

THE SOUND OF WATER



The former President of the United States Barack Obama visited Flint, Michigan, to hear first-hand how residents have endured the city's water crisis and to highlight federal assistance to state and local agencies.

Behind this high profile visit and subsequent remedial measures were the tireless efforts of the local community and a doctor who cared.

In 2014, the city of Flint, Michigan, switched its water supply from Lake Huron to the Flint River. The move was meant to save money. The city, which faced a \$30 million budget deficit, had been paying for water supplied through Detroit's municipal system.





After the change in 2014, residents began to raise concerns about the water's color, odor, and taste. Inadequate treatment and testing of the water resulted in a series of major water quality and health issues. Many residents reported that the water was causing skin rashes, hair loss, and itchy skin. Despite all the protests the city maintained that the water was safe to consume.



Flint River water has long been contaminated by industries around it, according to reports. The river has “**served as an unofficial waste disposal site for treated and untreated refuse from the many local industries that have sprouted along its shores, from carriage and car factories to meatpacking plants and lumber and paper mills. The waterway has also received raw sewage from the city’s waste treatment plant, agricultural and urban runoff, and toxics from leaching landfills.**”

Dr Mona Hanna-Attisha’s interest in the matter piqued in the summer of 2015 when her high school friend, a water treatment expert who had worked with the Environmental Protection Agency, pointed out that the city was not providing adequate corrosion controls and that water-damaged pipes could be carrying high levels of lead into homes.

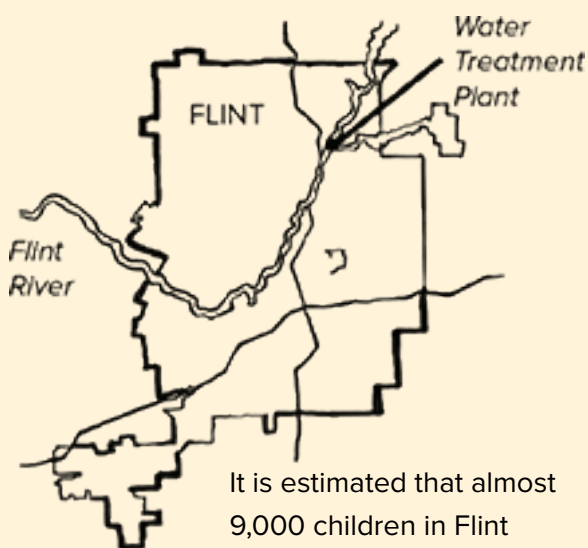
The idea of lead in drinking water and its impact on children especially scared Dr Mona Hanna-Attisha.





Lead is a neurotoxin.
According to WHO,

lead exposure can have serious consequences for the health of children. At high levels of exposure lead attacks the brain and central nervous system, causing coma, convulsions and even death. Children who survive severe lead poisoning may be left with intellectual disability and behavioural disorders.



It is estimated that almost 9,000 children in Flint were supplied lead-contaminated water for 18 months.

Dr Hanna-Attisha realized that to make a meaningful change she would need data and evidence to back her, so she reviewed hospital data on blood lead levels for children younger than age five before and after Flint's water source change. The data was accessible at the hospital level as the hospital routinely screened children.

She was shocked by the findings that showed that the percentage of children in Flint with lead poisoning had doubled.



Her study found that the blood lead levels were higher after the change in water source, and the poor and children from disadvantaged neighborhoods had the greatest increases in blood lead levels.



At a risk to her career, Dr Hanna-Attisha revealed her findings at the 24 September 2015 press conference before her research was peer reviewed, because of the massive public health implications.

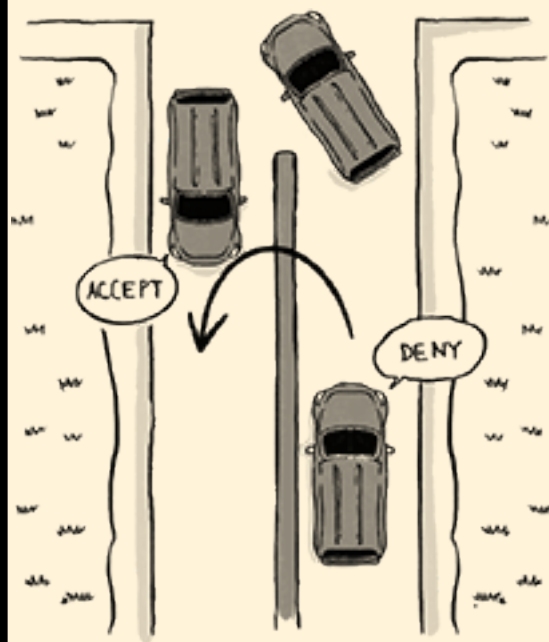
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I did something most doctors and scientists don't usually do... I literally walked out of my clinic with my white coat on and stood up in one of our hospital conference rooms where we usually have resident lectures. I shared the research that our kids are in harm's way, and I demanded action.

