When Things Went Wrong with the Water: A Public Health Catastrophe

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THE FLINT WATER CRISIS:
Systemic Racism Through the Lens of Flint

Report of the Michigan Civil Rights Commission
FEBRUARY 17, 2017
Michigan’s Epic Public Health Catastrophe

- Massive scale: city water supply
- Serious impact
- Time frame: Not days, but months, and now years
- Manmade
- Politically Charged/Protests/Extensive Media

The early response was completely chaotic & disgracefully inadequate
In April 2014, the postindustrial city of Flint, with a population of 100,000 people, under Emergency Management, changed its water supply from Detroit-supplied Lake Huron water to the Flint River as a cost-saving measure, while awaiting a new pipeline to Lake Huron in 2016. Shortly after the switch to the Flint River water residents voiced concerns regarding water color, taste and odor, and various health complaints, including skin rashes.
“Hard to Swallow”


ACLU of Michigan Mini-Documentary
Kate Levy & Curt Guyette
June 25, 2015
Flint’s toxic water the priciest in the nation

Average annual water bill as of Jan. 2015, for household using 60,000 gallons a year

- **Flint, MI**: $864.32
- U.S. average, private utilities: $500.96
- D.C.: $420.12
- Michigan average: $323.47
- U.S. average, public utilities: $316.20
- New York, NY: $296.77
- Detroit, MI: $249.73
- Miami, FL: $116.46
- Phoenix, AZ: $84.24

Source: Food & Water Watch
Flint residents who are majority black and among the most impoverished of any metropolitan area in the United States, did not enjoy the same protection from environmental and health hazards provided to other communities. 

Governor Snyder’s Flint Water Advisory Task Force Report (March 23, 2016)
A Public Health Catastrophe: Michigan Civil Rights Commission

• The Flint drinking water crisis has its root causes in historical and systemic racism
• “A complete failure of government"
• Recommendations include a rewrite of the state's emergency manager law and bias training for state officials.

“Flint residents have been subjected to unprecedented harm and hardship, much of it caused by structural and systemic discrimination and racism that have corroded your city, your institutions, and your water pipes, for generations.”
The Toxic Flint Drinking Water

• August & Sept. 2014: Fecal Coliform Boil Advisories
• Oct. 2014: GM stops using Flint Water (corroding parts)
• Jan. 2015: State supplies water coolers & bottled water to state employees in Flint (including MCRC)
• Jan. 2015 – Sept. 2015: Disinfectant byproducts TTHM
• Feb - April 2015: High Lead Levels detected EPA first contacted. Lee Ann Walters 13200 ppb (toxic waste)
Flint’s Toxic Water: $100 a Day

- Troy Water: 1.1 parts per billion
- Detroit Water: 23 parts per billion
- Cause for Concern: 5 parts per billion
- Flint Water: 27 parts per billion
- Highest level found in Virginia Tech’s Flint sample: 15 parts per billion
- Highest level found in Flint sample: 13,000 parts per billion

(Data from Washington Post)
Timelines

• June 2015 Del Toral Memo
• Sept. 2015 Virginia Tech Water Study
• Sept, 24, 2015 Dr. Mona Hanna-Attisha news conference
• Oct. 1, 2015 State supports testing results
• Oct. 16, 2015 Switch back to the Detroit Water
• Dec. 14, 2015 Dr. Weaver: Flint State of Emergency
• Jan. 5, 2016 Michigan State of Emergency
• Jan. 16, 2016 Federal State of Emergency
Virginia Tech Study
Water Lead Levels in Flint

September, 2015

WLL Standards: >5 ppb is concern, > 15 ppb actionable
• WLL tests reflect only the levels on the day of the test
• Results: 19 times more corrosive than Detroit water
• Samples: average of 158 ppb, 20% of household >15 ppb
• Why Virginia Tech?
Institutional Ethics: Role of our Universities?

The University began testing its water supply in the fall of 2014 in response to the “boil water advisories.” They found elevated lead levels in Jan and Feb 2015 and removed sinks & water fountains and installed filters. This Fact Sheet was not published until 1/2016. The University protected its campus water supply. They reportedly called the Flint Water Department. What else did they do to protect/communicate with the community?
Institutional Ethics: Role of the Universities?

Kettering began testing their water “because of growing concerns” in early 2015 and found the campus water was safe. First communication with parents, students and community was apparently 9.16.15. What did they do regarding safety of their off-campus students & of the community?
Research: Impact of High Blood Lead Levels (BLLs)

Lead in water is not what medicine/public health is “used to.” Much of the research is on paint chips.

