detection, investigation, and intervention, with broad power and responsibility in each of these areas.

LEGIONELLA

LHDs are the designated recipients of disease reports required by state law, including Legionnaire's disease.[190] LHDs are required to communicate disease reports to the state as specified by regulation, generally within twenty-four hours for communicable diseases and within three days for non-communicable diseases.[191] LHDs' general duty to prevent and control the spread of communicable diseases indicates an obligation to monitor and respond to disease reports as needed.[192]

In fact, GCHD received reports of and attempted to investigate the Legionellosis outbreak in the county, but faced significant opposition from other governmental agencies. It appears that GCHD became concerned about an increase in the incidence of Legionellosis in October 2014 and shared its concern with both the Flint DPW and MDHHS, but received little assistance from either.[193] GCHD continued investigating the outbreak, including through a request for information under the Freedom of Information Act to the Flint DPW and MDEQ, but could not gain cooperation or information from either agency.[194] GCHD contacted CDC in February 2015 to request assistance with its investigation, but MDHHS asserted itself as the intermediary between GCHD and CDC and declined CDC's offer of assistance.[195] Nevertheless, reports suggest that MDHHS still did not become involved in the investigation, leaving GCHD alone to obtain critical information from MDEQ and the Flint DPW. MDHHS published a report in May 2015 indicating that the outbreak was over,[196] but released emails indicate that GCHD adamantly disagreed with this conclusion.[197] GCHD attempted to continue its investigation over subsequent months, but the released emails suggest GCHD staff

felt that MDHHS was "sabotaging" their investigation.[198] Ultimately, MDHHS notified the public of the outbreak on January 13, 2016.[199]

To be clear, there is substantial evidence indicating that GCHD lacked the capacity to conduct an adequate investigation[200] and did not pursue its investigation as aggressively as it could have. LHDs have broad authority to investigate potential public health threats, particularly in response to required disease reporting,[201] but GCHD failed to exercise its full legal authority, such as seeking an investigative warrant or a court order compelling the release of information. MDHHS rules enable an investigator to obtain medical and epidemiologic information regarding "individuals who have designated conditions or other conditions of public health significance" as well as individuals who do not have the condition but are otherwise implicated in the investigation, and to obtain "any other information that may be relevant," including human or environmental specimens pertinent to the investigation.[202] Moreover, an LHD has broad authority to inspect or investigate "any matter, thing, premise, place, person, record, vehicle, incident, or event" for the purpose of "assur[ing] compliance with laws enforced by the local health department."[203] While it is unclear whether this authority would apply to safe drinking water laws that GCHD does not enforce, it would certainly enable investigation related to disease outbreaks that occur within the health department's jurisdiction.

GCHD also has broad authority to intervene to protect the public's health pursuant to both the Code and the Genesee County Environmental Health Regulations. One of a health department's most powerful tools is its authority to issue an imminent danger order to compel correction of a condition or practice which may reasonably be expected to cause death, disease, or serious physical harm.[204] The Code also grants LHDs authority to issue an order to correct or abate a nuisance, unsanitary condition, or a cause of illness.[205] Under the county's environmental health regulations, a nuisance specifically includes a condition which would render the water supply unwholesome.[206] Finally, under both state law and the county regulations, the local health officer could have filed an injunctive action to restrain, prevent, or correct activities or conditions posing a threat to the public's health.[207]

With this arsenal of legal authority, the GCHD was legally well-equipped to take action; yet, it appears the department was reluctant to act, arguing that it lacked sufficient information. Even if GCHD felt that it did not have a strong enough base of evidence to intervene, the department surely could have been louder and more demanding in its requests for information and cooperation. Indeed, responsibility for using its bully pulpit to sound the alarm must be understood as embedded within an LHD's role as the primary provider of local public health services. Although Michigan's public health legal structure limited what GCHD could formally undertake within the City of Flint with regard to drinking water, the agency's county-wide jurisdiction offered considerable opportunities to take action to protect the health of the county's citizens once a threat existed. The emergency manager's appointment likely altered relationships and channels of communication between GCHD and the City of Flint, but it does not appear to have altered the county's broad authority to intervene.

LEAD CONTAMINATION

In contrast to disease reporting, LHDs are not designated to receive blood lead test reports. Instead, results of all blood lead tests in the state must be provided to MDHHS, which must report instances of elevated blood lead levels (above 10 micrograms per deciliter) to the local health department or the child's physician, *or* both.[208] Thus, GCHD may receive elevated blood lead reports, but the law does not require reporting of all results or even all elevated blood lead test results at the county level.

In the absence of required blood lead test reporting to the GCHD, it appears that the county health department was first alerted to elevated blood lead levels among Hurley Hospital patients in September 2015, shortly before Dr. Mona Hanna-Attisha disclosed the data publicly.[209] There are conflicting reports regarding how GCHD responded to the Hurley Hospital data. At least one report indicates that GCHD declined to take action because it lacked resources and staff to obtain data from the Michigan Care Improvement Registry (MCIR).[210] Another factor was its conclusion that issuing a health advisory was the responsibility of the Flint DPW rather than the health department.[211]

The GCHD health officer's account indicates that the agency attempted to assist with collecting additional data from MCIR, but found the system lacked the search functionality necessary to make the blood lead data useful.[212] Absent assistance from GCHD, Dr. Mona Hanna-Attisha presented her findings in a press conference approximately one week later.[213] At that point, GCHD and the City of Flint issued advisories to alert Flint residents of lead in their drinking water.[214] Shortly after that, GCHD declared a local public health emergency.[215] While it appears that GCHD delayed action because of a real or perceived lack of data, it remains

an open question as to why the Department did not use its available authority to take more aggressive actions.

LEGAL IMPLICATIONS

Structural gaps:

- Absence of legal authority relative to Type I public water supplies prevented GCHD from performing preventive functions absent a request from the Flint DPW or MDEQ.
- Absence of clear legal authority to investigate and intervene to enforce laws pertaining to public health but not specifically within the ambit of the health department, such as the SDWA.
- Absence of legal requirement that GCHD receive all blood lead test results for children in the county.

Implementation failures:

- Failed to fully utilize investigative authority to complete robust Legionnaire's disease investigation.
- In the absence of adequate Legionnaire's disease data, failed to issue an imminent danger order or an order to abate a nuisance or cause of illness, or to seek a court order to correct dangerous conditions.
- Failed to vigorously sound the alarm on Flint's behalf to demand information, cooperation, and the attention of state officials in response to Legionnaire's disease outbreak.
- Failed to act promptly on Dr. Mona Hanna-Attisha's blood lead data, to the extent this failure was based on the conclusion that a water-related health advisory was DPW's responsibility.

UNITED STATE DEPARTMENT OF HEALTH AND HUMAN SERVICES

The Secretary of the Department of Health and Human Services (HHS) has general authority and responsibility to cooperate with, assist, and advise States and political subdivisions to promote the public's health.[216] Within HHS, the Centers for Disease Control and Prevention (CDC) is responsible for providing public health leadership, assisting states with public health matters, and implementing a variety of national programs relating to disease prevention and control, environmental health, and lead poisoning prevention, among others.[217] HHS' direct public health legal authority is generally limited to preventing the spread of disease across state or national borders and assisting and advising the States on public health issues. For the most part, CDC is only involved with local public health activities when a state invites the agency to participate.

With regard to preventing water contamination, HHS' role is even more limited because the SDWA—though a public health law[218]—assigns implementing authority to EPA. The SDWA specifies limited occasions on which EPA is directed to consult with CDC, such as prior to promulgating an interim NPDWR in response to an urgent threat to the public's health.[219]

CDC holds a potentially larger role in surveillance and detection, since it supports states with collecting and managing reportable disease data and operates the National Notifiable Disease Surveillance System (NNDSS).[220] Upon identifying a disease outbreak or other public health threat, such as a spike in blood lead levels or in Legionellosis, CDC may take actions based only on its general authority to provide assistance, advice, and support to state and local public health authorities.[221] If the CDC Director determines that measures taken by state or local authorities are insufficient to prevent the spread of a communicable disease across state lines, CDC has authority to intervene directly through inspection, disinfection, or destruction of objects believed to cause infection.[222]

CDC became aware of a possible Legionellosis outbreak in Flint in February 2015 when GCHD reached out directly to request CDC's assistance.[223] In part because MDHHS officials believed that GCHD and the state possessed sufficient capacity to investigate the outbreak, MDHHS declined CDC's assistance.[224] Subsequent MDHHS emails reflect tension between the state health department and GCHD resulting from the direct request to CDC.[225] On April 27, 2015, a CDC official reached out to GCHD expressing concern about the size of Flint's growing outbreak, observing:

> It's very large, one of the largest we know of in the past decade, and community-wide, and in our opinion and experience it needs a comprehensive investigation."[226]

Nonetheless, CDC did not become involved in the investigation ostensibly because the agency could not act without a direct request from the state health department.[227]

CDC would have had clear authority to intervene in Flint if it found that the Legionellosis outbreak had the potential to

cross state lines. Because interstate spread was not a concern during the Flint water crisis, CDC's authority was far less clear. The law does not require that a request for assistance be made by a state,[228] and our research did not uncover any actual legal barriers preventing CDC from supporting local public health authorities at their request. It seems likely that CDC deferred to the state health department as a matter of internal policy or deference to the state.

Regardless of CDC's decision, the HHS Secretary could have determined that a public health emergency existed. This determination is within the Secretary's sole discretion, and the emergency declaration generates additional investigative and intervention authority for HHS.[229] For example, in a declared emergency, HHS may provide funding, supplies, services, or personnel to support investigations or interventions into causes of disease.[230] Though evidence shows that CDC staff were aware of the increased incidence of Legionellosis in Flint, it does not appear that staff were privy to data regarding blood lead levels. If CDC had recognized the full extent of either of these issues as well as the inadequate state and local response, it could and should have elevated them to the HHS Secretary and sought a public health emergency declaration.

LEGAL IMPLICATIONS

Structural gaps:
Absence of legal authority relative to safe drinking water prevented HHS or CDC from performing preventive functions absent a request for assistance from EPA, MDEQ, or the Flint DPW (and except as narrowly provided in the SDWA).

Implementation failures:

- Failed to assist with GCHD's Legionnaire's disease investigation at GCHD's direct request because MDHHS did not make the request.
- Failed to declare a public health emergency in Flint despite growing evidence of an unmitigated health emergency. If CDC felt that its hands were tied absent a request from the state, it could have used this alternative pathway for intervention.

GENESEE COUNTY BOARD OF COMMISSIONERS

The County Board of Commissioners' primary role relative to the Flint water crisis was its supervision of GCHD's health officer. If the Board of Commissioners determined that the health officer was acting improperly or failing to take necessary action, it could have either called for appropriate action or, if necessary, replaced the local health officer.[231] The Board of Commissioners appears to have played very little role in the events unfolding in Flint, but ultimately became involved once the water crisis was revealed, joining with the local health officer on October 1, 2015, to declare a public health emergency.[232]

LEGAL IMPLICATIONS

Structural gaps: None.

Implementation failures:
Failed to urge/require GCHD to take aggressive investigative action.

MAYOR OF FLINT

The mayor of Flint is responsible for supervising the executive branch of the city, structuring city departments in accordance with the city charter, and appointing and supervising department heads,[233] including the head of the Department of Public Works who operates the city's public water supply.[234] Because the City of Flint owns the city's public water system, it is responsible for implementing federal and state safe drinking water standards to assure the safety of public drinking water. The mayor must propose an annual budget to the city council and may recommend budget amendments throughout the fiscal year, including to address "a public emergency affecting life, health, property or the public peace."[235] A key aspect of developing the city's budget is assuring adequate funding of necessary public services, and identifying appropriate opportunities for reducing expenses or increasing revenue.

Given the broad home rule authority of Michigan cities and the mayor's key role in allocating funding among city departments and services, the mayor would ordinarily (i.e., absent an emergency manager) play a significant role in major financial decisions such as committing the city to participate in the KWA or choosing an interim or long-term water supply option. Alternatively, the mayor could recommend to the city council that the city delegate responsibility for its public water supply to a county or other public entity.[236] The mayor's recommendations would be subject to city council approval. As we discuss below in greater detail, the appointment of an emergency manager stripped the Mayor of this authority. Furthermore, the terms of Flint's Emergency Loan Agreement with the state Local Emergency Financial Assistance Loan Board—the loan that ended the state's emergency management in Flint—prohibited a switch back to the Detroit water system without state approval.[237]

Reports regarding the Flint water crisis suggest that the City of Flint—under the leadership of emergency managers and Treasury, and with the involvement of MDEQ staff—invested considerable time and financial resources to hire engineering firms to evaluate Flint's water supply options. These agencies calculated the relative cost-effectiveness of Flint joining the KWA and assessed the feasibility both of treating Flint River water for use as drinking water and upgrading the Flint Water Treatment Plant (WTP).[238] The emergency manager, with the approval of Treasury, ultimately committed Flint to switching its water source to the KWA and incurring a debt of $85 million toward the cost of building the KWA pipeline.[239] The emergency manager also required the City of Flint to use Flint River water treated by the Flint water treatment plant as an interim water source until the pipeline was built.[240] Interestingly, a Flint city ordinance prohibits any person from allowing Flint River water to flow into a waterworks system and thereby pollute the water supply.[241] In 2012, an emergency manager rejected the Flint River as a drinking water source because of safety concerns.[242] The decision among water supply options would have belonged to the mayor and city council if Flint were not under the control of an emergency manager.

Beyond evaluating and choosing a water supply option for the city, the mayor—absent an emergency manager—also would have been responsible for allocating sufficient resources to the water department to enable it to perform its responsibilities, providing oversight to the Department of Public Works to assure that all applicable safe drinking water laws were enforced, and responding to a public emergency. Upon learning of city-wide water contamination, the mayor could have declared a state of emergency for the city and requested an emergency declaration and support from the governor.[243]

LEGAL IMPLICATIONS

Structural gaps: None.

Implementation failures: None. Flint's emergency manager supplanted all city authority at all relevant times. The mayor did not have any legal authority to implement.

FLINT CITY COUNCIL

As the legislative arm of the city, the Flint city council is responsible for adopting ordinances to provide for the "public peace, health and safety,"[244] and for approving, with or without amendment, an annual budget submitted by the mayor.[245] The city council may also adopt emergency ordinances and approve budget amendments proposed by the mayor in response to a public emergency.[246] The city council is further authorized to investigate city affairs or the conduct of a city agency.[247]

Absent an emergency manager, the city council would have had significant power over decisions regarding the city's water supply. Beyond approving or rejecting recommendations to join the KWA, continuing to obtain treated water from the DWSD, or electing to treat water from the Flint River at the Flint WTP, the city council could have chosen to delegate ownership and operational responsibility for the public water supply to a county or other public entity.[248] Though the city council surprisingly voted to join the KWA, it did not have the authority to do so while the emergency manager was in place.[249] The vote was only symbolic.

Absent an emergency manager, the city could have responded immediately to public complaints regarding the water quality. Along with its initial authority relative to choosing a water supply option, the city council would have had authority to investigate the mayor's conduct, the Department of Public Works, or any aspect of the city's drinking water supply system in response to concerns about

water quality. The city council also could have adopted ordinances or emergency ordinances or approved budget amendments to provide for and protect the health of Flint residents.

LEGAL IMPLICATIONS

Structural gaps: None.

Implementation failures: None. Flint's emergency manager supplanted all city authority at all relevant times. The Flint city council did not have any legal authority to implement.

D. The Impact of Michigan's Emergency Manager Law on the Public Health Legal Framework

MICHIGAN'S EMERGENCY MANAGER LAW

Michigan's local financial emergency law, the Local Financial Stability and Choice Act,[250] empowers the governor to place complete legal control of financially distressed Michigan municipalities in the hands of a state financial manager. The emergency manager is appointed by and serves at the pleasure of the governor,[251] and is shielded from liability for his or her decisions.[252] A unique aspect of Michigan's emergency manager law is the extent to which it removes all power from locally elected officials, hence completely displacing local democracy.[253]

The history of Michigan's emergency manager law is controversial, and many people view it as anti-democratic. Michigan's first emergency manager law, passed in 1988 and amended in 1990, allowed limited state intervention to address local fiscal distress.[254] In 2011, Michigan's legislature passed a much broader emergency manager law that equipped emergency managers with authority that extended beyond fiscal matters to include all aspects of local government operations.[255] In response, a 2012 statewide voter referendum repealed the 2011 law. Despite the voters' rejection, the legislature immediately replaced it with the similar law that remains in place today.[256] Though amendments added to the current law are responsive to certain aspects of critics' concerns, the law still enables sweeping intervention through an un-elected state official.