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Her research was initially ridiculed by the State of Michigan, when a Michigan Department of Environmental Quality spokesperson accused her of being an “unfortunate researcher”, “splicing and dicing numbers”, who was causing “near hysteria”.



However, about ten days later, after The Detroit Free Press published its own findings consistent with Dr Hanna-Attisha's findings, the State of Michigan backed down and concurred. Subsequently, at the press conference in which the State of Michigan acknowledged the lead in the water crisis, the Department of Environmental Quality officials apologized to Dr Mona Hanna-Attisha.

In his 19 January 2016 State of the State address, Governor Snyder publicly thanked Dr Hanna-Attisha for sounding the alarm about the Flint water crisis.



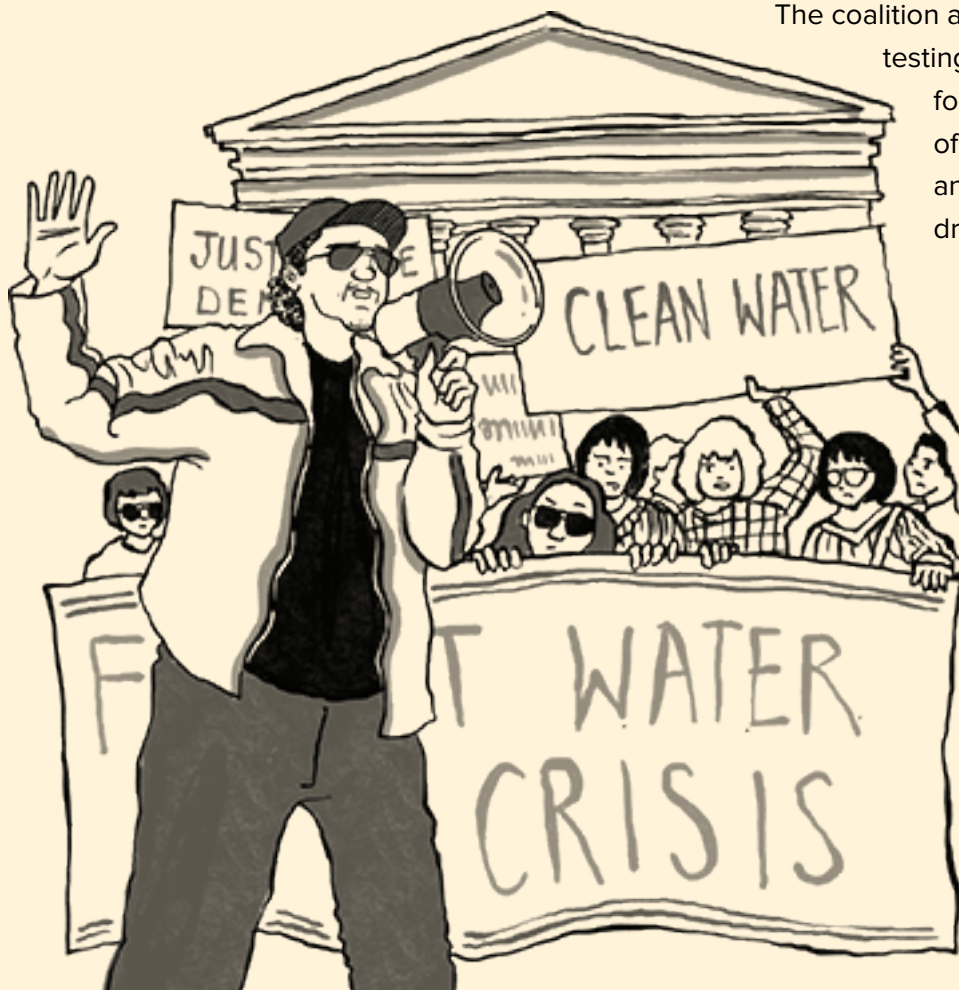
Dr Hanna-Attisha's findings were later published in the American Journal of Public Health. These findings were also confirmed in a Morbidity and Mortality Weekly Report published by the Center for Disease Control and Prevention (CDC) in July 2016 and are recognized as an underestimate of exposure.



On the heels of the release of test results by Dr Mona Hanna-Attisha in 2015, showing elevated lead levels in Flint's water and its children, residents joined with the Natural Resources Defense Council (NRDC), a US-based nonprofit, and other groups to petition the US Environmental Protection Agency (EPA) to launch an immediate emergency federal response to the disaster. However, the EPA failed to respond to the petition.

In early 2016, a coalition of citizens and groups sued the city and state officials to secure safe drinking water for Flint residents.

The coalition also demanded proper testing and treatment of water for lead and the replacement of all of the city's lead pipes and access to clean drinking water.



Meanwhile, the revelation of the lead poisoning among the children forced the Governor to declare a state of emergency, announce health services for the residents and made the city switch back to Detroit for water.