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Flint Water Crisis: Impacts and Lessons Learned

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for

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before the
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and Subcommittee on Health

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Summary

Good morning, Chairmen Shimkus and Pitts, Ranking Members Tonko and Green, and members of the subcommittees. My name is Stephen Estes-Smargiassi, and I am the Director of Planning and Sustainability for the Massachusetts Water Resources Authority. I am here today on behalf of the American Water Works Association.

Established in 1881, the American Water Works Association is the world's largest nonprofit, scientific and educational association dedicated to managing and treating water, the world's most important resource. With approximately 50,000 members, AWWA provides solutions to improve public health, protect the environment, strengthen the economy and enhance our quality of life.

AWWA deeply appreciates this opportunity to offer input on the critical issues the subcommittees are addressing today: learning from the past and present, and looking to the future to protect the American people from the potential dangers of lead in drinking water.

Society has made significant progress in reducing children's exposure to lead over the past four decades with the removal of lead from gasoline, an on-going focus on lead paint and

dust, and the use of corrosion control in water systems to substantially reduce the amount of lead leaching into drinking water. Children's blood lead levels have dropped dramatically, but our goal is zero and more can and must be done.

Water systems have made substantial investments already in corrosion control, and the enhancements recommended by the National Drinking Water Advisory Council (NDWAC) should help many water systems do even better. At the Massachusetts Water Resources Authority, we have substantial experience – and success – in addressing lead in water through carefully planned and executed corrosion control measures. I will detail these in my testimony below. We have taken an additional step to further remove the risk of lead from water by initiating a unique program offering $100 million in zero-interest loans to member communities to help them remove lead service lines.

As a community of professionals, water systems are committing to developing effective programs to alert our customers if they have lead services, to communicate the risks associated with those lead services, and to work with them to replace them. We and our partners in the public health community, working with CDC and EPA, can implement more effective outreach and communication about lead so that our customers are informed and empowered to make sound decisions about their drinking water. At MWRA, we found partnering with local public health officials and other stakeholders to be essential to educational efforts on lead.

Making further progress on this issue is a shared responsibility. No one party can resolve the issues on its own. Local governments and water systems must continue to commit or enhance effective corrosion control treatment and distribution systems, licensed operators must continue to be informed and vigilant, state and federal drinking water regulators must continue to exercise or enhance responsible oversight and provide useful technical assistance especially to smaller systems. And of course, we must continue to provide our customers with the information they want and need to work with us in reducing risk and enhance those efforts

Experiences with lead

In the 29 years that I have worked at the Massachusetts Water Resources Authority (MWRA), I have been deeply engaged in managing the intersection of public health protection, outreach, education and disclosure, and the development and operation of water infrastructure, especially as it relates to issues of lead leaching into drinking water from home plumbing and service lines. The MWRA is the wholesale water and sewer service provider to 61 cities and towns primarily in eastern and central Massachusetts, including our capital city of Boston, serving about 2.5 million people. I have been directly involved in lead and public health issues

since 1993. I participated in EPA's 2004 and 2005 Lead and Copper Rule Review Expert Workshops, and served on working groups of EPA's statutorily-created NDWAC, which addressed improvements to the federal Lead and Copper Rule in 2005/6 and 2014/15.

Today I will discuss what we knew about lead in drinking water before the Flint, Michigan incident, how the events there underscore the importance of the actions water providers take to protect against lead exposure, and what we at the American Water Works Association believe should be done going forward to manage risk. I'll do that in part by discussing how the MWRA has successfully reduced lead levels at customers' taps by more than 90 percent since the federal Lead and Copper Rule (LCR) came into effect in 1991, and in part by focusing on the recently released NDWAC recommendations for improving the Lead and Copper Rule. AWWA's Water Utility Council and its Board of Directors have both voted unanimously to support the NDWAC's recommendations.

While there are numerous aspects to this issue, I would like to concentrate on three principal elements for managing the risks of lead in drinking water: first, the important role of corrosion control in reducing the tendency of water – the universal solvent – to dissolve lead and other metals; second, the growing consensus that our nation must do more to reduce the amount of lead-containing materials that are in contact with drinking water – especially lead service lines connecting many older homes with water mains in the street; and third, how water supply and public health professionals can effectively communicate about the risks of lead and work effectively with our customers to reduce or eliminate those risks.