DETERMINING A LOCAL FINANCIAL EMERGENCY

Under the current law, several steps must occur prior to state intervention in a local fiscal emergency. The first step is a preliminary review, which may be conducted if the state financial authority (i.e., the Department of Treasury) determines that the presence of one or more factors or conditions indicates "probable financial stress" in the municipality. These factors include a request from the local governing body, failure to pay wages of local employees, or the failure to timely file an annual financial report.[257] The preliminary review team must prepare and provide a report to the state's local emergency financial assistance loan board summarizing the factors that might indicate financial distress. The loan board determines if probable financial stress exists for the local government.[258]

If probable financial stress is found, the governor then appoints a review team to determine whether a financial emergency actually exists in the local government.[259] The review team must submit its findings to the governor, indicating whether one or more specified factors indicative of financial emergency exists or is likely to occur.[260] Michigan has a list of 13 possible factors that are indicative of a financial emergency, including defaulting on a payment of principal or interest upon bonded obligations, failing to transfer taxes withheld from employee income to the appropriate government agency for over 30 days, and a projection of a deficit in the local government's general fund for the current fiscal year in excess of 5% of the budgeted revenues for the general fund.[261] If one or more of the specified factors exists or is likely to occur, the review team should find a financial emergency.[262] The state may also declare a local financial emergency if the local government has failed to provide timely and accurate information to a state preliminary review team or if the local government has failed to comply with an approved deficit elimination plan.[263]

The governor makes the final determination of local financial emergency.[264] "In his or her sole discretion," the governor *may* offer the local government an opportunity to submit a written statement agreeing or disagreeing with the review team prior to the governor making a final decision.[265]

Once a local financial emergency is confirmed, the local entity may select one of four options for redressing the financial emergency: (1) consent agreement; (2) appointment of an emergency manager; (3) neutral evaluation process; or (4) Chapter 9 bankruptcy proceeding.[266] Even though these are referred to as options, the choice is somewhat constrained.[267] For example, the consent agreement option requires approval from the state treasurer, and the bankruptcy option requires approval from the governor.[268] If the local government's initial choice is not approved, it must choose from one of the remaining options. In addition, a local government generally cannot use the same option twice unless the governor approves.[269] The emergency manager option is the most common strategy employed.[270]

EMERGENCY MANAGER APPOINTMENT AND AUTHORITY

An emergency manager is empowered to "act for and in the place and stead of the governing body and the office of chief administrative officer of the local government."[271] The emergency manager is granted authority and responsibility for assuring the continued operation of local government:

> The emergency manager shall have broad powers in receivership to rectify the financial emergency and to assure the fiscal accountability of the local government and the local government's capacity to provide or cause to be provided necessary governmental services essential to the public health, safety, and welfare.[272]

When an emergency manager is appointed, local officials are stripped of all of their powers, and all of their executive and legislative functions and duties are vested in the emergency manager. Indeed, the law specifically provides that upon the appointment of an emergency manager, "the governing body and the chief administrative officer ... shall not exercise any of the powers of those offices except as may be specifically authorized in writing by the emergency manager or as otherwise provided by this act."[273] Moreover, the emergency manager may issue orders to local officials as he or she deems necessary to accomplish responsibilities under the act, and these orders are binding on the officials to whom they are directed.[274]

One of the emergency manager's first duties is to develop a written financial and operating plan for the municipality which must have "the objectives of assuring that the local government is able to provide or cause to be provided governmental services essential to the public health, safety, and welfare and assuring the fiscal accountability of the local government."[275] The plan must provide for the conduct of all local government operations within available resources; payment of debt obligations; modification or termination of contracts as necessary (and subject to the law); timely payment to the local pension fund; and other actions deemed necessary to alleviate the financial emergency.[276] The plan must be submitted to the state treasurer, as well as to local officials, and must be regularly reexamined and modified as needed, with notice to the treasurer.[277] Another requirement is that the emergency manager must conduct a public information meeting on the financial and operating plan, but the law is clear that this requirement "does not mean that the emergency manager must receive public approval before he or she implements the plan or any modification of the plan."[278]

Throughout his or her tenure, the emergency manager must continue to report to the state treasurer providing quarterly reports regarding the municipality's financial condition.[279] Copies must also be provided to each state senator and representative from the local jurisdiction, the governor, Senate majority leader, speaker of the House of Representatives, and local government clerk. The plan must be posted to the local government's website.[280] An emergency manager continues in his or her position until: (1) the emergency is rectified; (2) the emergency manager is removed from office by the governor or through impeachment by the legislature; or (3) after eighteen months, the local governing body may vote to remove the emergency manager and proceed with a consent agreement or neutral evaluation.[281] If the emergency manager has served for less than eighteen months, the local governing body may petition the governor to remove the emergency manager and to allow it to proceed with neutral evaluation.[282]

Although the statute does not provide specific criteria for determining that an emergency has been rectified, it states that "[a] local government shall be removed from receivership when the financial conditions are corrected in a sustainable fashion as provided in this act."[283] It appears that this decision is generally made upon the recommendation of an emergency manager. If the governor agrees and the emergency manager has adopted a two-year budget for the local government,[284] the governor may either

remove the municipality from receivership completely or appoint a receivership transition advisory board.[285] However, if the governor disagrees with the recommendation, the governor may inform the emergency manager that his or her term will continue or may appoint a new emergency manager.[286]

While there are few specific provisions in the emergency management law relating to public health, the preamble to the act specifically identifies public health services as key activities which the law is designed to protect. The preamble provides as follows:

> An Act to safeguard and assure the financial accountability of local units of government and school districts; to preserve the capacity of local units of government and school districts to provide or cause to be provided necessary services essential to the public health, safety, and welfare ...[287]

This focus on assuring the capacity of local governments to provide essential governmental services related to public health, safety, and welfare is reiterated in the law's description of an emergency manager's powers and responsibilities[288] and again in the requirements for a financial and operating plan.[289] In addition, a provision of the law authorizing an emergency manager to sell or otherwise transfer a municipality's assets, liabilities, functions, or responsibilities specifically provides that the sale or transfer may occur only if it "does not endanger the health, safety, or welfare of residents of the local government..."[290]

It is important to note that the statute itself does not impose specific requirements for the ways in which the emergency manager should take the public's health and welfare into account in making fiscal decisions. That is, the statute does not require the emergency manager to balance the public health implications, perhaps through cost benefit or cost effectiveness analyses, relative to the municipality's fiscal needs.

CRITIQUES OF MICHIGAN'S EMERGENCY MANAGER LAW

In addition to the anti-democratic nature of Michigan's emergency manager law, there are two other significant critiques relevant to the Flint water crisis. One criticism is that the law addresses the symptoms rather than the causes of local fiscal distress, and therefore provides a solution that is mismatched to the problem. Specifically, by displacing local government with a short-term, state-appointed, unaccountable official, the emergency manager law: (1) assumes a narrow causal story, i.e., that the causes of fiscal distress are limited to local mismanagement;[291] (2) fails to recognize or address external causes of fiscal distress, such as state-level limitations on local revenue-raising capacity,[292] local job loss, or racial discrimination[293]; and (3) enables shortsighted and unilateral decision-making without consideration of long-term local interests.[294]

A second critique central to many commentators' analysis of the Flint water crisis is that the emergency law is disproportionately used in communities of color. In the Michigan Civil Rights Commission's report on the Flint water crisis, it noted that almost fifty percent of Michigan African Americans have lived under an emergency manager's authority, while less than ten percent of Michigan's total population has lived under an emergency manager.[295] Particularly in light of the causal story of local mismanagement that is used to justify an emergency manager's appointment, this stark disparity in the law's application raises concerns about the conscious or unconscious biases of state-level decision-makers.[296]

EFFECTS ON THE PUBLIC HEALTH LEGAL FRAMEWORK

The appointment of an emergency manager significantly alters the Phase I legal framework in at least two ways. First, the appointment adds two new entities to how the various laws operate and intersect—the Treasury and the emergency manager. More importantly, it removes all legal authority vested in Flint city officials. Because the emergency manager is appointed by and serves at the pleasure of the governor, he or she operates as a state rather than a municipal level actor. As a result, the existing legal framework is inverted, with almost all power concentrated at the state level. These changes to the legal framework are reflected in Tables 4 and 5, which correspond to Tables 1 and 2 above.

It does not appear that the emergency manager's appointment altered any of the other entities' legal authority with respect to safe drinking water or the public's health. Because the emergency manager's appointment occurred

at the city rather than county level, it did not countermand or reduce GCHD's authority . Nor did the appointment alter the power of MDEQ to regulate safe drinking water, or the power of MDHHS (or GCHD) to investigate and intervene to protect the public's health. The appointment of an emergency manager did not remove the governor's existing responsibility to oversee the executive branch. And certainly changes in governance and accountability at the city or state level did not alter or impede the authority and responsibilities of EPA and HHS.

Table 4: Structural Legal Failures (Gaps and Ambiguities)

	Federal		State					County		City
	EPA	HHS / CDC	Governor	MDEQ	MDHHS	Treasury	Emergency Manager	Gen. Cnty. Bd. of Comm'rs	GCHD	DPW
Prevention	Lacks PH expertise but no PH consult required	No authority (narrow exceptions)		Lacks PH expertise but no PH consult required	No authority	Lack of specific requirements to consider PH	Lack of specific requirements to consider PH, no local accountability		No authority for Type 1 water supply	Lacks PH expertise but no PH consult required
Surveillance/ Detection				Not required to report to or support PH					Does not receive all BLL test results	Not required to report to or support PH
Investigation					Unclear w/ regard to drinking water				Unclear w/ regard to drinking water	
Intervention					Unclear w/ regard to drinking water				Unclear w/ regard to drinking water	

Table 5: Failures of Implementation (Jurisdictional Overlap and Failures to Perform)

	Federal		State					County		City
	EPA	HHS / CDC	Governor	MDEQ	MDHHS	Treasury	Emergency Manager	Gen. Cnty. Bd. of Comm'rs	GCHD	DPW
Prevention	Failed to identify/ address MDEQ's cultural issues			Failed to assure Flint's capacity, require OCCT		Failed to provide adequate oversight	Failed to make fiscally sound decisions, consider PH			Failed to complete needed upgrades, implement OCCT
Surveillance/ Detection				Guided DPW to submit inaccurate data, lied to EPA	Failed to facilitate GCHD's access to BLL data					Failed to correctly monitor lead
Investigation	Failed to fully investigate Flint residents' lead concerns	Failed to assist GCHD absent state request	Failed to assure rigorous invest-igation by agencies	Failed to cooperate with GCHD's LD investigation	Failed to adequately investigate BLL or LD data, support GCHD's LD investigation				Failed to use full authority to investigate	Failed to cooperate with GCHD's LD investigation
Intervention	Failed to override OCCT decision, take enforcement action, issue emergency order	Failed to declare PH emergency	Failed to take responsi-bility for agency failures, timely declare emergency	Failed to require Flint to correct violations				Did not urge/ require aggressive GCHD action	Failed to issue PH order, sound alarm	Failed to notify public of LD outbreak

a. Emergency Manager

The emergency manager supplanted the Flint city council and Flint mayor, and assumed all city public health powers and responsibilities. In place of the mayor, the emergency manager was responsible for overseeing all city programs, including the Department of Public Works, and had authority to declare an emergency. In place of the city council, the emergency manager had authority to propose, approve, or disapprove of a change to the city's water source, and could have developed a budget designed to provide for and protect the health of Flint residents. Indeed, in the course of adopting a financial and operating plan designed to assure provision of governmental services, the emergency manager could and should have allocated sufficient money to protect the drinking water supply and the public's health. Alternatively, the emergency manager could have contracted or delegated responsibility for the Flint water supply to a different public entity. This strategy would have required approval from the governor or his designee as well as a city council vote. This is because the transfer of local government assets, liabilities, functions, or responsibilities is one of few actions that an emergency manager must first submit to a city council vote. Nevertheless, the state local emergency financial assistance loan board could override a city council rejection.[297]

Contrary to the emergency manager law's purpose, Flint emergency managers were focused solely on their responsibility to the governor to balance the city's budget.[298] Collectively, they either misunderstood or ignored their broader responsibility to assure the continued provision of Flint's essential public services. Nevertheless, reports and emails released in the aftermath of the crisis suggest that one emergency manager's decision to commit Flint to the multimillion dollar KWA project was not actually in Flint's economic best interests: the project was far more expensive than a number of viable alternatives—including a continued contract with DWSD for finished water—and left Flint in a worse financial position than it started.[299] As a result, Flint did not have funds to upgrade its water treatment plant to the extent necessary to assure safety.[300] Beyond this—and as the law permits—Flint's emergency managers refused to listen to the community's water quality complaints and rejected the city council's nonbinding vote to return to the DWSD.[301] Thus, the disastrous public health consequences in Flint reflect both failures of the emergency manager law and failures of implementation.

LEGAL IMPLICATIONS

Structural gaps:

- Absence of explicit requirements or procedures for emergency managers to consider public health in decision-making.
- Lack of governmental accountability to Flint residents.

Implementation failures:

- Failed to recognize breadth of emergency manager mandate, which included assuring the continued provision of services essential the public health, safety, and welfare.
- Failed to rectify the financial emergency. Financial decisions, especially relative to investing in the KWA, committed funds to a project promising little benefit to Flint residents. In turn, this reduced Flint's current and future financial capacity.
- Failed to consider and respond to public complaints about the city's drinking water, despite assuming all legal power and responsibilities in the city.

b. Treasury

As soon as an emergency manager is appointed to a locality, Treasury, as the entity responsible for administering the emergency management law[302] and for overseeing the emergency manager's activities, accepts a more significant role for protecting the public's health. The emergency manager undertakes the local government's actions, and Treasury is responsible for overseeing his or her actions.[303] Usually, democratic accountability would provide the check on local government action, but with an emergency manager, that role belongs to Treasury. Most obviously, this function is performed through the treasurer's review of the emergency manager's financial and operating plan, amendments, and quarterly reports.[304] Equally significant, the law requires the treasurer's prior approval of certain actions and transactions.[305]

In sum, Treasury's primary role with respect to Flint is found in its oversight of *all* decisions and actions of the emergency manager, who supplanted all local government officials. Treasury was responsible for assuring that the emergency manager was fulfilling the purposes of the emergency management law, including the continued provision of services essential to the public health, safety, and welfare. Most importantly, Treasury was standing in for the community as the primary source of accountability for the emergency manager. In accordance with its responsibility, Treasury hired an independent engineering

firm to evaluate Flint's water supply options.[306] The firm concluded that options involving the DWSD were the most cost-effective.[307] But for some reason, Treasury ignored the engineering firm's recommendations and failed to heed internal concerns and questions about the KWA's cost-effectiveness. Ultimately, Treasury approved the emergency manager's decision to join the KWA and reject DWSD's contract offer.[308] This unexplained decision reflects a failure of implementation.

LEGAL IMPLICATIONS

Structural gaps:

- Absence of explicit requirements or procedures for Treasury to consider public health in decision-making.
- Lack of governmental accountability to Flint residents.

Implementation failures:

- Failed to enforce the breadth of the emergency managers' mandate, which included assuring the continued provision of services essential the public health, safety, and welfare.
- Failed to adequately oversee emergency managers' fiscal decisions, especially with regard to committing Flint to the KWA.
- Failed to assure the continued provision of essential public services in Flint.
- Failed to consider and respond to public complaints about the city's drinking water, despite providing the primary check on the emergency manager's legal power and responsibilities in Flint.

c. Governor

In contrast to the significant changes at the city level resulting from an emergency manager's appointment (i.e., the city's authority is transferred to the emergency manager and Treasury), we observed changes to one other entity involved in the public health legal framework described above: the governor. With the appointment of an emergency manager, the Governor's responsibility to oversee Treasury became relevant to the public health legal framework because Treasury acquired complete responsibility for overseeing local governance in Flint. Thus, the importance of the Governor's oversight and inquiry into state agencies became significantly more important than it already was because the voice and democratic power of the local community was eliminated.

LEGAL IMPLICATIONS (IN ADDITION TO THOSE NOTED ABOVE)

Structural gaps: None.

Implementation failures:

- Failed to consider and respond to public complaints about the city's drinking water, even though the state assumed all legal power and responsibilities in Flint.
- Failed to demand Treasury to conduct further investigation into water quality issues in Flint in response to residents' complaints.

