

## PEDIATRIC PUBLIC HEALTH INITIATIVE

### **Statement of Mona Hanna-Attisha MD MPH FAAP**

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Subcommittee on Environment and the Economy and  
Subcommittee on Health joint hearing  
*"Flint Water Crisis: Impacts and Lessons Learned."*

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Good morning. I would like to begin by thanking Chairman John Shimkus and Chairman Joe Pitts, along with Ranking Member Paul Tonko and Ranking Member Gene Green, for the opportunity to testify at today's joint subcommittee hearing regarding the Flint Water Crisis and the path forward to heal our community. I would also like to thank Chairman Fred Upton, Ranking Member Frank Pallone, and their respective staff members for their continued interest and work on this issue. This is a very important topic and I am pleased these two subcommittees have chosen to devote today's joint hearing to the public health situation in Flint the and long-term needs of the Flint community.

#### **Background**

On April 26, 2014, the city of Flint changed its water source from Detroit-supplied Lake Huron to the Flint River water as a temporary measure until a new pipeline to Lake Huron was completed. Water from the Detroit Water and Sewage Department was treated with necessary corrosion control; however, Flint river water was not treated with corrosion control. The change in the water corrosivity - coupled with the decreased water usage (due to population loss and high water rates) and aging lead-based infrastructure - resulted in a perfect storm for lead to leach into the water.

Lead is a potent, irreversible neurotoxin with lifelong, multigenerational impacts. Increasing evidence shows that there is no safe blood lead level and that lead disproportionately impacts low income children. Lead has been linked to decreased IQ and an increased likelihood of ADHD, delinquent behaviors, total arrests, and increased rates of arrests involving violent offenses. There are other adverse effects on health attributable to lead exposure, including but not limited to hematological, cardiovascular, immunological, and endocrine. As we continue to learn more about the deleterious impact of lead, science tells us that the best way to protect children from the consequences of lead is to prevent all exposure to lead. Primary prevention failed in Flint.

To examine the impact of the water switch on young children's lead levels, we examined and compared the blood lead levels of children living in the city of Flint before (January to September, 2013) and after (January to September,

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2015) the change in water source. We found a significant increase in the percentage of children with elevated lead levels - doubling and even tripling in some areas - that directly correlated with areas of elevated water lead levels.

A link to the research publication is provided for reference:

<http://ajph.aphapublications.org/doi/pdf/10.2105/AJPH.2015.303003>

Our research is just a snapshot of a small group of children at one point in time. Due to the extended time period of potential exposure, the likelihood that most residents living in the area ingested the water directly or cooked with it, and the short time period in which we are able to detect blood lead levels in children (half-life of 20 to 30 days), it is highly likely that there are a large number of individuals whose elevated blood lead levels have gone undetected. As a result of these factors, it is clear that we must treat this crisis as a population-wide exposure.

### **Moving Forward**

We are focused on moving forward. Flint is an incredibly resilient community with a proud past; and we are hopeful and determined to create an even more promising future. Our community is committed to rebuilding and to creating a sanctuary where our children can recover and flourish. We cannot wait to see the potential cognitive and behavioral consequences of lead exposure; we must act and we must act quickly.

Following President Obama's emergency declaration for Flint, federal agencies and their partners on the ground - lead by the Department of Health and Human Services - have begun to make a targeted impact through a broad range of administrative initiatives. Of late, these have included, but are not limited to, funding for water filters; expanded Medicaid coverage; expanded Head Start and Early Head Start services; increased funding for community health centers; and expanded use of WIC vouchers for ready-to-feed infant formula. While these and other services and supports are helpful and appreciated, most are unfortunately only temporary expansions or increases in funding, and will not be nearly adequate to address the long term needs of Flint's children.