All three of these key elements are necessary, and must proceed in parallel to achieve the desired outcome of increased risk reduction.

Corrosion Control Treatment

As water suppliers, the first and most important thing we can do to manage the potential risks of lead in drinking water is to have effective corrosion control treatment in place and to reliably and consistently operate that treatment.

As I mentioned above, and as we all learned in high school chemistry, water is the universal solvent. While that attribute of water enables it be the "solvent for life" and the key ingredient in all of life on this planet, it can also result in our drinking water leaching metals along the way from source to tap. Once water leaves our water treatment plants, it can come into contact with iron pipelines, especially in older communities with miles of old, unlined cast iron water mains; lead, iron, steel, or copper service lines connecting homes and businesses to the mains in the street; and then copper, brass, galvanized iron, lead solder and other materials in the premise plumbing within those buildings. As water suppliers, we work to manage the interaction of our water with all those materials, adjusting the chemistry to reduce the

potential for metals leaching out. It is important to note that our efforts focus on all different types of metals, not just lead alone.

Some waters are naturally non-corrosive by nature. Their pH, alkalinity and natural dissolved constituents render them less aggressive to metals. For all other waters, active measures to control corrosion are necessary. As you have probably learned by now, the EPA Lead and Copper Rule requires that all water systems serving more than 50,000 people to have corrosion control in place, and requires smaller systems to install it if their sampling for lead in high-risk homes indicates that it is necessary.

If corrosion control is necessary, it is important to select the appropriate treatment for the source water being treated, to operate the treatment effectively, and to do it consistently. Let me illustrate this with our experience over the past 25 years at the MWRA.

MWRA Experience with Corrosion Control Treatment

MWRA's source water is the well-protected watersheds of the Quabbin and Wachusett Reservoirs in central Massachusetts, 45 and 70 miles west of Boston. These exceptionally pristine supplies provide excellent source water, with no wastewater discharges and relatively little development, so they yield water with few pollutants or pathogens, and require substantially less treatment than many of the supplies our peers deal with. They provide a naturally soft and slightly acidic water which tastes great, and is excellent for shampooing – producing great lather.

That naturally soft water does mean that the water is aggressive to metals and requires corrosion control treatment. MWRA and its predecessor agency had been providing corrosion control treatment with simple pH adjustment since the 1970s, meeting the drinking water requirements of that time. When the new Lead and Copper Rule (LCR) came into effect in 1991 with new testing requirements and an Action Level of 15 parts per billion (ppb)(or micrograms per liter), it was immediately clear that more needed to be done. Test results taken under the new rule in 1992 showed that 90th percentile levels of lead in the high-risk homes required to be tested – those with lead service lines or relatively new lead solder – were more than four times the Action Level of 15 ppb. In one national news study, four of MWRA's 51 water service communities were among the nation's top 10 for high levels of lead – a dubious honor. New corrosion control treatment was needed.

At the same time, a number of other new EPA regulations were coming into effect, and a series of important changes in MWRA's treatment and distribution system were likely to be required. MWRA reached out to our state and federal regulators at that time about planning and scheduling all these important mandated changes. It was suggested that MWRA bundle all the new requirements, and move ahead with treatment changes to meet all the new rules,

with a clear acknowledgement that that would mean delaying beyond the LCR regulatory deadline of January 1997, under an agreed-upon legally binding schedule.