E. Other States' Financial Emergency Laws and Protections for the Public's Health

STATES WITH EMERGENCY MANAGEMENT LAWS

As a component of our research regarding states with emergency management laws, we analyzed five categories of inquiry, described in greater detail below.

a. Legal authority to intervene to prevent a local financial emergency

Of the 10 states we researched with emergency management laws, half had provisions that gave the state legal authority to intervene to prevent a local fiscal emergency. The authority to intervene for each state was discretionary, but generally requires certain preconditions that allow the state to exercise this discretion. For example, in Maine, if a municipality fails to meet certain financial obligations for over a year and a half, the state may conduct an audit or investigation.[309] The types of state intervention allowed prior to the declaration of a local fiscal emergency varied greatly across jurisdictions, with some states exercising more aggressive measures to prevent a crisis. In Nevada, the state may place the local government on fiscal watch or provide technical financial assistance to the local government prior to declaring a local fiscal emergency.[310] In contrast, North Carolina allows the state to investigate the municipality's fiscal affairs, consult with its governing board, and negotiate with its creditors in order to assist the municipality in working out a plan for refinancing, adjusting, or compromising the debt.[311]

b. Legal authority to intervene in a local financial emergency

Once a municipality is in a financial emergency, states with emergency management laws all have the power to declare a financial emergency and intervene in the municipalities' operations. Four out of the ten states we reviewed are required to declare a financial emergency, while the other six states have discretionary authority.[312]

Of the ten states that we analyzed, two of them, Arizona and California, have laws that only apply to school districts.[313] In both Arizona and California, other governmental units, including county and municipal governments, must rely on Chapter 9 bankruptcy or other state provisions for fiscal relief.

States use varying definitions as to what constitutes a financial emergency and what local conditions or actions prompt state involvement. For example, North Carolina has a fairly simple definition of financial emergency. It defines that a financial emergency exists when a unit of local government or municipality fails to pay any installment of principal or interest on its outstanding debt on or before the due date and remains in default for 90 days. This condition allows the state to investigate the municipality's finances and issue advice. If the state provides advice and the local unit declines or refuses to implement the advice within 90 days, then the state may declare a local financial emergency.[314] In contrast, as noted above, Michigan has a list of 13 possible factors that are indicative of a financial emergency, including a default in payment on a bonded obligation, failure to transfer taxes owed to other entities, or a projected deficit in excess of 5% of budgeted revenues. If any of the factors are met, the state can declare a local financial emergency.

c. Legal authority of the intervener

The legal authority of state appointed emergency managers varies widely across jurisdictions and provides for a vast array of possible state interventions. Across the ten states, laws ranged from providing extremely broad powers with few details to being extremely specific with greater details regarding the appointment, duties, and termination of emergency managers. For example, Oregon law describes an emergency manager's authority broadly as the power to declare a financial emergency and aid local units of government to enter into intergovernmental agreements providing necessary services for local units.[315] Additional powers are not enumerated, though some powers are specifically excluded, such as the authority to act on behalf of a governing body in authorizing a tax. Other states, such as Rhode Island, provide a more detailed list of specific

powers that an emergency manager may exercise. In Rhode Island, an emergency manager has the power to levy and assess taxes, make or suspend rules, adopt a municipal budget and approve of collective bargaining agreements and amendments to collective bargaining agreements.[316]

Only three states' laws allow for or require community involvement or intervention once an emergency manager has been appointed. One of these three states is Rhode Island, whose law designates a budget commission as the emergency management entity. The budget commission has five members, two of which must be elected officials, including the chief executive for the city and a city council member.[317] Another is Oregon, whose law requires the intervener to consult with local officials, including the sheriff and state congressmen for the affected jurisdiction.[318]

All but three states lack provisions aimed specifically at protecting the public's health and requiring the intervener to consider the health effects when making decisions. In New Jersey, such provisions pertain only to the dissolution of a unit of government. Under the law, the Local Finance Board may determine that, due to financial difficulties or mismanagement, the dissolution of an authority will be in the public interest and will serve the health, welfare, or convenience of the inhabitants of the local unit or units.[319] In Michigan and Rhode Island, provisions provide for a broad duty to execute the law in a manner that preserves the safety and welfare of citizens of the state.[320] None of the states examined gives specific guidance on implementation requirements for community engagement or the protection of the public's health, such as detailed policies and procedures.

d. Legal authority to file for Chapter 9 bankruptcy

Of states with emergency manager laws, the majority authorize municipalities to file for Chapter 9 bankruptcy. Iowa does not have a specific municipal bankruptcy authorization, but it does allow for a specific exception: a city, country or other political subdivision may file a petition under Chapter 9 of the Bankruptcy Code if it is rendered insolvent as a result of a debt involuntarily incurred which is not pursuant to a valid and binding collective bargaining agreement or a previously authorized bond issue.[321] This creates a system in Iowa that provides almost no fiscal oversight to local governmental entities, much like states without an emergency manager law, discussed in more detail below. Maine and Nevada do not specifically authorize municipalities to file a petition under Chapter 9.

e. Other legal mechanisms available to prevent or address local fiscal emergencies

Few states have any other legal mechanisms available to local governments to help prevent or address local fiscal emergencies. New Jersey provides technical assistance to local governments.[322] Maine provides state funding for municipalities financially unable to provide for direct relief and work programs or for their share of public assistance programs.[323]

STATES WITHOUT EMERGENCY MANAGEMENT LAWS

The ten states we examined without emergency management laws fall into three main types. First, states that do not authorize municipalities to file for bankruptcy. Second, states that set conditions municipalities must meet before filing for bankruptcy. And third, states providing blanket authority for municipality bankruptcy filings.

a. States not authorized by law to file for bankruptcy

Three of the 10 states we examined, Maryland, Mississippi, and Wyoming do not authorize local governmental entities to file for bankruptcy. These states did not provide for any type of state oversight for local entities in fiscal distress nor did they provide an avenue for relief through the court system. These states also lacked any other legal mechanisms in place for preventing or addressing local fiscal emergencies.

b. States that set conditions that municipalities must meet before filing for bankruptcy

Four of the states we examined, Connecticut, Kentucky, Montana, and Washington, place conditions on local governmental entities before they may file for bankruptcy. These states generally provide for the greatest amount of

state oversight, since these municipalities must meet a certain threshold before being allowed to file under Chapter 9.

The conditional requirements varied among states. For example, Montana requires a state to complete a plan of adjustment before they can pursue Chapter 9 Bankruptcy.[324] In Connecticut, the law simply requires that municipalities must receive express prior written consent of the governor, but the law does not specify criteria that the governor must use in determining whether or not to grant the written consent.[325] Kentucky requires county governments to obtain state approval prior to filing for bankruptcy, but also has a comprehensive set of statutes governing local budgeting, enabling state monitoring and oversight, and even entitling counties to request and receive state assistance with restructuring their debt.[326]

c. States that provide blanket authorization for municipalities to file for bankruptcy

Three of the states, Colorado, Missouri, and South Carolina provide blanket authority for a broad range of local governmental entities to utilize Chapter 9 bankruptcy laws. These states did not provide any additional intervention programs to assist distressed local entities.

F. Fiduciary duty

In the context of the Flint Water Crisis, the concept of a fiduciary duty being owed by the emergency manager and other government actors to Flint citizens is a recurring theme which can be seen in opinion articles327 and official state testimony,[328] among other sources. Yet in the United States, the law of fiduciaries has not traditionally been applied to governments or elected officials. Recently, some scholars have begun arguing for a model of government designed to constrain elected officials' political discretion through the application of judicial review based upon fiduciary law. This is known as "fiduciary political theory,"[329] which has arisen in election law and gerrymandering. Scholars argue that elected officials should be subject to fiduciary law, including a duty of loyalty, and courts should find a breach of duty when elected officials manipulate election laws for their own political advantage.[330]

A fiduciary is "[a] person who is required to act for the benefit of another person on all matters within the scope of their relationship."[331] A fiduciary owes special duties of care, known as fiduciary duties, to another person, generally known as a principal. Fiduciary duties require a fiduciary to act for the sole benefit and interest of the principal at all times.[332] Fiduciaries can have no conflict of interest between themselves and the principal and the fiduciary must not profit from the position of fiduciary. Traditionally, fiduciary duties have been imposed in certain relationships, such as a trustee and beneficiary or a corporate director and stockholders. The exact duties imposed under law vary based on the nature of the fiduciary relationship, but may include a duty of care, a duty of loyalty, a duty of good faith or a duty of prudence, among others.[333]

If developed further and implemented, fiduciary duty's legal principles could translate to the law of local fiscal distress. In such cases, an emergency manager would serve as fiduciary and owe an elevated duty of care to local citizens as the principal. As with private fiduciaries, emergency managers possess discretionary authority to act on behalf of those who lack power (through the preemption of their democratic representation) and cannot protect themselves from abuse. But a fiduciary duty approach would need to substitute for Michigan's current emergency manager law. The two approaches are not complementary. To be sure, an emergency manager law could easily incorporate fiduciary duty standards, but must do so explicitly. In fact, it is reasonable to assume that a well-developed fiduciary duty legal structure as applied to municipal decisions would impose more appropriate requirements than current law. The reason for this is that the duties of loyalty and due care require taking into account a broader range of considerations than fiscal realities alone.

If the Flint emergency manager owed a legal fiduciary duty to the residents of Flint, perhaps events would not have unfolded as they did. Under a fiduciary duty of care, the emergency manager would have been required to consider the health implications of both the switch to the Flint River and the decision declining to require anti-corrosives once the switch was made. To meet such a standard, a court would consider if the emergency manager's decisions made on behalf of Flint residents were reasonably informed, made in good faith, and under rational judgment without the presence of a conflict of interest.[334] For one thing, there is

strong evidence suggesting that the decision to change the source of Flint's drinking water was not reasonably informed and that the emergency manager even disregarded information that such a switch could have negative health consequences for city residents.[335] For another, current law does not require an emergency manager to balance the need for rational judgments about austerity measures with potential implications for the community's health and welfare. The decision to switch the drinking water source to the Flint River was solely financial[336] and was in line with the emergency manager's obligation to the governor to eliminate the city's fiscal distress. But the decision would likely fail under a fiduciary duty standard because it was not made for the sole benefit and interest of Flint's citizens.

Discussion

As we outlined at the beginning of this report, our analysis demonstrates that failures in both the structure and implementation of the applicable laws substantially contributed to the Flint Water Crisis. Five particular conclusions about the law flow from our assessment, as follows:

- First, MDEQ had primary legal authority and responsibility for safe drinking water monitoring and enforcement in Michigan, including legal power to prevent the Flint water crisis. We agree with the Governor's Task Force that "MDEQ caused this crisis to happen" when the department abdicated its essential and unique responsibilities as the state's environmental health agency.
- Second, although several agencies had legal authority to intervene as the crisis progressed, the Flint water crisis exposed jurisdictional gaps, overlaps, and inconsistencies in Michigan's legal framework that elicited confused and ultimately deleterious policy responses. Consequently, this produced missed opportunities to mitigate the crisis.
- Third, though the relevant laws include checks and balances that enable agencies to intervene when a sister or subordinate agency's actions or omissions threaten the public's health, these legal mechanisms are not self-executing. Indeed, legal checks and balances are futile if a supervising or co-equal agency adopts a policy of non-interference or deference without first establishing channels for communication and true cooperation.

- Fourth, the emergency manager's jurisdiction over the City of Flint undermined the local government's ability to respond to an emerging crisis. Once the emergency manager took over, city agencies could no longer act, although state, federal, and county agencies retained legal authority to intervene.
- And fifth, it seems clear that inadequate legal preparedness[337] (discussed below) contributed significantly to how and why the crisis unfolded as it did. The lack of legal preparedness contributed to failures of implementation (especially regarding coordination and communication).

Why is the legal environment so complex? Among the many reasons for the legal complexity, three stand out as being significant as detailed above. They represent the confluence of structural problems, implementation failures, and the sheer number of actors involved who were not prepared to deal with the complexity.

First is the difficulty of building a structural legal framework that avoids gaps and overlaps when confronting problems that involve the interaction of entirely different legal regimes. In the Flint Water Crisis, relevant actors needed to understand both Michigan's public health laws and the safe drinking water requirements. In the midst of the crisis, it was difficult for the relevant agencies to comprehend and synthesize the two legal regimes and act accordingly, let alone factor in how the emergency manager law would then affect decisions that would have been routine without an emergency manager.

Another is the inherent ambiguity of how laws are written, which exacerbates the challenges of adequate legal preparedness. Though some ambiguity is difficult to avoid, legal uncertainty and inadequate legal preparedness contributed to the implementation deficiencies described above. According to Benjamin and Moulton,[338] there are four core elements of legal preparedness:

- Laws and legal authority (i.e., statutes, regulations, and ordinances)
- Effective use of laws
- Coordination of legal interventions across jurisdictions
- Information resources and dissemination.

Our results suggest that none of these elements was met before or during the Flint water crisis. In fact, the crisis exposed considerable flaws in each element. Our analysis of the gaps and overlaps indicates a lack of cohesiveness across legal regimes that inevitably led to poor coordination across agencies, deficient communication, and inadequate data sharing. In this case, laws that regulate different concerns across different agencies were enacted and implemented in silos, failing to address the need for an integrated, coordinated framework. As Jacobson et al. noted in the context of emergency preparedness, our Flint analysis similarly demonstrates "...substantial weaknesses in the overall clarity, direction, and cohesion of the laws governing..." safe drinking water.[339] Jacobson et al. further concluded that "Legal clarity is ... necessary for effective coordination, but is not sufficient."[340] In this sense, "... effective coordination is a precondition for successful implementation of the law."[341]

Because law can do little to ensure or compel effective coordination and communication across agencies, we are not prepared to argue that a legal regime designed to be more consistent, with better coordination and communication would have avoided the crisis. Nevertheless, it seems fair to conclude that improving legal preparedness would have at least mitigated the ensuing harm.

A final observation is that the number of actors involved at various levels of government made it difficult to communicate and coordinate across agencies and levels of government. Many of the implementation failures we describe could have been avoided had fewer actors been involved. This is where legal preparedness is important. As with disaster preparedness generally, effective responses depend on communication and coordination that need to be designed and tested ahead of time. For example, the federal government funded bioterrorism preparedness exercises that included all agencies likely to be first responders. Similar preparedness exercises will be needed to prevent another Flint Water Crisis.

Although not specifically part of our study, we would be remiss if we failed to note the various agency cultures that contributed to the Flint Water Crisis. As Jacobson et al. have noted in another context, public health tends toward a risk-averse, procedurally-based culture.[342] From everything we have learned in this project, the environmental agencies acted within similar constraints. It is hard to avoid the conclusion that a culture of punishing openness and summarily denying bad news seemed to pervade the agencies in the Flint tragedy.

A. Public Health and Safe Drinking Water

At the end of each separate legal analysis (summarized in Tables 1 and 2), we noted the legal implications of structural gaps and implementation failures. In this section, we apply those implications to the public health functions we described earlier—prevention, detection/surveillance, and investigation/intervention.

Overall, one of the most alarming gaps that we observed in the public health legal framework relative to safe drinking water is the lack of a specific and defined role for public health agencies. In fact, despite the stated purpose of both the federal and state drinking water laws to protect the public's health, public health agencies are only tangentially involved in their implementation. Rather than having specific powers related to safe drinking water, public health legal authority arises from general grants of authority to monitor or intervene to protect the public's health. Michigan law delegates primary legal authority and responsibility for safe drinking water to MDEQ, independent of public health agencies. Given the enormous public health consequences of a failure to properly regulate safe drinking water, the absence of public health professionals in implementing safe drinking water standards is troubling.

PREVENTION

We observed several gaps in legal authority specifically related to prevention, with the most striking being the lack of a role for public health. Indeed, public health agencies exercised very little legal authority with respect to preventing contamination of drinking water or even preventing human exposure to contaminants once present. The absence of public health in this context is likely traceable to the transfer of environmental health functions from public health agencies to environmental agencies at both the federal and state level. While these transfers may increase efficiencies in some ways, the transfers may have had the unfortunate effect of removing public health—and thus removing the purpose behind the safe drinking water laws—from the conversation that exists regarding their implementation. This is not to say that environmental protection agencies are unconcerned with protecting the public's health; rather, they are not *primarily* concerned with public health and therefore may not be equipped with the leadership, expertise, or perspective needed to make sound public health decisions. Unfortunately, the absence of public health in addressing environmental hazards is not unique to safe drinking water, but in fact characterizes governmental responses to many environmental health threats.

Another observation implicates both environmental and public health agencies. Both agencies tend to focus lead poisoning prevention efforts on intervention or mitigation rather than true prevention. Despite scientific consensus that there is no safe level of lead exposure, public health and environmental activities continue to identify action levels and levels of concern that are well above scientifically measurable levels that are known to cause harm. In turn, public health activities—such as abatement of lead paint hazards or replacement of lead service lines—tend to be initiated after elevated water lead levels or blood lead levels rather than preventing exposure from ever occurring. While the costs of true prevention are not insignificant, the costs of harm associated with repeatedly exposing generation after generation of children to lead is incalculable.