That is why we have built a model public health program, a center of excellence, the Pediatric Public Health Initiative, to complement government efforts to help the children of Flint thrive. The Pediatric Public Health Initiative is a joint venture between Michigan State University, a land grant university, and Hurley Children's Hospital, a public academic children's hospital located in the city of Flint. The Pediatric Public Health Initiative has three main aims: assessing the extent of what has happened through vigorous research; developing the framework for the long-term surveillance of exposed children; and most importantly, and where our greatest energy is focused, intervening so that these children can have the brightest future possible. We are advocating for and implementing evidence-based interventions that will mitigate the effects of the lead exposure and make a difference in a community and in a generation of children. And finally, as more and more communities continue to deal with issues of lead exposure, the lessons we learn in Flint will be shared as best practices with the entire nation.

The evidence-based interventions we have proposed span the fields of education, nutrition, and medical/health. These are proven interventions to optimize children's health, especially our most vulnerable children. Developmental neurobiology has taught us that adverse childhood experiences and toxic stress, like lead exposure, change the trajectory of a child's life in predictable ways. But science also gives us hope. We can reduce the impact

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of adversities like lead exposure when we wrap these children in evidence-based interventions to promote their development. All vulnerable children need these interventions, and all lead exposed children throughout the country need these interventions - but kids in Flint need them now.

Within education, the high priority, evidence-based interventions include literacy programs, universal early education, school health, early intervention (Early On in Michigan), and quality schools. Literacy programs and early education can help buffer the potential cognitive impact of lead exposure and promote school readiness. These strategies have a proven return on investment. All Flint children should have access to universal quality child care, Headstart and Early Headstart. School health and behavioral health services ensure that children are healthy and ready to learn. Early intervention (Early On), which provides early developmental services for children with delays, is hamstrung by chronic underfunding. This has created limited capacity and long waitlists for an important program to tackle these problems head on. Lastly, Flint kids need high quality education – Flint Community Schools struggle from both limited resources and an ongoing hemorrhage of students.

Within nutrition, there are both short term and long term needs. Children with poor nutrition absorb lead more readily, and long term healthy nutrition is critical to promote children's development and to minimize lead release from long-term bone stores. Flint is a food desert, with no full service grocery stores in the city. We need to address the issues of food insecurity, availability, and access through federally-supported programs like Special Supplemental Nutrition Program for Women, Infants, and Children (WIC), WIC promotion and expansion, enhanced and universal school meals and afterschool feeding programs, and aggressive nutrition education. We should also consider establishing innovative ways to subsidize long-term nutrition access via neighborhood stores and mobile food markets, especially in targeted, at-risk areas.

Within medical/health, we want to promote caregiver capacity. Genesee County runs several evidence-based state, federal, and foundation-funded home visiting maternal infant support programs (nurse family partnership, healthy start, maternal infant health program). All of them have the potential to increase their capacity to serve more families. We also would like to see relaxed eligibility criteria so more mothers and infants can participate in these programs. And finally, we want to increase pediatric healthcare access to a patient-centered medical home and encourage patient-centered initiatives between Medicaid HMOs and Flint/Genesee County medical homes.

Current efforts at both the state and federal level, and our efforts in the academic front, are not enough. We need congressional action to address the necessary short and long-term response. I firmly believe that it is imperative for public policy makers at all levels of government, regardless of party or affiliation, to act quickly to address the urgent needs of the Flint community. We need congressional lawmakers to respond to this man-made disaster with the same impetus and robust response as they would for any other kind of disaster. Our nation has never been reluctant to aid victims of hurricanes, tornadoes, floods or earthquakes. While shortsighted cost-cutting and willful bureaucratic blindness may have caused the calamity in Flint, the effect has been nothing short of a natural disaster. In fact, I would argue the magnitude has the potential be much worse in the long run.

Flint is not a remote city in the developing world with a contaminated water supply; Flint is a great American city situated along the largest source of fresh water on Earth. And yet the cruel irony is that despite proximity to

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abundant fresh water, we are approaching our third year without reliable, safe drinking water for the residents of the city. I hope you can understand why Flint families are traumatized. And hopefully you agree that Flint families need help from Congress.

It is my hope that our discussion today, and this committee's interest in Flint, will help cut through the gridlock and spur significant action by Congress during the current legislative session. Thank you again for the opportunity to address the committee today and I look forward to your questions.

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