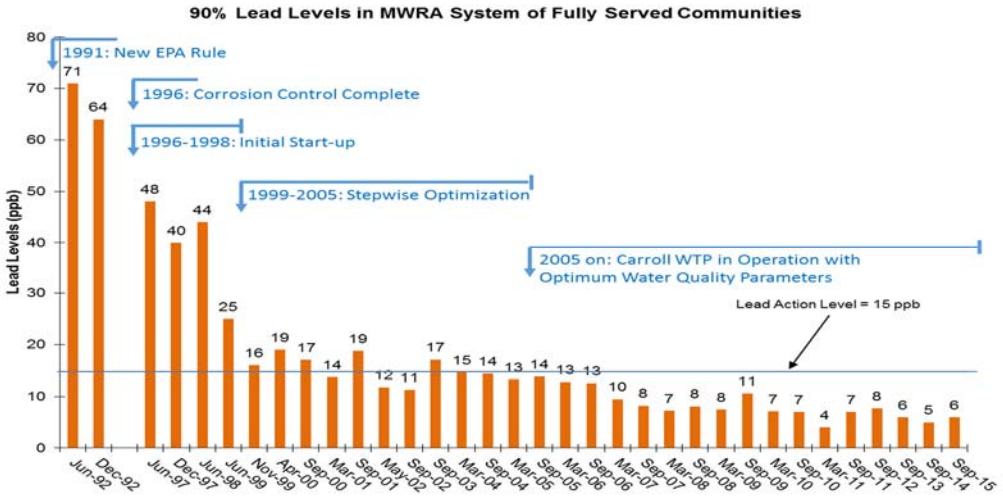
While this bundling offered the opportunity of increased cost efficiency, MWRA's management team and Board of Directors choose to reach out to a group of stakeholders before making a decision. A group of public health and environmental advocates, pediatricians for Children's Hospital in Boston, staff from the Women, Infants and Children (WIC) program, public health professionals from the state and city, as well as MWRA and regulatory agency staff gathered for a series of discussions reviewing the data and options. Out of that process came two clear recommendations - proceed with using an interim corrosion control treatment facility until the new permanent treatment would be placed into service, but equally important, develop an enhanced relationship with our public health colleagues to help with outreach to the most vulnerable of our customers. I'll say more about the second aspect later.

This fast-track approach to corrosion control would not be executed without careful planning. Bench and pilot scale testing – essentially miniature treatment plants, complete with simulated home plumbing with lead and copper components – were set up to test out different treatment alternatives and chemical doses. All aspects of corrosion and other treatment objectives were examined, not just lead, but iron corrosion and disinfectant effectiveness. It was important that changes we made to manage lead corrosion not result in problems with discolored water or compromise our ability to protect water quality as it traveled through more than 6,000 miles of MWRA and community pipelines.

Both of the two principle methods of corrosion control were examined: use of a phosphate-based corrosion inhibitor and adjusting the pH and alkalinity of the water to reduce its aggressiveness and improve its buffering capacity to provide a stable higher pH throughout the distribution system. In addition to our own staff and engineering design consultants, MWRA assembled an expert panel to review the results and assist us in making a final decision. The panel included academic, consulting and governmental experts from across the country. Discussions with the expert panel were conducted in an open meeting format, with a wide variety of stakeholders invited to not just listen in, but participate. Staff from our state and federal drinking water regulators and public health agencies, environmental and public health advocates, and staff from a number of our fully or partially supplied communities were all present and active participants. Both forms of corrosion control worked well in MWRA water. However, based on consideration of how our water was mixed with local supplies by a number of our partially supplied communities, environmental concerns about the use of phosphate on regional receiving water bodies, and the need to maximize the stability of our chloramine residual disinfectant, the panel and MWRA staff recommended proceeding with the pH and alkalinity approach.

MWRA was able to complete the $6.5 million fast-track design and construction process in 1996, well ahead of the regulatory compliance deadline. But again, starting up a new treatment process calls for careful consideration of transition issues and avoiding the potential pitfalls of dramatic changes in chemistry. Our expert panel worked with us to plan out a startup period, and then a cautious step- wise evaluation and optimization process to carefully adjust water chemistry and review the results. (We've continued the practice of vetting all significant treatment changes with an expert panel.)

The results were nothing short of dramatic. Even during the initial startup with treatment parameters not yet at optimum levels, lead levels at consumers' taps dropped quickly. As treatment was optimized, levels continued to drop, and we can now tell our customers that lead levels in consistently tested stagnant water in high risk homes have dropped by more than 90 percent from before treatment was put into place. The chart below shows the dramatic improvements in the required 90th percentile results over time from 71 ppb compared to the 15 ppb Action Level in 1992 to only 6 ppb in 2015.



While the 90th percentile results show one measure of improvement, another key measure is in some ways even more encouraging. When we look at the details of the data, in MWRA's case about 450 samples for each sampling round, we can see more and more of our customers have lower and lower levels of lead, even in these worst-case stagnant water samples. In 1992, only 11 percent of the samples were below 1 ppb – non-detectable by the typical analytical method, and 26 percent were below 5 ppb. In our most recent sampling in 2015, fully 66 percent were below 1 ppb and 87 percent were below 5 ppb. (97.5 percent were below the Action Level of 15 ppb.)