DETECTION/SURVEILLANCE

With respect to surveillance and detection functions, we observed that as long as distinct organizations (as they are now) monitor indicators of public health and drinking water quality, coordination between agencies is essential. The Flint Water Advisory Task Force Report cited numerous communication issues, including agency refusals to provide data to one another or to reevaluate calculations or analyses at the suggestion of another. While the abrasive

manifestation of these particular issues likely reflects deeper conflicts between the agencies involved, the lack of communication also raises a simpler concern regarding the gaps that may occur when each agency can see only one piece of a whole picture. To link environmental conditions and causes to public health outcomes requires regular communication among environmental and public health agencies at all governmental levels. For example, if public health agencies were alerted to changes in environmental conditions, they could not only increase monitoring for potential health outcomes, but also consider implementing proactive interventions such as educational initiatives.

The GCHD's struggle with obtaining data throughout the Flint water crisis is extremely troubling. In general, state law authorizes the health department to seek a warrant to inspect or investigate "any matter, thing, premise, place, person, record, vehicle, incident, or event" for the purpose of "assur[ing] compliance with laws enforced by the local health department."[343] Similar investigative authority is granted under the Genesee County Environmental Health Regulations with regard to "all premises affected by this Regulation."[344] Although the investigative authority is clear in theory, it is less clear whether these provisions enabled GCHD to investigate the Flint public water system given that type 1 public water systems are not under GCHD's jurisdiction and GCHD is not responsible for enforcing the laws most directly applicable to type 1 public water systems. The city's and county's distinct jurisdictions may have also hindered coordination and information-sharing between GCHD and the city water department.

We also observed that while the law provides some requirements (though perhaps insufficient) relative to monitoring water and blood lead levels and disease, the law does not require consideration of public complaints. In Flint, this failure allowed the crisis to fester. The frequency and content of residents' complaints provided critical information that should have produced concern at every level of government but was instead undervalued and almost entirely ignored. The public was not respected as a data source or as a public health partner. Though public concern need not be monitored in the same way that objective scientific data is measured and analyzed, perhaps community concern and feedback should be woven more intentionally into surveillance activities. Certainly, the community should be consulted as an essential public health partner.

INVESTIGATION AND INTERVENTION

In general, public health agencies and officials had very little authority to protect the public from unsafe drinking water through proactive measures, but our research shows that they possessed adequate legal authority and a number of different tools that enabled them to investigate and intervene in the water crisis. Nevertheless, public health agencies did not exercise their authority quickly or effectively, if at all. Confusion about the law may have caused the failure to intervene. Perhaps public health officials did not realize they had the authority to act. What appears more likely is that public health officials may have feared acting too soon or without enough data, and that a risk-averse culture may have caused the agency to underestimate the risks associated with not acting soon enough. Poor or hierarchical relationships among agencies or the wariness of intruding on another agency's turf may have exacerbated this miscalculation, perhaps contributing to the inability to obtain necessary information.

On a broader level, this disconnect may reflect destructive patterns characterizing relationships among government actors and between levels of government. As described throughout this Report, relationships among or within agencies appear to be sometimes antagonistic and often overly-concerned with hierarchy or technical compliance. Yet the complexity of the legal framework necessitates open and frequent communication among agencies.

B. Emergency Management Laws and Public Health Protections

MICHIGAN'S EMERGENCY MANAGER LAW

The roles, relationships, and responsibilities of the many entities involved in assuring safe drinking water and protecting the public's health are in some ways dizzyingly complex. Yet the roles are fairly longstanding, the paths are well-defined, and the challenges and critiques of the laws are not new. What added newness and uncertainty to the equation that led to the Flint water crisis was the appointment of an emergency manager. The appointment upended familiar relationships, enabled implementation of dramatic and shortsighted austerity measures, and involved repeated failures to ensure the public's health. Indeed, the emergency managers' failure to take into account the public's health occurred despite their very purpose of preserving governmental services to protect the health, safety, and welfare of Flint residents.

A stated purpose of Michigan's Local Financial Stability and Choice Act is to preserve the capacity of a local government to provide services necessary to the public's health, safety, and welfare.[345] However, there appears to be incongruity between this language and the interpretation and application of the law, including how emergency managers have acted in the past. At least one Flint emergency manager has professed to understanding that his role was to focus solely on fiscal management, and not on protecting the community. The Flint water crisis shows the catastrophic consequences of an emergency manager's failure to understand his or her role more broadly. An emergency manager's failure to recognize the broader responsibilities associated with completely taking over a local government—combined with a lack of expertise for identifying and assessing the public health implications of policy choices—would undoubtedly contribute to a failure of critical local government services, such as the distribution of safe water.

Even beyond the interruptions to the public health legal framework that resulted from the emergency manager's appointment, the lack of democratic accountability in the emergency management law poses an additional, distinct threat to health. In particular, because Flint's emergency managers completely supplanted the authority of locally elected officials, yet were unwilling and not legally required to consider their concerns, local citizens' voices went unheeded for over a year. The effective silencing of Flint citizens enabled the development, progression, and perpetuation of the water crisis. Because there is always the risk that someone will act outside the law—accidentally or intentionally—a community's ability and power to challenge inappropriate and possibly illegal decisions may be just as important as having clear legal mandates, competent government officials, and appropriate criteria for decision-making.

We considered above whether imposing a fiduciary duty on emergency managers would be preferable. It is important to note that this approach presents challenges as well. Probably the most significant challenge will be the inevitable conflicts of interest. It is difficult to imagine a scenario where an emergency manager is not accountable to the governor. Overcoming conflicts of interest may be impossible if an emergency manager is ultimately responsible to the state and governor to resolve a local fiscal emergency. Moreover, there may be better and clearer legal mechanisms that could be applied to emergency managers' conduct to help ensure that financial decisions will not harm the health and safety of local residents in municipalities under state emergency management. These mechanisms could include mandatory health impact assessments to be conducted for any major infrastructure decisions, increased input from elected officials or the community on fiscal plans, outlets for residents to lodge concerns after policies have been implemented, and even legal liability for emergency managers that cause harm.

Ultimately, emergency managers' increased accountability for residents' health and safety could help prevent future disasters such as the Flint water crisis. With few laws providing explicit standards for emergency manager decision making or requiring evaluation of proposed decisions based on citizen's health and safety, analyzing existing laws, especially with regard to implementation,

is the best method for determining the effectiveness of the existing legal framework. This analysis should guide revisions to the state's emergency manager law to address gaps in accountability for citizen's health and safety.

OTHER STATES WITH EMERGENCY MANAGEMENT LAWS

Currently, twenty states have emergency management laws to deal with local fiscal distress.[346] Among these states, laws vary widely. Some states have strong powers to intervene and take over local governmental functions when a municipality is in distress, while other states play a more supportive role to local governments through oversight and technical assistance. Though there are few commonalities between states within the provisions of emergency management laws, our research revealed several common gaps that exist in most state emergency management laws. These gaps could have important effects on the public's health and safety.

Many state laws lack specific criteria for what constitutes a financial emergency, which could provide uncertainty or an arbitrary application of the law to different jurisdictions. The criteria for declaring a financial emergency and appointing an emergency manager should be clear and unambiguous. Many state laws also lack specific criteria for terminating an emergency manager's control of a jurisdiction, raising concerns that a jurisdiction may be subjected to state control for longer than is necessary, especially a possible longstanding absence of democratic representation and accountability for the local community.

When a municipality is in fiscal distress and the state steps in with oversight and intervention measures, the municipality must still function as a government. This requires the continued provision of certain basic public services by the government to protect the health and safety of residents. If emergency management laws take away the power of local elected government officials to oversee and run the municipal government, then those powers and duties must be appropriately exercised and overseen by the state's intervener. Current emergency management laws fail to specify the role of the state intervener in ensuring that essential public services continue uninterrupted throughout the intervention process. This is a serious gap that puts public health and safety at risk. Current state laws also fail to hold emergency managers accountable when basic services are not provided or when the decisions and actions of an emergency manager harm residents, as occurred in the Flint water crisis.

Over the past two years, states have failed to heed the lessons of the Flint water crisis. They have failed to identify and address statutory gaps that pose a risk to local residents under emergency management. Since the crisis, no state has taken legislative action to make changes to current laws in order to prevent a similar tragedy from occurring. This is troubling. The Flint water crisis may have arisen from a unique fact pattern, but the legislative shortfalls that led to and enabled the crisis are not unique and could allow for another crisis to develop in other jurisdictions.

STATES WITHOUT EMERGENCY MANAGEMENT LAWS

Nationally, over half the states give some ability (specific or conditional authorization) for municipalities to utilize Chapter 9 laws to address local fiscal distress.[347] Chapter 9 bankruptcy law provides greater protection to municipalities than Chapter 11 bankruptcy law provides to corporations. The laws vary in many ways. For example, in Chapter 9, only the municipality can initiate a bankruptcy proceeding, if authorized by law. [348] In Chapter 11, the corporation may voluntarily file a bankruptcy proceeding or its creditors may initiate a Chapter 11 case if the corporation is for-profit and insolvent. [349] Additionally, only a municipality can file a plan of debt adjustment and only to adjust debt—not to liquidate the municipality. In Chapter 11, a corporate debtor or any creditor may file a plan of reorganization or liquidation.[350] Chapter 9 also limits a bankruptcy court's jurisdiction, prohibiting it from interfering with a municipality's "political or governmental powers" or day-to-day activities without the municipality's consent.[351]

These protections may make Chapter 9 bankruptcy a potentially attractive alternative for addressing fiscal distress, or in states without emergency management laws,

it may be the only option available to address severe local fiscal distress. Specifically, determining the appropriate level of debt adjustment that is both sustainable and affordable and allows the municipality to meet its obligations to provide certain basic public services to ensure the health and safety of residents is not an easy task. A debt adjustment plan should be based on a realistic assessment of the municipality's ability to pay while ensuring an appropriate level of essential public services.

Nationally, many states lack any legal mechanisms at all to allow for municipalities to deal with local fiscal distress. Though our research did not uncover any specific cases of municipalities suffering ill effects resulting from fiscal distress in states lacking emergency management laws or authorization for municipal bankruptcy, the concern remains that a lack of any structure to aid local entities in fiscal distress may prove extremely harmful to local citizens' health and safety if the provision of basic public services is sacrificed.

Even though municipalities face important challenges in bankruptcy proceedings, it is worth noting that the appointment of an emergency manager and subsequent bankruptcy in Detroit has had generally favorable results. It is beyond this project's scope to assess why the emergency manager succeeded in Detroit but failed in Flint.

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Recommendations

Our recommendations flow directly from our legal analysis, and are organized along structural and implementation considerations. Given the complexity of the legal regime that contributed to the Flint water crisis, it is not surprising that we will offer a range of recommendations across the relevant areas. Even so, one set of recommendations stands above the others—the need for serious reconsideration of emergency manager laws.

Although our recommendations are consistent with others who have investigated the Flint Water Crisis, we limit our approach to the specific legal issues we have examined. In particular, we refer readers to the broader conclusions and recommendations from the Governor's Flint Water Advisory Task Force Report and the Michigan Legislature's Report of the Joint Select Committee on the Flint Water Emergency.[352] We also primarily limit our recommendations to actions that states could implement without relying on changes at the federal level.

Nonetheless, we would be remiss if we failed to recognize two observations from other reports that have important implications for understanding the structural legal environment and its implementation in the Flint Water Crisis: the underinvestment in governmental public health and environmental injustice. As noted in analyses of local fiscal distress laws—including a 2011 Case Study of Flint's chronic fiscal distress[353]—local fiscal stability has declined in recent decades due to overall population loss, a declining tax base (as city residents move to suburbs and property values drop), aging infrastructure, and growing public pension demands. Federal and state actions that shift costs to local governments or restrict local taxing authority, and an anti-tax political environment (at every governmental level) exacerbate these challenges despite high public expectations for governmental services.[354] The Flint water crisis reflects an overall underinvestment in local government and infrastructure, including public health.

The Governor's Task Force stated unequivocally that "[t]he Flint water crisis is a clear case of environmental injustice."[355] Indeed, the disproportionate application of the emergency manager law to communities of color cannot be viewed in isolation from the overall disproportionate exposure to environmental hazards in the same communities. The Governor's Task Force Report and other analyses of the crisis observe that implicit racial bias likely affected how the law was implemented in Flint. Specifically, these reports make a strong case that implementation failures may be linked to structural racism, suggesting that governmental failure to respond to the Flint community's legitimate concerns reflects entrenched and systemic racial prejudice.[356] Our study focused on analyzing the applicable legal framework and distinguishing between failures of law and failures of implementation, rather than examining the broader societal constructs (such as structural racism) that undeniably shape legal outcomes. Thus, although racism was not the focus of our analysis, it surely contributed to the legal failures we have detailed in this report.

A. Emergency Management Laws

The Flint water crisis is a case study showing the importance of democracy for protecting the public's health. For this reason, alternative legal strategies for responding to local fiscal distress should be fully explored. For example, municipal bankruptcy laws may constitute a viable alternative to emergency manager laws for municipalities in fiscal distress, while preventive activities such as technical assistance or even temporary financial assistance could alleviate the need for more intrusive state intervention.

Where an emergency manager law exists, a few common sense changes in the process of appointing and overseeing an emergency manager could alleviate subsequent failures. These changes would assure that the emergency manger hears and responds to the community's concerns. In short, more accountability is needed if emergency manager laws continue to be the primary approach for addressing municipal fiscal distress.

STRUCTURAL RECOMMENDATIONS

- Emergency manager laws should include an explicit requirement that emergency managers must consider the public's health in decision-making.
  - Emergency managers must consult with and incorporate advice from both the state and the appropriate LHD.
  - Emergency managers must identify and balance health considerations with fiscal realities through recognized methodologies such as cost-benefit/cost-effectiveness analyses.
  - Fiscal realities (i.e., short-term budget solutions) alone cannot justify actions placing the public at risk and exacerbating the underlying issues (for example, by decreasing the tax base as everyone who can afford to moves away).
  - Emergency mangers must be required to balance fiscal needs with protecting the public's health.
  - Public health agencies should always be alerted to changes in environmental conditions—including water source—that may introduce new agents of disease or harm to the community, and should be required to engage in more rigorous monitoring following changes with potential adverse health implications.

- Emergency manager laws must be consistent with the expected norms of democracy rather than displacing democracy entirely; accordingly, they must require consideration of local public opinion. In enacting or revising emergency manager laws, states should:
  - Provide the opportunity for public comment on fiscal plans
  - Require emergency managers to consider and respond to public comments—similar to administrative rulemaking.
  - Offer some form of democratic representation during an emergency manager's tenure such as issuing regulations to define the role for local elected officials in decision-making.
  - Provide a legal mechanism for local residents to formally complain to the appropriate state agency with oversight responsibility for the emergency manager.
- We support the Select Committee's recommendation to replace a single-person emergency manager with a three-person team comprised of a financial expert, a local government operations expert, and a local ombudsman.[357]
- We support the Select Committee's recommendation to prohibit cost from being the primary factor in an emergency manager's decision that would directly affect the public's health and safety.[358]
- States should consider imposing a fiduciary duty standard requiring the emergency manager to act on the public's behalf.

IMPLEMENTATION RECOMMENDATIONS

- Democracy: states should develop a rigorous process for public participation and engagement in decision-making once an emergency manager is appointed.
  - Because the governor appoints an emergency manager, the state must develop a monitoring and oversight process to ensure democratic accountability. Merely deferring to the emergency manager's decisions without proper oversight was a major factor in the Flint Water Crisis.
  - There must be a mechanism for local residents' concerns to be heard to determine if an emergency manager is acting appropriately (e.g., if he or she has any conflicts of interest that might bias judgment).
  - The Michigan emergency manager law displaced democracy from the start: Michigan voters do not support the law, and it continues to silence Michigan voters who are living in fiscally distressed localities.
  - Focus on public participation, providing for public comment and engagement on fiscal plans.
- States should develop appropriate criteria requiring the emergency manager to take into account the public's health and not just the cost-cutting component.
- States should ensure that emergency managers recognize the limits of their expertise and consult with appropriate experts (such as the LHD) when proposing changes that implicate public health, the environment, education, etc. (issues that are not solely fiscal in nature).

B. Safe Drinking Water

Ensuring that citizens have access to safe drinking water is an essential public health responsibility that environmental and public health agencies share. Therefore, public health agencies should be involved in regulating type I water supplies. Structurally, this could be achieved through changes in the permitting process and in environmental regulations.