Greatest risk to 0-5 year olds (estimated 9,000 children, pregnant & nursing mothers)

Disproportionately impacts vulnerable formula-fed infants

Little research on adults and elderly: hypertension, renal failure, cognition
Elevated Blood Lead Levels

• BLLs increased from 2.4 to 4.9, in some neighborhoods to 6.6 in others (Hanna-Attisha, et. al.)

• For children ages 1-5 years, for every 1 ppb increase in the water lead level, blood lead increases by 35%.

"Like the children were drinking through a lead-painted straw"

• Widespread testing in schools and clinics not necessarily useful. BLLs had likely peaked well before they were measured (30 day window)

THESE RESULTS SIGNIFICANTLY UNDERESTIMATE EXPOSURE
Elevated Blood Lead Levels

Increased likelihood of:

• ADHD Behaviors
  • Restless, Inattentive, Impulsive (Kids in Street)

• Behavioral, Learning and Memory Difficulties

• Speech Impairment and Hearing Loss

• Delinquent behaviors and arrests

• Other possible health effects: Hematologic, cardiovascular, immunologic, etc.
Elevated Blood Lead Levels

Impact on Cognition

• Vast evidence supports likelihood of:
  • An increase in 1 to 4 ug/gl means an IQ loss of 3-7 pts.
  • Not a very significant change for any individual child, but bigger implications for the larger community
  • A small change in mean IQ, shifts entire population IQ distribution
    • Reduces high achievers (>130) and increases numbers of kids with low IQ’s (<70)
    • Flint Schools test scores?
Ethics: Exposing the Crisis

The people of Flint were betrayed by every single governmental agency that was supposed to protect them.

“I believed them. I gave the water to my children to drink and I bathed them in it.”

When MPR contacted MDEQ for comment after initial reports of lead in the water, the Governor’s spokesperson, Brad Wurfel stated,

"Let me start here — anyone who is concerned about lead in the drinking water in Flint can just relax.“(7-13-16)
Exposing the Crisis: Ethical Heroes of Flint

Miguel Del Toral
EPA Engineer
6-24-15

Dr. Karen Weaver
Clinical Psychologist
Mayor of Flint
“I had to put some skin in the game”

Dr. Mona Hanna-Attisha
Pediatrician
Hurley Medical & MSU Faculty
9-24-15
“Pediatricians are the voice of the voiceless”

Dr. Marc Edwards
Engineer
Virginia Tech Professor
Real-world ethical dilemmas are gut-wrenching, life-changing experiences that require you to put yourself in harm’s way to do the right thing. What class in ethics is teaching students that fact?
From the desk of the Editor-in-Chief

Sorry kid, our funding is just too precious... no matter how just the cause. Our students might push back someday. Try giving Erin Brockovich another call.

We are worried about the kids in Flint.
“The city was eerily quiet, with a myriad of In and Out marts, gas stations, bars, vacant lots, run-down houses, and churches.
I wondered where all the water trucks were, where the National Guard were, where are all the governmental leaders?
This city has its entire water distribution destroyed, and all we could see were private volunteers at churches and businesses handing out cases of bottled water to people through a make-shift assembly line.
Where are the temporary water systems that our government could set up? Where are the military personnel and trucks who could deliver cases of water and filters to people who have no resources nor transportation?
Folks are supposed to go to a local fire station, pick up a filter, a test kit, some water, and then return the test kit to the fire station for testing? That’s the plan? Seriously? In 2016, that’s the plan?”
NASW-MI Ad Hoc Task Force/Crossing Water
January, 2015

• Tremendous gaps in the response
• Lack of information and awareness
  • Access to clean water
  • Marginalized populations: Elderly, disabled, undocumented, non-English speaking, deaf community (Michigan School for the Deaf)
  • Lack of transportation
  • Socially isolated: mental health disorders

• The Many Problems with Filters
  • Fitting, Changing cartridges: lights, size, cleaning aerators, Running hot water
TONIGHT’S QUIZ:
If the water filters in up to 75% of low income homes in Flint, visited by Crossing Water RRST crews, are either hooked up improperly, been deactivated by improper use, have non-working cartridges, are still in the box, or their faucets are incompatible with the filter adapters, your water filter program is:

A) An excellent program and a model for all future disasters

B) A solid working program that needs a little tweaking around the edges

C) The wheels have come off and the program is in a shambles

D) I don’t care because I own stock in a bottled water company
The Chaotic Response

• Staff from EPA, U.S. Public Health Service, CDC, Genesee Health Dept., DHHS, MDE, Intermediate School District, National Guard, Nonprofits

• Two large crisis response groups:
  Community Resilience Group: Genesee Health Systems (CMH)
  Red Cross Community Partners
  Education Workgroup Genesee ISD

• Out of 12-13 working groups in the Crisis Response, none related to meeting needs in the public schools
Humanitarian Standards

The Sphere Project: International organization of humanitarian agencies, including Red Cross & Save the Children sets basic standards.