MWRA's experience is not unique. Most water systems across the country can claim similar results from their effectively implemented and operated corrosion control treatment. It is this record of success with corrosion control which prompted the National Drinking Water Advisory Council (NDWAC) to recommend that the Lead and Copper Rule remain a treatment

technique rule, and that requirements and guidance for corrosion control treatment be strengthened.

NDWAC Recommendations on Corrosion Control Treatment

The NDWAC recommendations to EPA on how to strengthen both the Lead and Copper Rule and its implementation related to corrosion control treatment had several key components.

First, and in the context of the situation in Flint Michigan, perhaps most importantly, the NDWAC explicitly recommended *"retaining the current rule requirements to re-assess [corrosion control treatment] if changes to source water or treatment are planned".* It is worth noting that the working group developing the recommendations did not need to call out what it felt did not need changing in the existing LCR, but even before the publicity surrounding Flint occurred believed that this existing provision deserved to be underlined as a key element of protecting public health. Failure to follow this existing requirement seems to be at the root of the problems in Flint.

The science of corrosion and corrosion control continue to advance, and we can expect that we will know more in the future than we know now. An adequate or excellent solution today may be able to be made even more effective in the future. For this reason, the NDWAC recommended that water systems be required to "*to review updates to EPA guidance to determine if new scientific information warrants changes".* As it stands now, EPA periodically updates its technical guidance manuals with the latest peer-reviewed science. This new requirement would affirmatively require that each system work with its state drinking water primacy agency to determine whether any of the changes in the updated guidance should be implemented in that system, ensuring that continuing progress is made in reducing the potential for lead corrosion. It is worth noting that the effectiveness of this recommendation will depend in part on EPA's resources and ability to advance the state of knowledge. Congress can do its part in providing adequate budgeting and priorities to the agency.

The need to operate any corrosion control treatment system effectively and consistently in order to achieve the optimum results caused the NDWAC to recommend that the Lead and Copper Rule be revised to *"tailor water quality parameters (WQPs) to the specific [corrosion control treatment] plan for each system, and increase the frequency of WQP monitoring for process control".*

There are two parts to this recommendation. The LCR requires that each corrosion control treatment system have certain measurable water quality parameters, which can be used to determine if the system is being operated as originally designed and permitted. It was clear to the group that by emphasizing attention to these useful indicators of performance, that water systems, in coordination with their state regulator, could refine performance goals for treatment. This is particularly the case in which small and medium water systems have

achieved compliance with the lead Action Level without having had to add specifically identified corrosion control treatment processes (because their water was naturally non-corrosive or because other pre-existing treatment processes designed for other treatment objectives had achieved that status) that there was no way of assessing whether those conditions were being maintained. The recommendation calls for every system—rather than the limited subset required to have such parameters under the current rule--to have such indicators, and that that performance ranges for these indicators be controlled tightly enough that they are meaningful.

The second part of the recommendation is that the frequency of collection be increased for many systems to ensure that the treatment processes perform consistently, and that modern process control techniques be implemented to help the licensed system operators effectively reduce variation in corrosion control treatment processes.

Taken together, these recommendations should reduce the likelihood that water systems experience episodes of significantly increased lead levels, and should gradually improve the effectiveness with which treatment reduces lead leaching. Given the national success of corrosion control at reducing lead levels since 1992, the NDWAC recommendations represent positive important incremental steps forward.

The safety of our water supplies depends on responsible oversight by our state and federal regulators, periodic inspections and reviews by those regulators, motivated well-trained licensed water treatment operators and technical assistance by the state and federal government to support those operators and systems, particularly smaller ones with fewer resources.

In other congressional hearings, we have heard recognized experts investigating the situation in Flint say that situation was not a failure of the science of corrosion control, nor was it a failure of the Lead and Copper Rule. The existing rule structure specifically addressed what should have happened: an appropriate evaluation of the change in source and treatment by the system and the state regulator, and an affirmative requirement that a system the size of Flint must have corrosion control in place, which was ignored.