STRUCTURAL RECOMMENDATIONS

- Permitting
  - State environmental laws should require local health department (LHD) participation in the permitting

process for Type 1 water systems, as GCHD does with non-Type I water systems. LHDs would need adequate funding to be able to perform this function.
    - Even if LHDs were not directly managing the permitting of Type 1 water systems, the law could require state environmental agencies to consult with state or local public health when making permitting decisions.
- Regulation
    - State law should require public water systems to report to the LHD under the following circumstances so that LHDs could more carefully monitor associated health indicators:
        - When making significant changes to the water system
        - When safe drinking water standards are violated
        - When making new treatment determinations (e.g., regarding whether to install corrosion control)
    - State law should require public water systems to report waterborne disease outbreaks directly to LHDs and the state health department when they report to state and federal environmental agencies.
    - The state environmental agency should develop regulations to act on reports of waterborne disease outbreaks. Responses could include increasing monitoring requirements or changing treatment requirements for the water system.
    - The state environmental agency should develop regulations requiring coordination with state and local health departments regarding actions to be taken and when to notify the public of an environmental disease outbreak.[359]
    - We support the Select Committee's recommendation to strengthen Michigan's Lead and Copper Rule.[360]
    - We support the Select Committee's recommendation to consider moving safe drinking water responsibilities from MDEQ back to MDHHS.[361] We further suggest that MDHHS should then implement safe drinking water laws in partnership with local health departments.

IMPLEMENTATION RECOMMENDATIONS

- EPA should closely examine the culture of a state environmental agency before granting primacy. Perhaps a more rigorous review of state programs is appropriate.
    - EPA's public participation requirements could provide an avenue for evaluating agency culture if strengthened and rigorously enforced. Current EPA regulations require State agencies receiving financial assistance under the SDWA to develop public participation work plans to encourage public involvement in and awareness of significant agency decisions.[362] The EPA is responsible for reviewing, approving, and evaluating compliance with these work plans.[363] EPA guidance addressing these requirements could be amended to define a wider range of significant decisions requiring public involvement.[364]
    - EPA should consider periodic performance reviews to determine whether states are meeting safe drinking water standards to justify primacy.
- Environmental agencies should alert public health agencies to changes in environmental conditions—including water source—that may introduce new agents of disease or harm to the community.
- We support the Governor's Task Force recommendations for transparent and timely data analysis and reporting.[365]

C. Public Health

A core governmental function is to protect the public's health. In the Flint water crisis, the primary problem was with implementation, not the Public Health Code's structure. Addressing the implementation failures should be a priority for avoiding future similar crises.

STRUCTURAL RECOMMENDATIONS

- Public health should have a greater role in preventing exposure to environmental health threats. One approach is that environmental health responsibilities could be transferred back to the state health department, as originally envisioned under Michigan's Public Health Code. In any event, environmental agencies should not solely manage environmental health functions .
- Public health should focus lead prevention efforts further upstream rather than waiting to respond once exposure has occurred. To achieve this aim, the law should be structured so that environmental changes rather than children's elevated blood lead levels instigate comprehensive public health interventions (such as tap water sampling in all affected homes).

IMPLEMENTATION RECOMMENDATIONS

- Public health agencies should engage in more rigorous health monitoring following environmental changes with potential public health effects.
- Public health agencies should rigorously employ their investigative authority to protect the public health.
- Public health agencies should develop criteria for when and how to notify the public of threats to their health such as the Legionnaire's disease outbreak.
- Public health agencies should recognize and weigh the risks of delaying action when making decisions. For example, the LHD failed to declare an emergency in Flint immediately upon learning of the extent of the crisis, thus delaying availability of needed resources and response efforts.

D. General Recommendations

Addressing these specific legal area recommendations is necessary but not sufficient to prevent a recurrence of the Flint Water Crisis. Throughout the entire episode, it was evident that failures in leadership exacerbated what would in any event be a difficult response effort once the scope of the problem became apparent. Poor agency cultures, the consistent failure to coordinate across agencies, and inadequate legal preparedness stand out as significant contributors to the crisis.

CULTURE

Without doubt, deficient agency cultures undermined effective implementation of the laws. For instance, the unwillingness to share bad news impeded opportunities to take more aggressive measures. This culture contributed to the failure to notify the public in a timely matter about elevated blood lead levels and the Legionnaire's disease

outbreak. It is incumbent on the governor to address the accountability failures that allowed the cultural deficiencies to fester. One possibility is to establish an ombudsman who can assist the governor in effectuating monitoring and oversight responsibilities.

Although it is beyond the scope of this project to offer specific recommendations, we suggest conducting an evaluation of the MDHHS and MDEQ cultural environment to detect and address the leadership attributes necessary to change the agencies' culture. Even the most carefully constructed law cannot ensure that agency directors accept responsibility for the actions/omissions of subordinate governmental officials.

COMMUNICATION AND COORDINATION

As noted earlier, the failure to coordinate and share information across agencies inevitably led to missed opportunities to mitigate further harm (i.e., the gaps and implementation failures we identified above). For instance, the absence of a requirement for the local public water system to alert and cooperate with GCHD or MDHHS (in addition to MDEQ) when faced with waterborne disease outbreaks impeded GCHD's Legionnaire's disease investigation. No agency took responsibility for investigating the numerous complaints from Flint residents about the water's color and odor. Nor was there adequate cooperation among state, local, and city officials on the elevated water lead and blood lead levels from the Flint River water source.

To address the coordination problem, we recommend that appropriate state laws be amended to require coordination across agencies when dealing with issues that cross jurisdictional lines. To implement this requirement, we encourage the state to adopt a formal process for sharing information across agencies and improving communication channels. Through this process, agency directors can ensure that the information needed to make decisions is acquired, analyzed, and shared with the appropriate personnel from other agencies.

LEGAL PREPAREDNESS

We are not prepared to suggest that adequate legal preparedness would have avoided the Flint Water Crisis. But we suggest that the lack of legal preparedness, including table top exercises common in addressing potential bioterrorism outbreaks or mass casualty events, compounded the other failures detailed in this and other reports. For instance, legal preparedness could have anticipated at least some of the numerous challenges ensuing from the switch to the Flint River. Indeed, the primary goal of legal preparedness is to identify the gaps and overlapping jurisdictional problems ahead of time so that governmental agencies can develop appropriate response guidelines and processes.

We recommend, first, that staff in governmental agencies receive expanded legal training. The focus of the training should be to enable greater staff understanding of the laws and regulations governing their area of expertise. Second, we recommend that states mimic the bioterrorism table top exercises for problems that cross jurisdictional lines. Third, we suggest that states convene a cross-agency panel to develop appropriate data sharing and communications guidelines.

FUTURE RESEARCH RECOMMENDATIONS

The direct health effects of lead exposure and Legionnaire's disease are severe and will plague survivors of the Flint water crisis for decades and generations to come. An indirect effect of the water crisis that may also plague this community (and other similarly situated communities) in the coming years is a strong and pervasive distrust of government, including governmental public health. The effect of this distrust may manifest in a variety of ways, ranging from decreasing individuals' willingness to engage with public health officials to receive governmental services, to impeding government officials' performance of critical public health functions, to slowing community decision-making in the face of urgent public health threats. Heightened distrust of government and a perceived need for constant vigilance may also increase stress among community members, producing adverse health effects far beyond those resulting directly from Flint's contaminated water. Future research should examine how the Flint crisis affects the public health workforce and the community's trust that governmental public health can and will protect it.

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Appendices

Appendix A: Timeline of Key Decisions

Timeline includes key decisions and events affecting our legal analysis. All entries are excerpted and/or summarized based on the Integrated Event Timeline prepared by the Flint Water Advisory Task Force.366

Date	Event
12/1/2011	Gov. Snyder appoints Emergency Manager (EM) to Flint.
Mar.-Apr., 2013	State Treasurer approves EM request to contract with Karegnondi Water Authority (KWA) for water supply. Then-water supplier, Detroit Water & Sewerage Department (DWSD), sends letter terminating Flint water service effective April 17, 2014.
4/25/2014	Flint switches to Flint Water Treatment Plant (WTP) as primary water supply source until expect completion of KWA pipeline in 2016. Switch occurs despite Department of Public Works' (DPW) concern that WTP is not ready. Complaints begin immediately.
8/15/2014	Flint issues boil water advisory (E. coli bacteria). Boosts chlorine disinfectant use.
9/5/2014	Flint issues boil water advisory (coliform bacteria). Boosts chlorine disinfectant use.
10/17/2014	Genesee County Health Department (GCHD) concerned about Legionellosis outbreak in Flint and possible connection to water supply.
12/16/2014	MDEQ notifies Flint of quarterly violation of Safe Drinking Water Act (SDWA) Disinfection Byproducts (TTHM) requirements.
12/31/2014	Lead and copper monitoring shows 2 samples above lead action level.
2/26-27/2015	EPA tells MDEQ that lead sampling protocol (pre-flushing) may be biasing results. MDEQ informs EPA that Flint is using corrosion control.
3/5/2015	MDEQ issues second Disinfection Byproducts quarterly violation notice.
3/23/2015	Flint City Council votes to end Flint River service and return to DWSD. Vote is non-binding. EM refuses to act on City Council's vote.
4/24/2015	Contrary to prior statement, MDEQ informs EPA Flint is not using corrosion control.
4/29/2015	State Treasurer and EM sign emergency loan agreement stating Flint may not return to DWSD without state approval. Gov. Snyder returns control of Flint finances to Mayor and City Council under supervision of Receivership Transition Advisory Board.
5/29/2015	MDHHS reports 2014-15 cases of Legionellosis in Genesee County; "outbreak is over."
6/8/ 2015	MDHHS chastises GCHD for communicating with CDC re Legionellosis.
6/9/2015	MDEQ issues third Disinfection Byproducts quarterly violation notice.
7/21/2015	EPA informs MDEQ that Lead and Copper Rule (LCR) requires corrosion control in Flint.
8/17/2015	MDEQ notifies Flint of lead and copper monitoring results, "scrubbed" to exclude two high lead results. Directs Flint to install corrosion control and phosphate treatment.
8/31/2015	Prof. Marc Edwards (Virginia Tech) reports on corrosive lead levels in Flint water.
9/24/2015	Dr. Mona Hanna-Attisha (Hurley Medical Center) releases findings of elevated blood lead levels in Flint children.
9/25/2015	Flint, with support of GCHD, issues lead advisory.
9/29/2015	GCHD demands fresh analysis by MDHHS of state blood lead level data; issues public health advisory.
10/1/2015	Genesee County Board of Commissioners and GCHD issue "Do Not Drink" Advisory. GCHD declares public health emergency.
10/2/2015	Gov. Snyder announces Flint Action Plan to address water system.
10/16/2015	Flint is reconnected to Detroit water system.
11/10/2015	EPA announces intent to audit State of Michigan's drinking water program.
12/14/2015	Flint Mayor Weaver declares state of emergency in Flint.
12/29/2015	Gov. Snyder issues apology for Flint water crisis via press release.
1/4/2016	Genesee County Commissioners declare state of emergency.
1/5/2016	Gov. Snyder declares state of emergency for Genesee County.
1/13/2016	Gov. Snyder/MDHHS issue first public notice of 2014-15 spike in Legionellosis in Flint.
1/16/2016	Pres. Obama approves declaration of emergency and request for federal aid.
1/22/2016	Gov. Snyder returns additional executive powers to Flint's mayor.

Appendix B: Phase I Areas of Inquiry

Source and scope of general authority
Source(s) and scope of authority specific to **environmental health hazards**
Jurisdiction (exclusive, preemptive, primary, concurrent)
List mandatory functions
List discretionary functions
Powers shared or monitored by another entity? Which entity?
Responsible for overseeing another entity's performance of duties?
Authority to intervene when another entity fails to act, and the mechanism for doing so?
Source(s) and scope of authority specific to **safe drinking water**
Jurisdiction (exclusive, preemptive, primary, concurrent)
List mandatory functions
List discretionary functions
Powers shared or monitored by another entity? Which entity?
Responsible for overseeing another entity's performance of duties?
Authority to intervene when another entity fails to act, and the mechanism for doing so?
Source(s) and scope of authority to **protect the public's health**
Jurisdiction (exclusive, preemptive, primary, concurrent)
List mandatory functions
List discretionary functions
Powers shared or monitored by another entity? Which entity?
Responsible for overseeing another entity's performance of duties?
Authority to intervene when another entity fails to act, and the mechanism for doing so?
Source(s) and scope of authority to **conduct public health investigations**
Jurisdiction (exclusive, preemptive, primary, concurrent)
List mandatory functions
List discretionary functions
Powers shared or monitored by another entity? Which entity?
Responsible for overseeing another entity's performance of duties?
Authority to intervene when another entity fails to act, and the mechanism for doing so?
Additional areas of inquiry
Does law address/require responsiveness to citizens' complaints?
Note additional legal checks and balances in place to monitor the entity's performance - e.g., requirement to notify public.
Note any jurisdictional gaps observed through research -- e.g., primary responsibility not assigned to any entity, responsible entity otherwise not empowered to act.
Note additional gaps or ambiguities not previously noted.
Note relevant ways in which law restricts the entity from acting.
Note conflicting objectives or responsibilities created through law.

Appendix C: Phase II Areas of Inquiry

Legal Authority to intervene to prevent a local financial emergency?
Is there a legal structure enabling the state to intervene prior to declaring a local financial emergency?
Does the state monitor local government finances?
What local conditions or actions prompt state involvement prior to declaring a local financial emergency?
What types of state intervention are authorized prior to declaring a local financial emergency?
Is state intervention at this stage (prior to declaring a local financial emergency) mandatory or discretionary?
Legal Authority to intervene in Local Financial Emergencies?
Is there a legal structure enabling the state to intervene in a local financial emergency?
What are the defining elements of a financial emergency?
What local conditions or actions prompt state involvement?
Is state involvement mandatory or discretionary after a financial emergency has been declared?
Who (or which entity) may be designated by the state to conduct the intervention?
To what extent is the local government involved in determining a path forward once a financial emergency is declared?
Does the law include protections for the community during a local financial emergency?
What requirements must be met for a local financial emergency to be considered rectified?
Who determines that a local financial emergency has been rectified?
Authority of Intervenor
In general, what are the powers and duties of the intervenor?
Which of the following powers does the intervenor possess? Note if any of the following powers are mandatory rather than discretionary.
Restructure debt (e.g., issuing new bonds, renegotiating bonds)
Negotiate/Renegotiate labor contracts (e.g., collective bargaining agreements, pension plans)
Increase taxes (including establishing new taxes)
Enable access to state aid (loans or grants) on behalf of the local government
Provide technical assistance (note types of TA provided)
Dissolve local government
Consolidate local government with another jurisdiction
Eliminate local government services
Override decisions of local governments with overlapping jurisdiction (e.g. city/county/school district)
Note powers not listed.
Which of the following duties must the intervenor perform?
Engage local government in decision making
Abide by specified criteria when making decisions (If so, what criteria?)
Consider health impacts when making decisions (If so, is this requirement included within the financial emergency law, or is it found elsewhere (e.g., a health impact assessment requirement not superseded by the appointment of an intervenor))
Engage local residents in decision making
Respond to needs/concerns expressed by local residents
By statute, does the Intervenor owe a fiduciary duty to the affected community?
By statute, does the Intervenor owe a fiduciary duty to the appointing official?
How does the law provide checks on the Intervenor's power?
Who appoints and dismisses intervenors?
Who does the Intervenor report to and how often?
Is there a public reporting requirement for the Intervenor?

Is the Intervenor immune from lawsuits?
Who, if anyone, may be sued for the Intervenor's negligence or otherwise wrongful conduct?
Is there a legal mechanism for local residents or government officials to reject the Intervenor's decisions? (e.g. city council vote, bankruptcy)
Are there other protections in place to protect communities from an Intervenor's poor decisions?
Are there any protections in place specifically to protect the public's health?
Legal Authority to file for Chapter 9 bankruptcy?
Is there a legal structure allowing or prohibiting municipal bankruptcies?
Which local governments are allowed to file for bankruptcy (e.g. cities, school districts)
What must occur / what steps must be completed by a municipality before filing for bankruptcy?
Does the law include protections for the community? (e.g. by requiring maintenance of specified core services)
Does the state have other legal mechanisms in place for preventing or addressing local fiscal emergencies?
Are there other legal structures in place to allow the state to assist local governments in preventing or responding to local financial emergencies?
Are there other legal structures in place that require the state to assist local governments in preventing or responding to local financial emergencies?
Additional Notes
Note any relevant public health protections not previously listed.