- Average water for drinking, cooking and personal hygiene in any household is at least 15 litres or 495 ounces per person per day. Flint households received 1 case or 384 ounces per household per day.

- The maximum distance from any household to the nearest water point is 500 metres or .31 miles. Flint had five water stations for a city of 100,000 with distances of 2-3 miles.
Response in Flint Water Crisis

Residents pick up water daily in cars, on foot, bikes or buses.
No systematic distribution of water to vulnerable populations

What Life is Like in Flint, Michigan Three Years into the Water Crisis
Poisoned Water in the Schools

• In at least three Flint Community Schools, children drank lead-contaminated water for up to 16 months. Lead levels were >15 ppb.

In at least one school, Freeman Elementary, water tests found lead levels of 101 ppb.

Based on MDE data, 15,000 students & staff in 90 different buildings were exposed to lead in their water at home and/or at school, only 5,000 in Flint Schools.

ALL of the students experienced trauma.
Genesee ISD as a Leader

- Hosted “Education” work group of the Red Cross
- Advocated for appropriate, accurate “parent friendly” information
- Discouraged school or community wide testing of children’s Blood Lead Levels (BLL)
  (Provides false sense of safety)
- Some schools had “Blood testing carnivals”
- Urged a “universal approach”
  - Assume all children may have been lead-exposed
  - Provide universal interventions

Supplemental Fluoride Treatments
Systemic Racism & Implicit Bias

• “The people of Flint have everything they need.”
• Plans developed by state/county agencies with minimal input from marginalized residents, grass roots/community groups
• Failure to meet humanitarian standards
• Failure to protect residents, especially children
  • Need for door to door canvassing to assess needs:
  • AAP, NAACP/NASW Recommendations
Community Resilience Group Mtg. 2/26/2016

Concerns with the “partnership,” trust, cultural sensitivity. Why is there a dotted line for us and not an arrow?
In the Schools: September 28, 2015

• Flint Community Schools send a letter to parents asking them to bring water for their kids to drink during the day.

• Superintendent Bilal Tawwab said he knew he couldn't let the kids drink from the fountains once he heard the advisory.

  “My first reaction was, what are we going to do? I'm responsible for over 5,000 kids here in Flint.”

• District asks parents to supply bottled water, but knows not every parent can afford this and asks for water bottle donations. ??
Help for the Schools?

• By May, 2016, 9 school nurses were finally trained and placed in the Flint Community Schools.

• Funding was increased for Head Start and Early On. Pre-existing participation was only 20% or less.
Racial & Cultural Barriers

- Pre-existing lack of trust

- Pre-existing stigma regarding mental health services & interventions, i.e., about just being “drugged up”

- Conspiracy theories & beliefs

- Need for culturally sensitive information, i.e., foods & nutrition
Public Health Information: Barriers

• NASW Task Force Greatest Injustice: Still households who didn’t know
• Need to provide accurate, understandable information at 5\textsuperscript{th} grade reading level to protect health and restore trust

• Lack of access to information:
  • Cable TV, News, Newspapers
    Much internet based information:
    50% lacked internet
    Use of Radios stations??
Information

Just don’t let kids drink the bath water?
Bathing: What about the skin rashes?

THE FACTS

• DO NOT BATH IN THE WATER.
• DO NOT USE THE WATER TO BRUSH YOUR TEETH.
• DO NOT CONSUME ANY ICE MADE FROM THE WATER.
• BOILING THE WATER DOES NOT DECREASE THE AMOUNT OF LEAD.

#FLINTWATERCRISIS

Steve Garvey Posting
Failure to Support Health Care Providers

Psychological First Aid?

“There is no peace of mind. We have to worry about our students and then go home and worry about our own children.”
Karen Christian
elementary school teacher
A Message from a Flint Health Care Provider

I am sorry for the delay in my response. In truth, since I am a Flint resident and working in Flint Schools, I think I have been a bit befuddled myself about the situation.

One thing I think could be helpful is to have training re: the effects of lead, what to look for in behavior. Some ideas about best practices in dealing with these issues, possibly some resources to use with parents in helping to educate.

We also could use some advocacy re: need for social work services in the schools. They are providing additional nursing services but nothing has been said about additional social work, and learning support services.
“Look for the helpers, you will always find people who are helping.”

“We will need funding for medical homes, school nurses, school social workers, teachers and programs to provide as many safe grown-ups as we can find to let these children know that “it’s ok to feel scared, it’s ok to feel sad, and it’s ok to be who you are because you did nothing wrong. And, I will take care of you.” These children will need helpers in every developmental stage of their life.”