Replacement of Lead Service Lines

The root of the problem in Flint was that implementation of corrosion control was ignored when the community's source of water and treatment processes changed. However, perhaps half of the homes still had lead services and their presence contributed to lead exposures rising significantly. While lead solder and brass fittings and fixtures in the premise plumbing can contribute lead to stagnant water, in a home with a lead service line, the substantial mass of lead in contact with water is that service line. While corrosion control is effective at

reducing drinking water lead levels, the potential risk of substantially elevated levels remains as long as lead service lines remain.

Recent estimates published in *Journal AWWA* show that there are about 6.1 million lead service lines still extant across the US. Many water systems have been gradually replacing lead services as part of their on-going system maintenance, asset management and rehabilitation programs, but the existing Lead and Copper Rule has not been effective in requiring a substantial reduction in the number of lead service lines. In fact, the existing rule has created incentives which can make exposure risk greater.

The service line extends from the water main in the street to the building. We typically think of it as having two parts – the portion in the public way, usually but not always owned by the water system, and the portion on private property, almost always owned by the property owner.

Under the current LCR, if a system exceeds the lead Action Level, it is required to replace seven percent of its lead service lines annually, but only for as long as it is above the Action Level. Two consecutive six-month rounds of samples below the Action Level end the requirement. Most systems which exceed, quickly return to being below, and thus most mandatory lead service line replacement programs begin and end within a year. Besides the obvious fact that only seven percent would be replaced, the requirement creates a situation where systems are forced to immediately implement a difficult program with little preparation, little effective outreach to consumers and with an uncertain end date. That has frequently resulted in what is termed a partial replacement, in which only the portion in the public way is replaced, leaving the private portion in place. When the LCR was promulgated, it was generally thought that while removing half the lead service line was not ideal, it would result in some benefit in lead exposure and thus public health benefit. More recent research indicates that elevated lead levels may continue for weeks or months and substantive long term reductions may not be realized. Disturbances of the lead service line from construction or even fully replacing it can cause a temporary increase in lead levels, calling for better communication and ways to mitigate this risk as discussed below.

NDWAC Recommendations on Lead Service Lines

These factors prompted the NDWAC to recommend to EPA that the LCR be revised to require that over the long term, all lead services be replaced, from the main all the way to the house; that is, both the public portion and the private portion.

Given the wide variety of legal and political circumstances of water systems and communities across the country, with different levels of legal authority to spend money or work on private property, the NDWAC recognized that a national program of lead service line replacement would need to be implemented locally – that is each water system might have a different

approach to dealing with the complex issues of identifying where there were lead service lines, communicating with the property owner about the need to replace their portion and dealing with issues of cost and access. The recommendation focused on substantially strengthening educational outreach efforts to owners of lead services to motivate them to participate in replacement programs. Recognizing that in some cases individuals would have no current interest in doing so, the recommendations called for on-going and regular outreach, anticipating that ownership or circumstance would change over time and a decision to replace the line would eventually result. Efforts would continue until every last lead service line was replaced.

The recommendation called for removal of five percent of the inventory of lead services per year in the early years, with lower rates as the inventory approached zero. Intermediate three-year milestones were set, and the inability to reach a milestone would require more aggressive program elements of outreach and incentives to bolster participation. The group's vision was that the nation should be able to look toward a time when all lead services are gone, and significantly less lead was in contact with our drinking water.

The NDWAC also called for improved access to information about the existence of lead service lines similar to what is offered on the Boston Water and Sewer Commission website as discussed below.

The American Water Works Association's CEO David LaFrance drafted a widely circulated op-ed (attached) concluding with the line *"no one should have to question the safety of water at the tap. It's not a matter of whether our communities should get the lead out; it's a question of how and how long it will take. For the sake of public health, let's figure that out and get on with it".* We do believe in a future with no lead services.

AWWA is also conducting research on more effective ways to clear out home plumbing after lead service line replacement, developing new standards for state-of-the-art lead service line removal techniques and on member outreach and education to spread best practices throughout the water sector.