Appendix D: Phase II Selection Criteria

State Selection Criteria for states with EM laws

We determined the selection of 10 states with existing emergency management laws. We also sought to incorporate demographic characteristics into our selection criteria, including geography, population size and the percentage of the population living in rural areas. For states with existing emergency management laws, we also consider whether the law had been utilized in that state and prioritized those states. Thus, we first sorted states with emergency management laws from those without existing laws. Of those states with laws, we sorted states according to population and percentage of population living in urban areas. We then selected states from each category to give us a diversity in geography.

States with EM laws

California – most populated, West Coast, 95% urban, law utilized
Arizona – more populated, Southwest, 90% urban
New Jersey – more populated, East Coast, 95% urban, law utilized
North Carolina – more populated, Southeast, 66% urban
Michigan – more populated, Midwest, 75% urban, law utilized
Oregon – mean populated, Northwest, 81% urban
Nevada – mean populated, West, 94% urban
Iowa – mean populated, Midwest, 64% urban
Maine – less populated, Northeast, 39% urban
Rhode Island – less populated, Northeast, 91% urban

State Selection Criteria for states without EM laws

We determined the selection of 10 states without existing emergency management laws. We based our initial selection on the type of municipal bankruptcy laws in each state, dividing states up between states not authorized by state law to file for bankruptcy, states that set conditions that municipalities must meet before filing for bankruptcy and states that provide "blanket authorization" for municipalities to file for bankruptcy. We also sought to incorporate demographic characteristics into our selection criteria, including geography, population size and the percentage of the population living in rural areas. Thus, we first sorted states without emergency management laws from those with existing laws. Of those states without laws, we sorted states according to the type of bankruptcy law. We then incorporated population and percentage of population living in urban areas to provide diversity in our selections.

States without EM laws

Colorado - blanket authorization - mean populated, West
South Carolina - blanket authorization - mean populated, East coast
Missouri - blanket authorization - more populated, Midwest
Connecticut - conditions - mean populated, Northeast
Kentucky - conditions - mean populated, South
Montana - conditions - less populated, West
Washington - conditions, more populated, West coast
Maryland - not authorized, more populated, East coast
Mississippi - not authorized, less populated, South
Wyoming - not authorized, less populated, West

Appendix E: Glossary of Acronyms

BLL	Blood Lead Level
CCT	Corrosion Control Treatment
CDC	Centers for Disease Control and Prevention (federal)
DPW	Flint Department of Public Works
EM	Emergency Manager
EPA	Environmental Protection Agency (federal)
HHS	Department of Health and Human Services (federal)
LCR	Lead and Copper Rule
LD	Legionnaire's Disease
LHD	Local Health Department
LSL	Lead Service Line
MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
MDEQ	Michigan Department of Environmental Quality
MDHHS	Michigan Department of Health and Human Services
NPDWR	National Primary Drinking Water Regulation
OCCT	Optimal Corrosion Control Treatment
PH	Public Health
PHSA	Public Health Service Act
PWS	Public Water System / Supply
SDWA	Safe Drinking Water Act
WTP	Flint Water Treatment Plant

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Endnotes

[1] *See generally* Flint Water Advisory Task Force—Final Report, Commissioned by the Office of Governor Rick Snyder, State of Michigan (March 2016), available at https://www.michigan.gov/documents/snyder/FWATF_FINAL_REPORT_21March2016_517805_7.pdf [hereinafter Task Force Report]

[2] *Id.*

[3] *Id.* at 29.

[4] Jim Lynch, *DEQ: Flint water fix should have come by 2014,* Detroit News, Jan. 21, 2016, http://www.detroitnews.com/story/news/politics/2016/01/21/deq-director-flint/79145696/.

[5] MDHHS Orders McLaren Flint to comply with action to address Legionella, Press Release from the Michigan Dept. of Health & Human Servs. (Feb. 14, 2017), http://www.michigan.gov/mdhhs/0,5885,7-339-73970_71692-404886--,00.html (last visited Nov. 22, 2017).

[6] *Id.*

[7] Local Financial Stability and Choice Act, Mich. Pub. Act 436 of 2012, Mich. Comp. Laws 141.1541 et seq.

[8] Emergency Financial Manager/Emergency Manager Appointment History, Michigan Department of Treasury (rev. March 2017), available at https://www.michigan.gov/documents/treasury/EM-EFM_Appointment_History_2-12-16_514604_7.pdf (last visited Nov. 22, 2017).

[9] *The Flint Water Crisis, KWA and Strategic-Structural Racism: Written Testimony Submitted to the Michigan Civil Rights Commission Hearings on the Flint Water Crisis* (July 18, 2016) (Written Testimony of Peter J. Hammer), at 16-22, available at http://www.michigan.gov/documents/mdcr/Hammer_Peter_Flint_water_and_strategic-structural_racism_final_552225_7.pdf (last visited Nov. 22, 2017) [hereinafter Hammer Testimony].

[10] *See, e.g., id.* at 43.

[11] Matthew Dolan, *Flint water crisis could cost U.S. $300 billion,* USA Today, Mar. 5, 2016, https://www.usatoday.com/story/news/nation-now/2016/03/05/flint-water-crisis-could-cost-us-300-billion/81359834/

[12] *See* The Flint Water Crisis: Systemic Racism Through the Lens of Flint—Report of the Michigan Civil Rights Commission 113 (Feb. 17, 2017), available at http://www.michigan.gov/documents/mdcr/VFlintCrisisRep-F-Edited3-13-17_554317_7.pdf [hereinafter Civil Rights Commission Report].

[13] *See, e.g.,* Colleen Healy, Flint Water Crisis – Summary of Civil Litigation, Network for Pub. Health L. (July 2016), https://www.networkforphl.org/_asset/12x7ul/Flint-Litigation-Summary-Table.pdf..

[14] Interim Report of the Flint Water Crisis Investigation, Office of Attorney General Bill Schuette, State of Michigan 3 (June 2017), available at http://www.michigan.gov/documents/ag/Flint+Water+Interim+Report_575711_7.pdf.

[15] Task Force Report, *supra* note 1, at 2-5.

[16] *Id.* at 1.

[17] *See id.* at 6-9.

[18] *See, e.g., id.* at 29, 38.

[19] Note that our Phase I research did not include a detailed examination of case law. We made this decision in part because of resource constraints and in part because we suspected that case law would not significantly change or illuminate our interpretation of the law.

[20] *Public Health Key Terms,* Centers for Disease Control and Prevention, https://www.cdc.gov/publichealth101/documents/public-health-key-terms.pdf, last visited Nov. 22, 2017.

[21] *Introduction to Public Health Surveillance,* Centers for Disease Control and Prevention, https://www.cdc.gov/publichealth101/surveillance.html, last visited Nov. 22, 2017.

[22] *See* Centers for Disease Control and Prevention, Principles of Epidemiology in Public Health Practice 6-2-6-6 (3d ed. 2012), available at https://www.cdc.gov/ophss/csels/dsepd/ss1978/lesson6/section1.html.

[23] *Public Health Key Terms, supra* note 20.

[24] The PEW Charitable Trusts, *The State Role in Local Government Financial Distress* (July 2013, updated April 2016), available at http://www.pewtrusts.org/~/media/assets/2013/07/23/pew_state_role_in_local_government_financial_distress.pdf.

[25] We do not assess the scientific merit of laws such as the Lead and Copper Rule. See Adrienne Katner, Kelsey J. Pieper, Yanna Lambrinidou, Komal Brown, Chih-Yang Hu, Howard W. Mielke, and Marc A. Edwards, *Weaknesses in Federal Drinking Water Regulations and Public Health Policies that Impede Lead Poisoning Prevention and Environmental Justice,* 9 Envtl. Just. 109 (2016) for an analysis of the scientific weaknesses of and recommendations to improve the federal Lead and Copper Rule.

[26] *Michigan's System of Local Government,* in Michigan Manual 543 (2009-2010), available at http://www.legislature.mi.gov/publications/MichiganManual/2009-2010/09-10_MM_VIII_pp_01-04_IntroAndMap.pdf

[27] Safe Drinking Water Act of 1974, *as amended,* 42 USC § 300g et seq.. A public water system is defined as a system—including collection, treatment, storage, and distribution facilities—which provides "water for human consumption through pipes or other constructed conveyances" and serves (1) fifteen or more service connections, or (2) twenty-five or more individuals. 42 USC § 300f(4)(A).

[28] 42 USC § 300f(7) and (8).

[29] 42 USC § 300g-2. *See also* 40 C.F.R. Part B.

[30] Public Water System Supervision (PWSS) Grant Program, Environmental Protection Agency, https://www.epa.gov/dwreginfo/public-water-system-supervision-pwss-grant-program, last visited Nov. 22, 2017.

[31] 42 USC §§ 300f(1), 300g-1(b)(7)(A).

[32] *See* 42 C.F.R. Part 141.

[33] See Mary Tiemann, Congressional Research Service, *Safe Drinking Water Act (SDWA): A Summary of the Act and Its Major Requirements 5* (Mar. 1, 2017), available at https://fas.org/sgp/crs/misc/RL31243.pdf

[34] 40 C.F.R. §§ 141.80-141.91.

[35] 40 C.F.R. §§ 141.51(b).

[36] *See* 40 C.F.R. § 141.80(b). *See also* Katner et al., *supra* note 25, at 111, discussing technical limitations relative to measuring water lead levels, including analytical sensitivity, treatment achievability, and cost.

[37] 40 C.F.R. § 141.80(d). *See generally* 40 C.F.R. § 141.81-82.
[38] 40 C.F.R. § 141.86-89.
[39] 40 CFR § 141.82(g)-(h); 141.83-85.
[40] *See, e.g.,* Katner et al., *supra* note 25.
[41] *See* Lead and Copper Rule Revisions White Paper, Envtl. Prot. Agency 11-12 (Oct. 2016), available at https://www.epa.gov/sites/production/files/2016-10/documents/508_lcr_revisions_white_paper_final_10.26.16.pdf.
[42] *See id.*
[43] *See id.* at 3.
[44] *See* Lead and Copper Rule Long-Term Revisions, Environmental Protection Agency, https://www.epa.gov/dwstandardsregulations/lead-and-copper-rule-long-term-revisions (last visited Nov. 22, 2017) (documenting ongoing efforts to amend the LCR).
[45] 40 C.F.R. § 141.52(a).
[46] *See generally* Safe Drinking Water Act, Act 499 of 1976, *as amended*, codified at Mich. Comp. Laws § 325.1001 et seq.
[47] Mich. Comp. Laws § 325.1005(b); 325.1006.
[48] Task Force Report, *supra* note 1, at 28-29.
[49] Mich. Comp. Laws § 325.1004(1)-(6). *See also* Mich. Admin. Code R. 325.11305.
[50] Mich. Comp. Laws § 325.1003b, 1004, 1005.
[51] *See* Hammer Testimony, *supra* note 9, at 18, 33.
[52] *See id.* at 33.
[53] Curt Guyette, *Exclusive: Gov. Rick Snyder's Men Originally Rejected Using Flint's Toxic River: An emergency manager said no to using the river in 2012 after speaking to environmental regulators. An ex-Flint official said the governor's office reversed that decision,* The Daily Beast (Jan. 24, 2016), available at https://www.thedailybeast.com/exclusive-gov-rick-snyders-men-originally-rejected-using-flints-toxic-river. We have encountered no evidence to suggest that the Flint River became a safer or even cheaper option during the few years in which these studies were conducted.
[54] *See Office of the Auditor General Joint Select Committee on Flint Water Public Health Emergency: Follow-up questions from March 15, 2016* (2016), available at http://www.senate.michigan.gov/committees/files/2016-SCT-FLINT-03-22-1-01.PDF (citing full email from Michael Glasgow, Laboratory & Water Quality Supervisor, City of Flint, to Adam Rosenthal, DEQ, Apr. 17, 2014).
[55] 40 C.F.R. § 141.80(d)(2); 141.82(d). *See generally* 40 C.F.R. § 141.81-82.
[56] 40 CFR §§ 141.83(b), 141.84(a), 141.85(a)-(b).
[57] *See* Task Force Report, *supra* note 1, at 27-28, 50.
[58] *See id.* at 27-28, 50-52.
[59] *See id.* at 27-28, 50-51.
[60] Mich. Comp. Laws § 325.1005(1)(b). *See also* Mich. Comp. Laws § 325.1007, Mich. Admin. Code R. 325.10601 et seq. (Part 6: State Drinking Water Standards and Analytical Methods); R. 325.10701 et seq. (Part 7: Surveillance, Inspection, and Monitoring).
[61] 40 C.F.R. § 142.10(b)(3)-(4); Mich. Comp. Laws § 325.1011, 1012.
[62] 40 C.F.R. § 142.10(b)(2). *See also* Mich. Admin. Code R. 325.10702, 10703.
[63] *See, e.g.,* 40 CFR § 142.15.
[64] Task Force Report, *supra* note 1, at 29, 44.
[65] *Id.* at 44.
[66] Mich. Comp. Laws § 325.1015(1), (2).
[67] Mich. Comp. Laws § 325.1015(3).
[68] Mich. Comp. Laws § § 325.1015(4).
[69] Mich. Admin. Code R. 325.10734(4).
[70] *See, e.g.,* Task Force Report, *supra* note 1, at 19 (summary timeline entries dated Mar. 13, 2015).
[71] *See* 40 C.F.R. § 142.10(a); Mich. Comp. Laws § 325.1005(1)(b), 1006.
[72] *Compare* Mich. Comp. Laws § 325.10604f and 40 C.F.R. § 141.80(c).
[73] *See* Lead and Copper Rule Revisions White Paper, *supra* note 41, at 11-12 (describing proposed changes to the federal Lead and Copper Rule).
[74] Michigan residents will be better protected under smarter state standards to improve Lead and Copper Rule, Press Release from the Office of Governor Rick Snyder (Mar. 16, 2017), available at http://www.michigan.gov/snyder/0,4668,7-277-57577_57657-407180--,00.html (last visited Nov. 26, 2017).
[75] *See, e.g.,* 40 C.F.R. § 142.18-19.
[76] 42 U.S.C. § 300j-4(b)(1).
[77] 42 U.S.C. § 300g-3 (this section is commonly referred to by its section number within the SDWA, section 1414).
[78] 42 U.S.C. § 300i(a) (this section is commonly referred to by its section number within the SDWA, section 1431).
[79] 42 U.S.C. § 300g-1.
[80] 42 U.S.C. § 300g-1(b)(4)(A).
[81] *See* 42 U.S.C. § 300g-3(c).
[82] *See* 42 U.S.C. § 300g-3(a); 300j-4.
[83] *See* 42 U.S.C. § 300g-2(a).
[84] 40 C.F.R. § 142.17.
[85] *See generally* 40 C.F.R. Part 141, National Primary Drinking Water Regulations
[86] *See* 40 C.F.R. § 142.15
[87] 40 C.F.R. § 141.82(h)(i).
[88] 42 U.S.C. § 300g-3(a).
[89] 42 U.S.C. § 300i(a).
[90] *See* Task Force Report, *supra* note 1, at 50-51.
[91] *See id.* at Appendix V: Detailed Timeline, at 9 (entry dated Feb. 18, 25, 2015).
[92] *See id.* at Appendix V: Detailed Timeline, at 10 (entry dated Feb. 27, 2015).
[93] *See id.* at Appendix V: Detailed Timeline, at 10 (entry dated Mar. 10, 2015).
[94] *See id.* at Appendix V: Detailed Timeline, at 11 (entry dated Mar. 26, 2015).
[95] *See, e.g., id.* at Appendix V: Detailed Timeline, at 10-11 (entries date Feb. 27, 2015; Mar. 10, 2015; Mar. 18, 2015; Mar. 19, 2015; Mar. 31, 2015; Apr. 23 2015).