Beverly Davidson, LMSW
The Crisis Response
Social Work Heroes of the Flint Water Crisis

Michael Hood & Laurie Carpenter
Crossing Water

Kenyetta Dotson
Genesee Health Systems
WOW

Allan WachENDORFer
NASW
Crossing Water

Ella Greene-Moten
MABSW

Senator Debbie Stabenow
Water Resources Development Act

Libby Nealis
SSWAA/NEA
Lobbyist

Beverly Davidson
Crossing Water Volunteer
Blogger

Elizabeth Burtch
Genesee Health Systems

Bryanna McGarry
Policy Analyst Michigan
Senate Democrats
American Academy of Pediatrics

"Health and human rights are interrelated. When human rights are promoted, health is promoted... Physicians have an important role to play in promoting health and human rights, and addressing social inequities." *Ethics Manual*, Sixth Edition.
Rapid Response Service Teams (RRSTs)
A Flint Model

- Ideal: 3 members, a social worker, health care provider & one additional
- 4-6 hour shifts
- Assess/Meet needs /Restore of trust
- Two hour orientation for ALL volunteers
- Safety paramount: training in safety assessment for each stop, never alone, calling in when changing location
- Teams visit pre-screened homes (referrals)
- Data sheet on each home before deployment
- Data sheet updated each visit, evolves to reflect needs
- Debriefing and food after each shift
RSST Tasks

“We’re not from the government, we’re here to help”

• Provide “concrete” assistance: Deliver water, filters, hand sanitizer, baby wipes (waterless bathing), diapers, bus passes
• Provide and install faucet filters, replace expired filters. identify homes with incompatible faucets, other repairs
• Resource Binders: Information sheets on understanding the water & water testing, legal services, nutrition, food pantries, water access sites, medical, water testing etc.
• Mental and physical health “assessments”
• Take new referrals
• LISTEN
Crossing Water: RSST
Memorable Experiences

• Living conditions: People living with no heat or water
• Isolated seniors, disabled individuals/couples with no transportation
• People with skin rashes of unknown origin
• People fearful of strangers & letting them into their homes.
• Visits that led to serious concerns about the welfare of children or older adults
• Anxiety/fear of running out of water (“water hoarding”)
• Examples of Resilience!
Flint: February, 2017

- Filtered water is declared by MDE/EPA as “safe to drink”
- Dissent of Genesee County Medical Society.
  - Pregnant and nursing mothers and children under six years should continue to use bottled water
- Residents continue to struggle with filters
- Talk of ending bottled water distribution (3 existing sites)
- Flint mayor is fighting to continue state water subsidies
- Installation of new pipes: 800 homes: more destabilization?
- RRST teams continue to find homes who have not accessed resources and residents who don’t understand the water problems
- Lack of school-based supports
Flint Three Years After Water Crisis
City Struggling to Move On

When will trust be restored?

- Many Flint residents remain afraid to drink tap water, even with a filter.
- Fear of destabilization: new pipes, new pipeline
- Flint State Senator Jim Ananich
Maintaining Hope

This crisis could be seen as a unique opportunity to address systemic racism & be proactive, to improve the knowledge base for public health programs.

Over time, the cumulative impact of positive experiences and coping skills can shift the fulcrum’s position, making it easier to achieve positive outcomes.

http://developingchild.harvard.edu/resources/inbrief-resilience-series/
What can you do?

• Advocate & Educate!
• About the need for ongoing, increased services in Flint
• About the role of systemic racism and implicit bias: speak up!
• Volunteer: Crossing Water  www.facebook.com/Crossingwater
• Donate: https://www.crowdrise.com/crossingwaterworkingforflint
• Support legislation & policies addressing the Water Crisis,
• Pay dues to your professional associations! They pay for advocacy and lobbying efforts at the state and national level
• Contact: Donna Secor Pennington donna.secorpennington@wmich.edu
Action indeed is the sole medium of expression for ethics.

— Jane Addams —
References

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• American Psychological Association: http://www.apa.org
• National Society of Professional Engineers: https://www.nspe.org/resources/ethics/code-ethics
• Crossing Water: http://crossingwater.org/#home
Videos

ACLU: Hard to Swallow
http://www.aclumich.org/article/hard-swallow-toxic-water-toxic-system-flint

What Life is Like in Flint: 3 Years into the Water Crisis
https://www.youtube.com/watch?v=tL6nBcsHgVM

VT Professor’s Opening Statement re: Water Crisis in Flint, MI
https://www.youtube.com/watch?v=S5B1YKM0ndE

Dr. Mona Hanna-Attisha Press Conference
https://www.youtube.com/results?search_query=Hurley+doctor+recommends+switching+back+to+Flint+river

Crossing Water: Deployments 8.27.16
https://www.youtube.com/