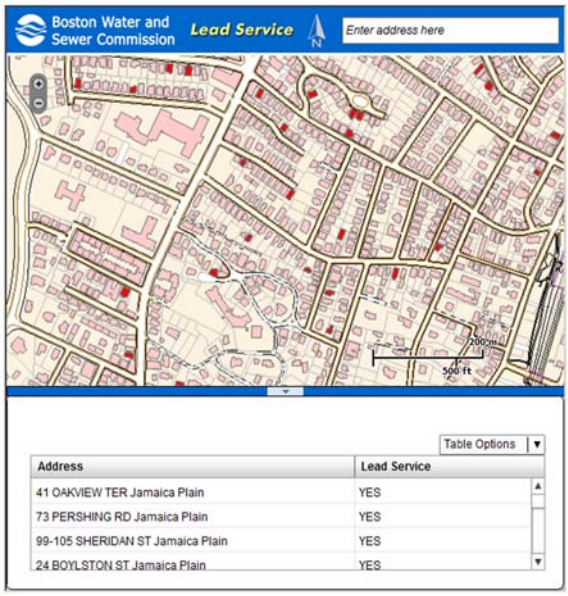
Lead Service Line Programs in the Boston area

The MWRA Board of Directors voted at its March meeting to create a pool of $100 million in zero-interest loans to its member communities specifically for the sole purpose of <u>fully</u> removing lead services from the water main to the building. This new program supplements an existing program of zero-interest loans for cast iron main replacement and other water quality improvements (including any work with lead services), and is intended to remove funding as a reason not to proceed with full lead service line replacement at the local level. While the program details will be finalized over the next couple of months, the program will be up and running before the summer and has created substantial interest among our

member communities. The 51 communities in the MWRA region have only about five-to-six-percent lead service lines out of their approximately 500,000 service connections, and we anticipate that program funding is sufficient to have all of them replaced.

Boston, MWRA's largest customer community with a population of more than 650,000, has had an aggressive incentive program to encourage homeowners to replace their portion of the lead service for more than a decade. The Boston Water and Sewer Commission (BWSC) maintains open agreements with contractors to replace service lines at an annually bid competitive price. If a property owner wants to replace his or her lead service line, BWSC would arrange for the work to be done, subsidize the first $1,000 of the cost and bill the owner at no interest on his or her water bill over the next 24 months. In early April, BWSC announced that it was enhancing the program – doubling the subsidy to $2,000 and the repayment period to 48 months.

In addition, the BWSC maintains an on-line lead service map allowing anyone to check whether his or her home (or any other property in the city) has a lead service line. The inventory is continually being up-dated as additional information becomes available, and provides a valuable tool for renters or property purchasers. (See www.bwsc.org)



There are important opportunities for federal action beyond the Lead and Copper Rule. The NDWAC report lists many non-EPA regulatory actions which could accelerate the replacement of lead services. Additional targeted funding through the state revolving loan funds (SRFs), restructuring of Housing and Urban Development (HUD) Healthy Homes and lead paint funding programs to allow lead service lines to be removed at the same time other interventions are being done, tax credits for removal costs or simply requiring that appropriate notice of the existence of a lead service be given during property transfers. While these may not be directly in the purview of this subcommittee, I urge you to review what the

NDWAC called "Complementary Actions Critical to the Success of the National Effort to Reduce Lead in Drinking Water" and consider ways to further this effort.

I would be remiss if I did not acknowledge and thank Congress for an important step forward just a few years ago. A significant flaw of the 1986 amendments to the Safe Drinking Water Act was that "lead-free" brass was defined in the act as allowing up to eight percent lead. What this meant was that a whole generation of plumbing fixtures and products were purchased and installed that could leach out appreciable amounts of lead. In January 2011, Congress amended the SDWA fixing this flaw, and as of January 2014, consumers can finally purchase brass products that are more genuinely lead free. Over time, this will eliminate one more source of lead in drinking water.

Outreach and education to help customers identify and respond to the risks of lead in home plumbing – especially lead service lines

A recurring theme in communities with highly publicized lead-in-water issues is that customers do not feel that they were adequately informed about the risks and ways to minimize them. Managing and mitigating the potential risk of lead in drinking water is a shared responsibility roles for EPA and state drinking water regulators, public health officials, water suppliers and the public itself. The public relies on the government and on its water supplier to effectively communicate about these issues. Without clear and complete, readily available information, the public is unable to take appropriate action.