[96] *See id.* at Appendix V: Detailed Timeline, at 11 (entry dated Apr. 24, 2015).
[97] *See id.* at Appendix V: Detailed Timeline, at 12 (entry dated May 1, 2015).
[98] *See id.* at Appendix V: Detailed Timeline, at 13 (entry dated June 24, 2015).
[99] Memorandum from Miguel A. Del Toral, Regulations Manager, Ground Water and Drinking Water Branch, Envtl. Prot. Agency Region V, to Thomas Poy, Chief, Groun Water and Drinking Water Branch, Envtl. Prot. Agency Region V (June 24, 2015), available at http://flintwaterstudy.org/wp-content/uploads/2015/11/Miguels-Memo.pdf.
[100] *See* Task Force Report, *supra* note 1, at Appendix V: Detailed Timeline, at 13 (entries dated June 30, 2015; July 2, 2015 (both entries)).
[101] EPA Establishes Safe Drinking Water Task Force to Provide Technical Expertise to MDEQ and City of Flint, News release from Envtl. Prot. Agency Region 05 (Oct. 15, 2015), https://www.epa.gov/newsreleases/epa-establishes-safe-drinking-water-task-force-provide-technical-expertise-mdeq-and (last visited Nov. 26, 2017). *See also* Flint Drinking Water Technical Support Team, Envtl. Prot. Agency, https://www.epa.gov/flint/flint-drinking-water-technical-support-team (last visited Nov. 26, 2017) (providing ongoing account of the Technical Support Team's activities).
[102] Memorandum from Peter C. Grevatt, Director, Office of Ground Water and Drinking Water, Envtl. Prot. Agency, to EPA Regional Water Division Directors, Regions I-X (Nov. 3, 2015), available at https://www.epa.gov/sites/production/files/2015-11/documents/occt_req_memo_signed_pg_2015-11-03-155158_508.pdf.
[103] EPA Region 5 to Audit State of Michigan's Drinking Water Program, News release from Envtl. Prot. Agency Region 05 (Nov. 10, 2015), https://www.epa.gov/newsreleases/epa-region-5-audit-state-michigans-drinking-water-program (last visited Nov. 26, 2017).
[104] In re: City of Flint, Michigan; Michigan Dep't of Envtl. Quality; and the State of Michigan, Envtl. Prot. Agency Emergency Admin. Order (Jan. 21, 2016), available at https://www.epa.gov/sites/production/files/2016-01/documents/1_21_sdwa_1431_emergency_admin_order_012116.pdf.
[105] *See* 42 USC § 300j-4(b).
[106] *See* 40 C.F.R. § 141.82(h)(i).
[107] *See* 42 U.S.C. § 300g-3(a)(1)(A).
[108] *See* 42 U.S.C. § 300g-3(a)(1)(B).
[109] *See* 42 U.S.C. § 300i(a).
[110] *See* 42 U.S.C. § 300i(a).
[111] *See* Flint, Mich. Code of Ordinances § 46-7 (Ord. 1778, passed 6-29-1964; Ord. 2817, passed 12-7-1981).
[112] Mich. Admin. Code R. 325.11302. *See generally* Mich. Admin. Code R. 325.11301 et seq. (Part 13).
[113] Mich. Admin. Code R. 325.11303.
[114] Mich. Admin. Code 325.111901-11903.
[115] *See* 40 C.F.R. § 141.82(e); Mich. Admin. Code R. 325.10710a-10710d.
[116] *See* Task Force Report, *supra* note 1, at 17 (summary timeline entry dated June 26, 2013).
[117] *See* Hammer Testimony, *supra* note 9, at 33.
[118] *See* Task Force Report, *supra* note 1, at 43.
[119] *See* Hammer Testimony, *supra* note 9, at 33-35.
[120] *See id.* at 33-35, 38.
[121] *See* Task Force Report, *supra* note 1, at Appendix V: Detailed Timeline, at 6 (entry dated Apr. 17, 2014).
[122] *See id.* at Appendix V: Detailed Timeline, at 6 (entries dated Apr. 16, 2014; Apr. 17, 2014).
[123] *See id.* at 44.
[124] *See id.* at 27.
[125] Mich. Comp. Laws § 325.1007(1).
[126] 42 U.S.C. § 300g-3(c)(1); Mich. Admin. Code R. 325.10401-10402.
[127] *See, e.g.* 325.10604f, 325.10710b.
[128] *See, e.g.,* Task Force Report, *supra* note 1, at 44, 45, 51.
[129] *See id.* at 44.
[130] *See* 40 C.F.R. § 141.86.
[131] *See* Task Force Report, *supra* note 1, at 44.
[132] *See id.* at 20 (summary timeline entry dated June 25, 2015). *See also* Paul Egan, State's handling of Flint water samples delayed action, Detroit Free Press, Dec. 23, 2015, http://www.freep.com/story/news/politics/2015/12/23/states-handling-flint-water-samples-delayed-action/77367872/.
[133] *See* Task Force Report, *supra* note 1, at Appendix V: Detailed Timeline, at 7-8 (entries dated Aug. 15, 2014; Sep. 5, 2014; Jan. 2, 2015).
[134] Mich. Admin. Code R. 325.10734(4).
[135] Mich. Admin. Code R. 325.10402(1)(h).
[136] *See* Task Force Report, *supra* note 1, at 17-19 (summary timeline entries dated Oct. 1, 2014; Jan. 27, 2015; Mar. 13, 2015).
[137] *See* Larry O. Gostin and Lindsay F. Wiley, Public health law: power, duty, restraint 91-94 (3d 2016).
[138] *Id.* at 87-88.
[139] *See id.* at 94, 103.
[140] Public Health Code, Act 368 of 1978, *as amended*, codified at Mich. Comp. Laws § 333.1101 et seq.
[141] *See* Mich. Comp. Laws § 333.2201 et seq. (Part 22: State Dept. of Public Health) and § 333.2401 et seq. (Part 24: Local Health Depts.).
[142] Mich. Comp. Laws § 333.2224
[143] Mich. Comp. Laws §§ 333.2413, 333.2415, 333.2235(2).
[144] Mich. Comp. Laws § 333.2235(3).
[145] Mich. Comp. Laws § 333.2235(3).
[146] *See* Mich. Const. Article V, §§ 1-2, 8.
[147] *See* Task Force Report, *supra* note 1, at 17-18 (summary timeline entry dated Oct. 14, 2014).
[148] *See id.* at 36-37.
[149] *See id.*
[150] *See* Mich. Const. Article V, §§ 2, 8.

[151] Mich. Comp. Laws § 30.403. Disaster is defined as "an occurrence or threat of widespread or severe damage, injury, or loss of life or property resulting from a natural or human-made cause, including, but not limited to, fire, flood, snowstorm, ice storm, tornado, windstorm, wave action, oil spill, water contamination, utility failure, hazardous peacetime radiological incident, major transportation accident, hazardous materials incident, epidemic, air contamination, blight, drought, infestation, explosion, or hostile military action or paramilitary action, or similar occurrences resulting from terrorist activities, riots, or civil disorders." Mich. Comp. Laws § 30.402(e). Emergency is defined as "any occasion or instance in which the governor determines state assistance is needed to supplement local efforts and capabilities to save lives, protect property and the public health and safety, or to lessen or avert the threat of a catastrophe in any part of the state." Mich. Comp. Laws § 30.402(h).

[152] Mich. Comp. Laws §§ 30.404, 30.405(1).

[153] Declaration of Emergency, State of Michigan Executive Office (Jan. 5, 2016), available at http://www.michigan.gov/documents/snyder/2016-01-05_Flint_Water_Governors_Declaration_Final_509966_7.pdf?20160105162343.

[154] Mich. Comp. Laws § 333.1104(5).

[155] Exec. Reorganization Order No. 1996-1, codified at Mich. Comp. Laws § 330.3101.

[156] Exec. Reorganization Order No. 2015-1, codified at Mich. Comp. Laws § 400.227.

[157] Exec. Reorganization Order No. 1996-1, codified at Mich. Comp. Laws § 330.3101

[158] Mich Admin Code R. 325.9083. *See also* Mich. Comp. Laws § 333.20531.

[159] Mich. Comp. Laws § 333.5474(1)(c).

[160] *See* Task Force Report, *supra* note 1, at 20 (summary timeline entry dated July 28, 2015).

[161] *Id.*

[162] *Id.* at 21 (summary timeline entry dated Sep. 22, 2015).

[163] *Id.* at 21 (summary timeline entry dated Sep. 24, 2015).

[164] *Id.* at 21 (summary timeline entry dated Sep. 28, 2015).

[165] *Id.* at 21 (summary timeline entry dated Oct. 1, 2015).

[166] Mich. Admin. Code R. 325.173(1)-(6)

[167] *See, e.g.,* Oona Goodin-Smith, *Public should've been notified of Flint legionella in June 2014, expert says,* MLive, Sep. 22, 2017, available at http://www.mlive.com/news/flint/index.ssf/2017/09/flint_residents_shouldve_been.html.

[168] *See* Task Force Report, *supra* note 1, at 17 (summary timeline entry dated Oct. 1, 2014).

[169] *Id.* at 18 (summary timeline entry dated Jan. 27, 2015).

[170] *Id.* at Appendix V: Detailed Timeline, at 9-11 (entries dated Feb. 10, 2015; Mar. 10, 2015; Mar. 19, 2015).

[171] *See* Karen Bouffard, *Flint water never tested for Legionella*, Detroit News, Feb. 23, 2016, available at http://www.detroitnews.com/story/news/michigan/flint-water-crisis/2016/02/23/flint-water-never-tested-legionella/80830930/.

[172] *See* Task Force Report, *supra* note 1, at Appendix V: Detailed Timeline, at 9-11 (entry dated Apr. 27, 2015).

[173] Mich. Dept. of Health & Human Servs., Summary of Legionellosis Outbreak – Genesee County, June 2014-March 2015 (May 29, 2015), available at http://www.michigan.gov/documents/mdhhs/Genesee_Co_Legionnaires_Disease_Investigation_Ex_Summary_FINAL_510722_7.pdf.

[174] *See* Task Force Report, *supra* note 1, at 33.

[175] *See id.* at Appendix V: Detailed Timeline, at 26 (entry dated Jan. 13, 2016).

[176] *See, e.g.,* Elisse Ramsey, *Former state epidemiologist showed Lyon graphs of legionella spike in January 2015,* ABC12, Sep. 22, 2017, available at http://www.abc12.com/content/news/Attorney-questions-Wayne-State-professors-qualifications-with-legionella-446881703.html.

[177] Mich. Admin. Code R. 325.174.

[178] Mich. Comp. Laws § 333.2241.

[179] Mich. Comp. Laws § 333.2251(1).

[180] *See* Mich. Comp. Laws § 333.2251(2) and (3).

[181] Mich. Comp. Laws § 333.2255.

[182] Mich. Comp. Laws § 333.2251(3). However, note that the effect of this particular provision is somewhat unclear because the Public Health Code also provides that it "shall not be construed to vest authority in the department for programs or activities otherwise delegated by state or federal law or rules to another department of state government." Mich. Comp. Laws § 333.1114(1).

[183] Mich. Comp. Laws § 333.2235(3)(a).

[184] *See* Task Force Report, *supra* note 1, at 31.

[185] Mich. Comp. Laws §§ 333.2433, 333.2435.

[186] *See* Mich. Comp. Laws § 333.2435(g) and (i).

[187] *See* Genesee County Health Department, Public Water Systems, http://gchd.us/services/environmental-health/public-water-systems/ (last visited Nov. 26, 2017). *See also* Mich. Admin. Code R. 325.11305(3).

[188] Genesee Cnty. Envtl. Health Reg. § 1.104, 4.000 et seq. (Chapter IV – Water Well Construction, Abandonment and Groundwater Protection Regulation).

[189] *See* Mich. Comp. Laws § 333.5474(1)(c). *See also* Mich. Admin. Code R. 325.9081 et seq. (Blood Lead Analysis Reporting).

[190] Mich. Admin. Code R. 325.173(1).

[191] Mich. Admin. Code R. 325.173(2), (3).

[192] *See* Mich. Comp. Laws § 333.2433(1), (2).

[193] *See* Task Force Report, *supra* note 1, at Appendix V: Detailed Timeline, at 7-9 (entries dated Oct. 2014; Oct. 17, 2014; Oct. 21, 2014; Jan. 2015; Jan. 27, 2015).

[194] *Id.* at Appendix V: Detailed Timeline, at 10 (entry dated Mar. 10, 2015).

[195] *See* Karen Bouffard, *Flint water never tested for Legionella, supra* note 171.

[196] *See* Mich. Dept. of Health & Human Servs., Summary of Legionellosis Outbreak – Genesee County, *supra* note 173.

[197] *See, e.g.,* Chad Livengood and Karen Bouffard, *Emails: State mum on Flint Legionnaire's warning,* The Detroit News, Feb. 12, 2016, http://www.detroitnews.com/story/news/michigan/flint-water-crisis/2016/02/12/flint-legionnaire-disease-emails/80265486/; Task Force Report, *supra* note 1 at Appendix V: Detailed Timeline, at 23 (entry dated Dec. 4, 2015; Dec. 5, 2015).

[198] *See id.* at Appendix V: Detailed Timeline, at 23 (entry dated Dec. 4, 2015).
[199] *See id.* at Appendix V: Detailed Timeline, at 26 (entry dated Jan. 13, 2016).
[200] *See* Karen Bouffard, *Flint water never tested for Legionella, supra* note 171 (describing lack of capacity within GCHD to perform water testing).
[201] Mich. Admin. Code R. 325.174.
[202] Mich. Admin. Code R. 325.174(2).
[203] Mich. Comp. Laws § 333.2446. The requirements applicable to MDHHS relative to obtaining a warrant also apply to the local health department. Mich. Comp. Laws § 333.2446
[204] Mich. Comp. Laws § 333.2451.
[205] Mich. Comp. Laws § 333.2455
[206] Genesee Cnty. Envtl. Health Reg. § 1.012.
[207] Mich. Comp. Laws § 333.2465(1); Genesee Cnty. Environmental Health Reg. § 1.117.
[208] Mich. Comp. Laws § 333.5474(1)(c).
[209] *See* Task Force Report, *supra* note 1, at Appendix V: Detailed Timeline, at 17 (entry dated Sep. 15, 2015).
[210] *See id.*
[211] *Id.*
[212] *See* Mark Valacek, Health Officer, Genesee Cnty. (Michigan) Health Dept., The Flint Water Emergency: The Genesee County Health Department Experience, Presentation at Public Health Law Conference (Sep. 16, 2016).
[213] *See* Task Force Report, *supra* note 1, at Appendix V: Detailed Timeline, at 18 (entry dated Sep. 24, 2015).
214 See id. at Appendix V: Detailed Timeline, at 18 (entry dated Sep. 25, 2015).
[215] *See id.* at Appendix V: Detailed Timeline, at 20 (entry dated Oct. 1, 2015). See also Genesee Cnty. Bd. of Comm'rs., Public Health Emergency Declaration for People Using the Flint City Water Supply with the Flint River as the Source (Oct. 1, 2015), available at http://www.gc4me.com/docs/public_health_emergency_announcement_10_1_15.pdf.
[216] 42 U.S.C. § 243(a).
[217] 42 U.S.C. § 202. *See also* Dept. of Health & Human Servs., HHS Agencies & Offices, https://www.hhs.gov/about/agencies/hhs-agencies-and-offices/index.html (last visited Nov. 26, 2017).
[218] For example, the Safe Drinking Water is codified in Title 42 of the United States Code ("The Public Health and Welfare"), and the SDWA grants to the EPA authority to regulate contaminants likely to have adverse effects on health. 42 U.S.C. § 300g-1(b)(1)(A).
[219] 42 U.S.C. § 300g-1(b)(1)(D).
[220] Centers for Disease Control & Prevention, National Notifiable Disease Surveillance System (NNDSS), https://wwwn.cdc.gov/nndss/ (last visited Nov. 26, 2017).
[221] 42 U.S.C. § 243(a).
[222] 42 C.F.R. § 70.2. *See also* 42 U.S.C. § 264 (providing statutory authority for promulgating regulations to prevent interstate spread of disease).
[223] *See* Karen Bouffard, *Flint water never tested for Legionella, supra* note 171.
[224] *See id.*
[225] *See, e.g.,* Task Force Report, *supra* note 1, at Appendix V: Detailed Timeline, at 12 (entry dated June 8, 2015).
[226] Matthew Dolan, Elisha Anderson, Paul Egan, and John Wisely, *Flint e-mails: CDC voiced concerns over Legionnaires' actions,* Detroit Free Press, Feb. 9, 2016, available at http://www.freep.com/story/news/local/michigan/flint-water-crisis/2016/02/09/flint-e-mails-state-city-appear-unable-share-info/80028820/ (citing email from Laurel Garrison, Centers for Disease Control and Prevention, to Genesee County health officials, April 27, 2015).
[227] *See* Livengood and Bouffard, *Emails: State mum on Flint Legionnaire's warning, supra* note 197.
[228] *See* 42 U.S.C. § 243(a).
[229] 42 U.S.C. § 247d(a).
[230] 42 U.S.C. §§ 247d, 247d-7c.
[231] Mich. Comp. Laws § 333.2428.
[232] *See* Genesee Cnty. Bd. of Comm'rs., Public Health Emergency Declaration for People Using the Flint City Water Supply with the Flint River as the Source (Oct. 1, 2015), available at http://www.gc4me.com/docs/public_health_emergency_announcement_10_1_15.pdf.
[233] Flint, Michigan City Charter §§ 4-101, 4-103, 4-203.
[234] *See* Flint, Mich. Code of Ordinances § 46-7 (Ord. 1778, passed 6-29-1964; Ord. 2817, passed 12-7-1981).
[235] Flint, Michigan City Charter §§ 7-101, 7-104.
[236] Flint, Michigan City Charter §1-702; Mich. Admin. Code R. 325.11702, 11704.
[237] *See* Hammer Testimony, *supra* note 9, at 43-44. *See also* Emergency Loan Agreement between Mich. Local Emergency Fin. Asst. Loan Board and City of Flint, at 5 (April 29, 2015), available at http://www.eclectablog.com/wp-content/uploads/2016/03/Emergency-Loan-Agreement-Flint-4292015.pdf.
[238] *See* Hammer Testimony, *supra* note 9, at 18, 33.
[239] *See id.* at 17.
[240] *See id.* at 22-27.
[241] *See* Flint, Mich. Code of Ordinances § 46-13.
[242] Curt Guyette, *Exclusive: Gov. Rick Snyder's Men Originally Rejected Using Flint's Toxic River,* Daily Beast, Jan. 24, 2016, available at https://www.thedailybeast.com/exclusive-gov-rick-snyders-men-originally-rejected-using-flints-toxic-river.
[243] Mich. Comp. Laws § 30.410(1)(b), Flint, Mich. Code of Ordinances § 14-17(a)-(b).
[244] Flint, Michigan City Charter § 3-309
[245] Flint, Michigan City Charter §§ 7-101, 7-102.
[246] Flint, Michigan City Charter § 3-306.
[247] Flint, Michigan City Charter § 3-205, 3-206.
[248] Flint, Michigan City Charter §1-702; Mich. Admin. Code R. 325.11702, 11704.
[249] *See* Mich. Comp. Laws § 141.1549(1).
[250] Mich. Comp. Laws § 141.1541, et seq.
[251] Mich. Comp. Laws § 141.1549(1), (3).
[252] Mich. Comp. Laws § 141.1560.

[253] *See* Mich. State Univ. Extension Center for Local Gov't Fin. & Policy, *A Review of Michigan's Local Financial Emergency Law 3* (Apr. 21, 2017), available at http://msue.anr.msu.edu/resources/a_review_of_michigans_local_financial_emergency_law [hereinafter MSU Extension Review]

[254] *Id.* at 4.

[255] *See* Citizens Research Council Memorandum No 1116, Statewide Ballot Issues: Proposal 2012-01, Referendum on Public Act 4 of 2011 (Sep. 2012), available at http://crcmich.org/PUBLICAT/2010s/2012/memo1116.pdf.

[256] *See* Josh Hakala, *How did we get here? A look back at Michigan's emergency manager law,* Michigan Radio, Feb. 3, 2016, available at http://michiganradio.org/post/how-did-we-get-here-look-back-michigans-emergency-manager-law.

[257] Mich. Comp. Laws § 141.1544(1)

[258] Mich. Comp. Laws § 141.1544(3).

[259] The review team "consist[s] of the state treasurer or his or her designee, the director of the department of technology, management, and budget or his or her designee, a nominee of the senate majority leader, and a nominee of the speaker of the house of representatives." Mich. Comp. Laws § 141.1544(4).

[260] Mich. Comp. Laws § 141.1545(3), (4).

[261] Mich. Comp. Laws § 141.1545(3).

[262] Mich. Comp. Laws § 141.1545(6).

[263] Mich. Comp. Laws § 141.1545(6).

[264] Mich. Comp. Laws § 141.1546(1).

[265] Mich. Comp. Laws § 141.1546(2)

[266] Mich. Comp. Laws § 141.1547. Under the consent agreement option, the local government's chief administrative officer negotiates a consent agreement with the state treasurer to provide for remedial measures deemed necessary to address the financial emergency. If the locality chooses to engage in the neutral evaluation process, the local government and interested parties agreeing to participate select a neutral evaluator to oversee and facilitate the resolution of disputes. Under this option, the state treasurer has discretion to require that a state-appointed evaluator, rather than one selected by the parties, monitor the neutral evaluation process. The municipality may also choose to file for Chapter 9 bankruptcy. To pursue this option, the local government must obtain the governor's approval and the governor may place contingencies on the local government, including appointing a person to act exclusively on the local government's behalf.

[267] *See* Hakala, *supra* note 256.

[268] Mich. Comp. Laws § 141.1548 (consent agreement); 141.1566 (Chapter 9 bankruptcy).

[269] Mich. Comp. Laws § 141.1547(4).

[270] Joshua Sapotichne, Erika Rosebrook, Eric A. Scorsone, Danielle Kaminski, Mary Doidge, and Traci Taylor, Mich. State Univ. Extension, *Beyond State Takeovers: Reconsidering the Role of State Government in Local Financial Distress, with Important Lessons for Michigan and its Embattled Cities* 17 (Aug. 31, 2015), available at http://msue.anr.msu.edu/resources/beyond_state_takeovers.

[271] Mich. Comp. Laws § 141.1549(1)

[272] Mich. Comp. Laws § 141.1549(1).

[273] Mich. Comp. Laws § 141.1549(1). Certain specified actions require approval and/or involvement by the local governing body (and strong mayor, if applicable), such as rejecting a provision of a collective bargaining agreement or transferring local assets, liabilities, or functions. Mich. Comp. Laws § 141.1559. In these cases, if the local governing body does not approve of the emergency manager's proposed action, it may propose an alternative plan and a decision shall be made by the local emergency financial assistance loan board. Other actions, such as dis-incorporating or dissolving the municipality (if a vote is required by law), Mich. Comp. Laws § 141.1552(1)(cc), selling or transferring a public utility furnishing light, heat, or power, Mich. Comp. Laws § 141.1552(4), or increasing or establishing new taxes, Mich. Comp. Laws § 141.1568, require the approval of a majority of electors. The local governing body (and strong mayor, if applicable) may also elect to remove an emergency manager who has served for at least eighteen months, even if a the financial emergency continues to exist; the local government may then negotiate a consent agreement or proceed with the neutral evaluation process. Mich. Comp. Laws § 141.1549(6) and (7).

[274] Mich. Comp. Laws § 141.1550.

[275] Mich. Comp. Laws § 141.1551.

[276] Mich. Comp. Laws § 141.1551.

[277] Mich. Comp. Laws § 141.1551(1)-(2).

[278] Mich. Comp. Laws § 141.1551(4).

[279] Mich. Comp. Laws § 141.1549(5).

[280] Mich. Comp. Laws § 141.1549(5).

[281] Mich. Comp. Laws § 141.1549(6), 3(d).

[282] Mich. Comp. Laws § 141.1549(11).

[283] Mich. Comp. Laws § 141.1549(7).

[284] *See* Mich. Comp. Laws § 141.1561 for specific elements of this requirement.

[285] Mich. Comp. Laws § 141.1562(3). The governor may also impose additional conditions before removing a local government from receivership, including: "(a) The implementation of financial best practices within the local government. (b) The adoption of a model charter or model charter provisions. (c) Pursue financial or managerial training to ensure that official responsibilities are properly discharged." Mich. Comp. Laws § 141.1562(4).

[286] Mich. Comp. Laws § 141.1562(2).

[287] Preamble to the Local Financial Stability and Choice Act, Public Act 436 of 2012, codified at Mich. Comp. Laws § 141.1541 et seq.

[288] Mich. Comp. Laws § 141.1549(1).

[289] Mich. Comp. Laws § 141.1551(1).

[290] Mich. Comp. Laws § 141.1552(1)(r).

[291] *See* Sapotichne et al., *supra* note 270, at 19.

[292] *See id.* at 5.

[293] *See* MSU Extension Review, *supra* note 253, at 9.

[294] *See id.* at 8-9.

[295] Civil Rights Commission Report, *supra* note 12, at 109.

[296] *See* Hammer Testimony, *supra* note 9, at 3-11.

[297] *See* Mich. Comp. Laws §§ 141.1552(1)(r); 141.1559.

[298] *See, e.g.,* Ron Fonger, *Former Flint EM: 'My job did not include ensuring safe drinking water',* MLive, May 2, 2017, available at http://www.mlive.com/news/flint/index.ssf/2017/05/former_flint_em_my_job_did_not.html.
[299] *See* Hammer Testimony, *supra* note 9, at 21, 43.
[300] *See id.* at 32-33.
[301] Ron Fonger, *Emergency manager calls City Council's Flint River vote 'incomprehensible'*, MLive, Mar. 24, 2015, available at http://www.mlive.com/news/flint/index.ssf/2015/03/flint_emergency_manager_calls.html.
[302] Mich. Comp. Laws § 141.1575.
[303] *See* Mich. Comp. Laws §§ 141.1549(5), 141.1551(2), 141.1557.
[304] *See id.*
[305] *See, e.g.,* Mich. Comp. Laws § 141.1552(3).
[306] *See* Hammer Testimony, *supra* note 9, at 18.
[307] *See id.*
[308] *See id.* at 20-21.
[309] Me. Rev. Stat. Ann. Tit. 30-A, § 6105.
[310] Nev. Rev. Stat. § 354.657, Nev. Rev. Stat. § 354.675.
[311] N.C. Gen. Stat. § 159-176.
[312] States include Arizona (see Ariz. Rev. Stat. § 15-103), California (see Cal. Educ. Code § 41325), Nevada (see Nev. Rev. Stat. § 354.685), and New Jersey (see N.J. Rev. Stat. § 40A:5A-19).
[313] *See* Ariz. Rev. Stat. § 15-103 and Cal. Educ. Code § 41326(b)(10)(A).
[314] N.C. Gen. Stat. § 159-176.
[315] Or. Rev. Stat. § 203.105.
[316] R.I. Gen. Laws § 45-9-6.
[317] R.I. Gen. Laws § 45-9-5.
[318] Or. Rev. Stat. § 203.105.
[319] N.J. Rev. Stat. § 40A:5A-21.
[320] *See* Mich. Comp. Laws § 141.1549(2) and R.I. Gen Laws § 45-9-1.
[321] Iowa Code § 76.16.
[322] N.J. Stat. Ann. § 52:27D-118.24.
[323] Me. Rev. Stat. Ann. Tit. 30-A § 6104.
[324] Mont. Code Ann. § 7-7-0132.
[325] Conn. Gen. Stat. § 7-566.
[326] Ky. Rev. Stat. §§ 65.117, 66.250, 66.320, 66.400, 65.117, 66.905, 68.210, 68.350.
[327] Jane Briggs-Bunting, *Keep the Sun Shining on Government,* The Detroit News, Mar. 13, 2016, http://www.detroitnews.com/story/opinion/2016/03/13/editorial-column-sunshine-law-jane-briggs-bunting/81748878/.
[328] Peter J. Hammer, *The Flint Water Crisis, KWA and Strategic-Structural Racism: A Reply to Jeff Wright, Genesee County Drain Commissioner and CEO Karegnondi Water Authority*, http://www.michigan.gov/documents/mdcr/Hammer_Reply_Flint_MCRC_Testimony_123116_552226_7.pdf (last visited Sept. 18, 2017).
[329] D. Theodore Rave, Politicians as Fiduciaries, 126 Harv. L. Rev. 671 (2013).
[330] *Id.*
[331] Black's Law Dictionary, 702 (9th ed. 2009).
[332] Legal Information Institute, *Fiduciary Duty*, July 2016, https://www.law.cornell.edu/wex/fiduciary_duty.
[333] Bruce F. Dravis, *The Role of Independent Directors in Corporate Governance*, 47-70 (2nd ed. 2015).
[334] Legal Information Institute, *Duty of Care,* https://www.law.cornell.edu/wex/duty_of_care (last visited on Sept. 12, 2017).
[335] Matthew Dolan and Paul Egan, *Task force slams Flint crisis, demands review of emergency manager law,* Detroit Free Press, Mar. 23, 2016, http://www.freep.com/story/news/local/michigan/flint-water-crisis/2016/03/23/snyder-appointed-task-force-calls-review-emergency-manager-law/82154780/.
[336] Paul Egan, *Flint water mystery: How was decision made?,* Detroit Free Press, Nov. 21, 2015, http://www.freep.com/story/news/politics/2015/11/21/snyders-top-aide-talked-flint-water-supply-alternatives/76037130/.
[337] Public health legal preparedness is defined as "the attainment by a public health system…of specified legal benchmarks or standards essential to the preparedness of the system." Anthony D. Moulton, Richard N. Gottfried, Richard A. Goodman, Anne M. Murphy, and Raymond D. Rawson, *What is Public Health Preparedness?,* 31 J. L. Med. & Ethics 672, 674 (2003). Legal preparedness refers to the role of law in assuring the societal conditions necessary for health, including by facilitating effective responses to public health threats. Id.
[338] Georges C. Benjamin and Anthony D. Moulton, *Public Health Legal Preparedness: A Framework for Action,* 36 J. L. Med. & Ethics 13 (2008).
[339] Peter D. Jacobson, Jeffrey Wasserman, Anda Botoseneanu, Amy Silverstein, and Helen W. Wu, *The Role of Law in Public Health Preparedness: Opportunities and Challenges*, 37 J. Health Pol. Pol'y & L. 297, 322 (2012).
[340] *Id.* at 324.
[341] *Id.*
[342] *Id.*
[343] Mich. Comp. Laws § 333.2446. The requirements applicable to MDHHS relative to obtaining a warrant also apply to the local health department. Mich. Comp. Laws § 333.2446.
[344] Genesee Cnty. Envtl. Health Reg. § 1.105. *See also* Genesee Cnty. Envtl. Health Reg. § 1.104.
[345] Preamble to the Local Financial Stability and Choice Act, Public Act 436 of 2012, codified at Mich. Comp. Laws § 141.1541 et seq.
[346] *See* The PEW Charitable Trusts, *The State Role in Local Government Financial Distress, supra* note 24, at 4.
[347] *Id. at* 9.
[348] *See* 11 U.S.C. §§ 303, 901(a).
[349] *See* 11 U.S.C. §§ 301, 303.
[350] *Compare* 11 U.S.C. § 941 (filing a plan of debt adjustment under Chapter 9) *and* 11 U.S.C. § 1123 (required and discretionary contents of a reorganization plan under Chapter 11).
[351] *See* 11 U.S.C. § 904. *See also* United States Courts, Chapter 9 Bankruptcy Basics, available at http://www.uscourts.gov/services-forms/bankruptcy/bankruptcy-basics/chapter-9-bankruptcy-basics (last visited Nov. 27, 2017).
[352] Joint Committee on the Flint Water Public Health Emergency, *Report of the Joint Select Committee on the Flint Water Emergency* (2016), available at http://www.flintwatercommittee.com/ [hereinafter Joint Committee Report].

[353] Eric Scorsone and Nicolette Bateson, Mich. State Univ. Extension Center, *Long-Term Crisis and Systemic Failure: Taking the Fiscal Stress of America's Older Cities Seriously—Case Study: City of Flint, Michigan* (2011), available at https://www.cityofflint.com/wp-content/uploads/Reports/MSUE_FlintStudy2011.pdf.
[354] *See id.*
[355] *See* Task Force Report, *supra* note 1, at 9.
[356] *See* Hammer Testimony, *supra* note 9, for a comprehensive discussion of the role of strategic-structural racism in the Flint water crisis.
[357] *See* Joint Committee Report, *supra* note 352, at 30.
[358] *See id*. at 32.
[359] An example from Michigan is an arrangement similar to the Department of Agriculture and Rural Development's (MDARD) relationship with MDHHS during an epidemic of avian influenza or another disease that may be spread through contact with animals. Under these circumstances, MDARD must cooperate with and assist MDHHS's response. See Mich. Comp. Laws § 333.2253.
[360] *See* Joint Committee Report, *supra* note 352, at 21-23.
[361] *See id*. at 19.
[362] 40 C.F.R. §§ 25.1, 25.2. *See generally* 40 C.F.R. § 25.1 et seq.
[363] 40 C.F.R. § 25.12.
[364] *See* Memorandum from Alan Levin, Director, EPA State Program Division, to Regional Water Supply Representatives: Guidance for Implementation of 40 CFR Part 25 Public Participation Regulations in State Public Water System Supervision 3-4 (May 21, 1979, revised 1988), available at http://nepis.epa.gov/Exe/ZyPURL.cgi?Dockey=P100NEE5.txt
[365] *See* Task Force Report, *supra* note 1, at 29-30 (Recommendation 1).
[366] *See id.* at Appendix V: Detailed Timeline.

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