Unfortunately, much of the readily available information from federal, state and local health authorities on lead risks has focused on lead paint and lead dust. While these sources frequently represent the vast bulk of lead exposure, and when present represent a significant risk, it has become clear that in any home with lead-containing plumbing, especially those with lead service lines, water can become a sudden and unnoticed source of high lead levels. This almost exclusive emphasis on paint and dust has left an important gap in most people's understanding of potential sources of lead exposure. The NDWAC working group expressed frustration with this state of affairs, and the recommendations reflect that. We, meaning all parties, must do more to resolve this gap.

NDWAC Recommendation on Outreach and Education

The need for improved outreach and education efforts was a major focus of the NDWAC working group's discussions, and plays a key part in the recommendations.

As discussed above, an important component of the recommendations is that information about the location and ownership of lead services be readily available, and that targeted outreach to consumers with lead service lines and other vulnerable populations be a regular

part of communications efforts. All communications would include clear information about the potential risks of having a lead service line and how to get it replaced.

The recommendations call for EPA to work with risk communication experts to draft templates for water systems to use and provide a list of key topics which should be addressed. The recommendations also call for updating the Consumer Confidence Report (CCR, the annual report on water quality provided to every customer) with additional information on lead services and more specific health risk information.

An important element of the NDWAC recommendations called for EPA to establish a national clearinghouse and website of lead information. The clearing house would provide up-to-date risk information, communication templates for use by water systems, model brochures, videos targeting different topics and audiences, and key elements would be available in multiple languages. The concept was to be sure that the best information was available to all members of the public and to every water system, in contrast to the current situation, which handicaps smaller systems, and shortchanges those less proficient in English.

The American Water Works Association's is already providing additional educational materials for use by its members in improved customer outreach.

MWRA Outreach through the WIC Program

I mentioned earlier that one of the recommendations of MWRA's stakeholder group back when the LCR was first issued was to focus additional education efforts on the most vulnerable population. As a result of that recommendation, MWRA worked with the Women, Infants, and Children (WIC) program, designing brochures which had a simple message on avoiding lead risks from home plumbing. The brochure had a magnet to attach it to a refrigerator, and had the information in several languages.

The WIC program also modified one of its early post-partum visit protocols to include a section on lead and water. As program officials reached out to new mothers, they had a simple message, not overly complicated, but easy to follow, and presented at the critical time.

The message they recommended is to simply run the water before using it for drinking or cooking. There is no lead in the source water, or in the water mains. Any lead in the water comes from the water sitting stagnant in home plumbing or lead services: simply letting the water run for a short time until it is fresh results in lead-free water. We also provided information on how to get water tested.

Interestingly, the public health professionals in our stakeholder group were concerned that our efforts to educate about lead in drinking water would take attention away from the larger

and more pressing risks of lead in paint and dust, hinting at the on-going problem of maintaining a communication effort that effectively discusses all lead hazards.

MWRA's Communication Efforts in the Wake of Flint

When the Flint issue began to garner national press attention, MWRA developed a simple explanation for its customers, explaining what happened there, and how the MWRA water system was different. A link to that factsheet and to a wealth of lead-related information stays right at the top of MWRA's web site, helping to restore our customers' confidence in their drinking water (www.mwra.com/04water/html/lead/020916-mwra-different.pdf). Our message was that we understood what happened in Flint, but that our treatment was being properly operated, our source water was not changing, that our lead results were very positive, and most importantly that all the information that they needed to confirm that was available on our web site, focusing on our policy of transparency.

All of the samples collected under the LCR since 1992 are up on the MWRA web site, as well as multiple data summaries showing where we were and the progress made, updated each time we collect additional LCR samples. While as a wholesaler MWRA has no lead services, the MWRA web site has information on how to find out if you have one, and links to Boston's information. There are links to current water quality data (updated monthly, with a multi-year archive for reference), information on how to get your water tested, and a water quality hot line (617-242-LEAD). MWRA believes that sharing the data that makes us confident in our water quality helps our customer have the same confidence.

MWRA is not alone in these types of successful corrosion control, lead service line replacement efforts, and public transparency and outreach efforts. I offer these as concrete examples of the type of best practices in use and being considered at water systems across the country to reduce the potential risk of lead leaching into the water our customers consume.

Thank you again for the opportunity to appear today. I will be happy to answer any questions or to provide you with any other assistance I can, now or in the coming months.

AWWA PRESS RELEASE

Op Ed from David LaFrance - Together we can get the lead out

March 11, 2016

By David LaFrance CEO, American Water Works Association

If there is one lesson to be learned from the Flint crisis, it is this: Our communities will be safer in the long run with no lead pipes in the ground.

That's why the board of the American Water Works Association – recognizing our first core principle is the protection of public health -- voted unanimously on March 7 to forge on a path toward the removal of all lead service lines. AWWA believes that as water professionals and a broader society, we should seize this moment of increased awareness to develop solutions for eliminating all risks from lead in water.

To be clear, most water professionals are perplexed – even stunned -- at what transpired in Flint. They take seriously their obligation to protect the families in their communities. They know in most cases lead risks in tap water can be effectively managed through corrosion control at the treatment plant. They monitor water for changes in water chemistry and quality. They are not satisfied to simply meet minimum regulatory requirements.

But the Flint crisis lays bare a simple fact: As long as there are lead pipes in the ground or lead plumbing in homes, some risk remains.

A survey published March 10 by the American Water Works Association suggests there are about 6.1 million lead service lines nationwide. If the average cost of replacing each one is $5,000 – a reasonable estimate – the collective cost could easily top $30 billion. This is in addition to $1 trillion needed over 25 years to repair and expand buried drinking water mains.

There is an added complication in that most lead service lines are owned partially by the utility and partially by the property owner, and in many cases property owners would be challenged to meet their portion of this unexpected expense. So as communities and as a broader society, we must now advance a serious discussion on how we pay to replace those lead pipes.

Some utilities have already overcome barriers to lead service line removal. The Boston Water and Sewer Commission, for example, offers customers $1,000 direct credits toward the cost of removing lead service lines and two-year, interest free payment schedules for the balance of the work. In Lansing, Michigan, just 50 miles from Flint, the utility is in the uncommon position of owning its service lines from the main to the home. By January 2016, it had replaced all but 650 of its 14,000 lead service lines in just over a decade, using money generated from general ratepayers. Across America, there may also be opportunities to learn from and expand existing government assistance programs that address more common sources of exposure such as lead paint, dust and soil.

There is good news in the broader battle against lead in water. Even before the Flint situation was widely known, the U.S. Environmental Protection Agency was in the process of revising the Lead and Copper Rule, which requires utilities to collect samples at high-risk homes in order to determine if lead is leaching into the water. On Dec. 15, the National Drinking Water Advisory Council recommended that utilities create plans for engaging customers to remove all lead service lines in their entirety from their systems. It also advised that utilities should do more outreach to customers on lead, including assisting them with testing their water. By formally supporting the council's recommendations, AWWA is declaring a bold new front in the battle against lead exposure.

For those of us in the water profession, Flint reminds us that our first and most important job is to protect the families we serve. A lack of money or political will or technical resources can never be an excuse to put people at risk. From public officials, to water utility managers, to regulators, to chemists, to every operator at the treatment plant and throughout the distribution system, we must renew our commitment daily to providing safe water to our communities.

Part of that commitment implies that we actively communicate with consumers, and about lead in particular. So even if there are plans to remove all lead service lines in the future, consumers should understand how to protect their families today. Homeowners should know how to determine if they have lead service lines, the benefits of removing those lines, and the steps to protect themselves and their families from all sources of lead exposure from water.

As water professionals, we should help at-risk consumers protect themselves. We should provide information on how to sample for lead at the tap and get samples analyzed by certified laboratories. Where lead is a concern, customers should understand their options for limiting exposure, such as purchasing a home filter certified to remove lead, or flushing out the lines after a period of stagnation in order to get fresh water that is coming from the main, or avoiding consuming hot water from the tap, where lead is more likely to be present. AWWA makes tips available at www.drinktap.org.

And of course, if a home has a lead service line, we as water professionals should be committed to working collaboratively with customers, property owners and government to get it out.

In North America, no one should have to question the safety of water at the tap. It's not a matter of whether our communities should get the lead out; it's a question of how and how long it will take. For the sake of public health, let's figure that out and get on with it.