

# Evaluating Drinking Water Infrastructure in Allegheny County Schools: A Community-Based Approach to Environmental Health

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## Background

The “1000 Hours a Year Program” by Women for a Healthy Environment (WHE) is dedicated to mitigating **environmental health hazards** in **schools**, including **lead and radon exposure in drinking water**. Lead contamination in school water systems remains a significant public health concern, with potential adverse effects on children’s **behavioral and cognitive development**. This project specifically targets schools within **Allegheny County** to understand the historical contexts and ongoing challenges related to water fountain infrastructure and lead remediation efforts.

## Objectives

1. **Investigate** the current age, type, and condition of drinking water fountains in select Allegheny County Schools.
2. **Evaluate** the effectiveness of WHE’s interventions, such as provision of new hydration stations, in upgrading school water infrastructure.
3. **Engage** school administrators and staff to understand their perspectives on water quality, maintenance practices, and usage patterns of drinking water sources.

## Methods

- Data was primarily collected through:
1. **Interviews:** Seven formal interviews with school administrators focused on historical lead testing and remediation efforts, maintenance protocols, and challenges.
  2. **School Visits:** Five on-site visits to schools involved interviews and assessment of upgraded water infrastructure.
  3. **Educational Discussion:** Facilitated a presentation on Water Quality to the Boys and Girls Club of Western PA.

## Results

**Despite Elevated Lead Results, the Majority of Schools Did Not Complete Remediation**  
 Among 43 Allegheny County School Districts, 95% conducted lead testing in water, yet only 40% documented completed remediation efforts

Graph I: School Districts Lead Tested vs. Remediated

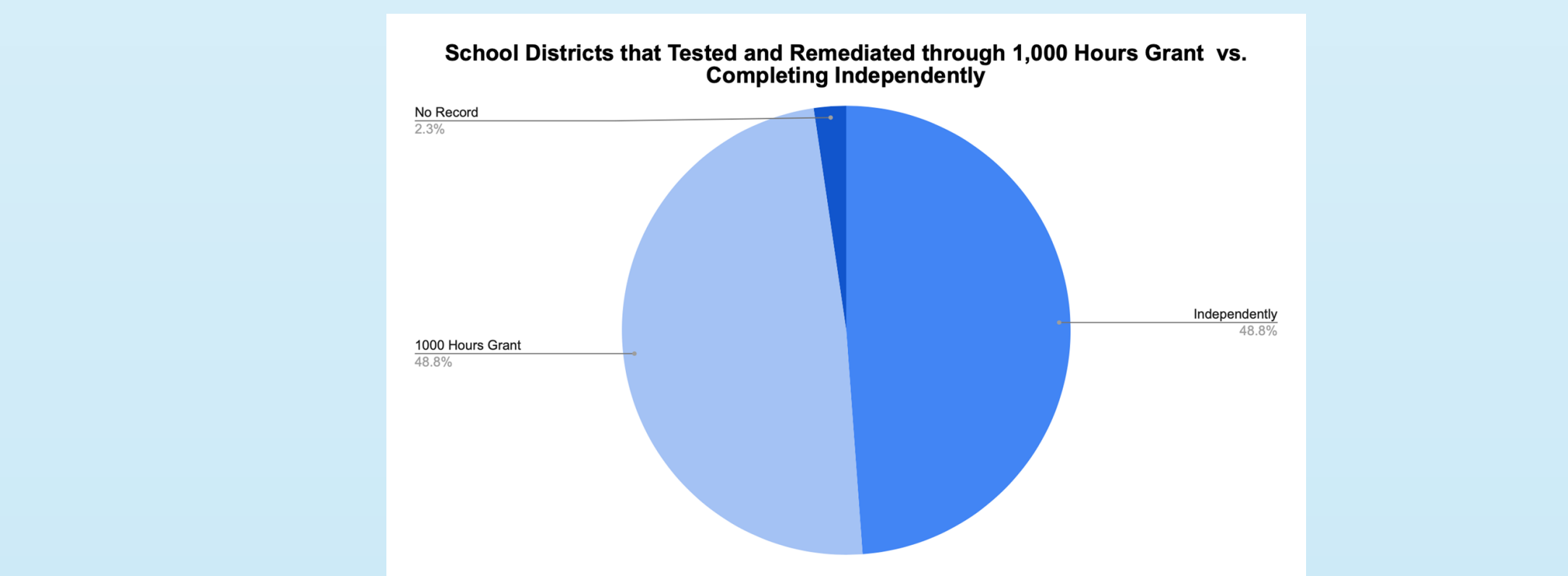
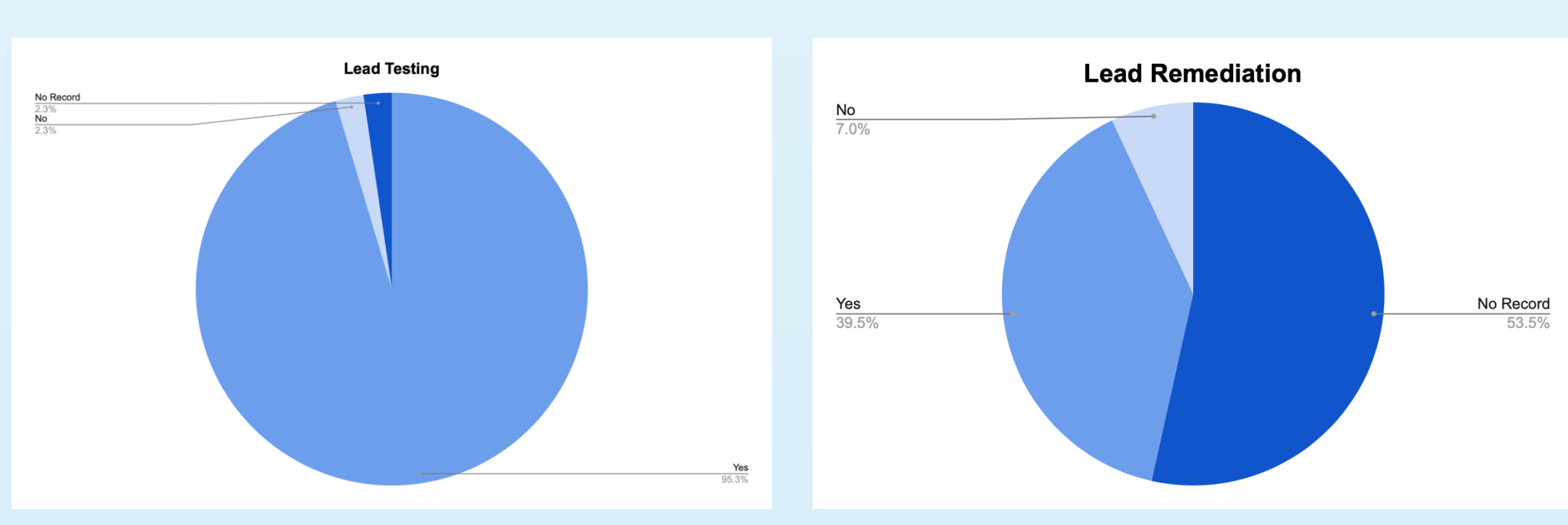


Figure I: School Districts and Environmental Justice Areas in Allegheny County

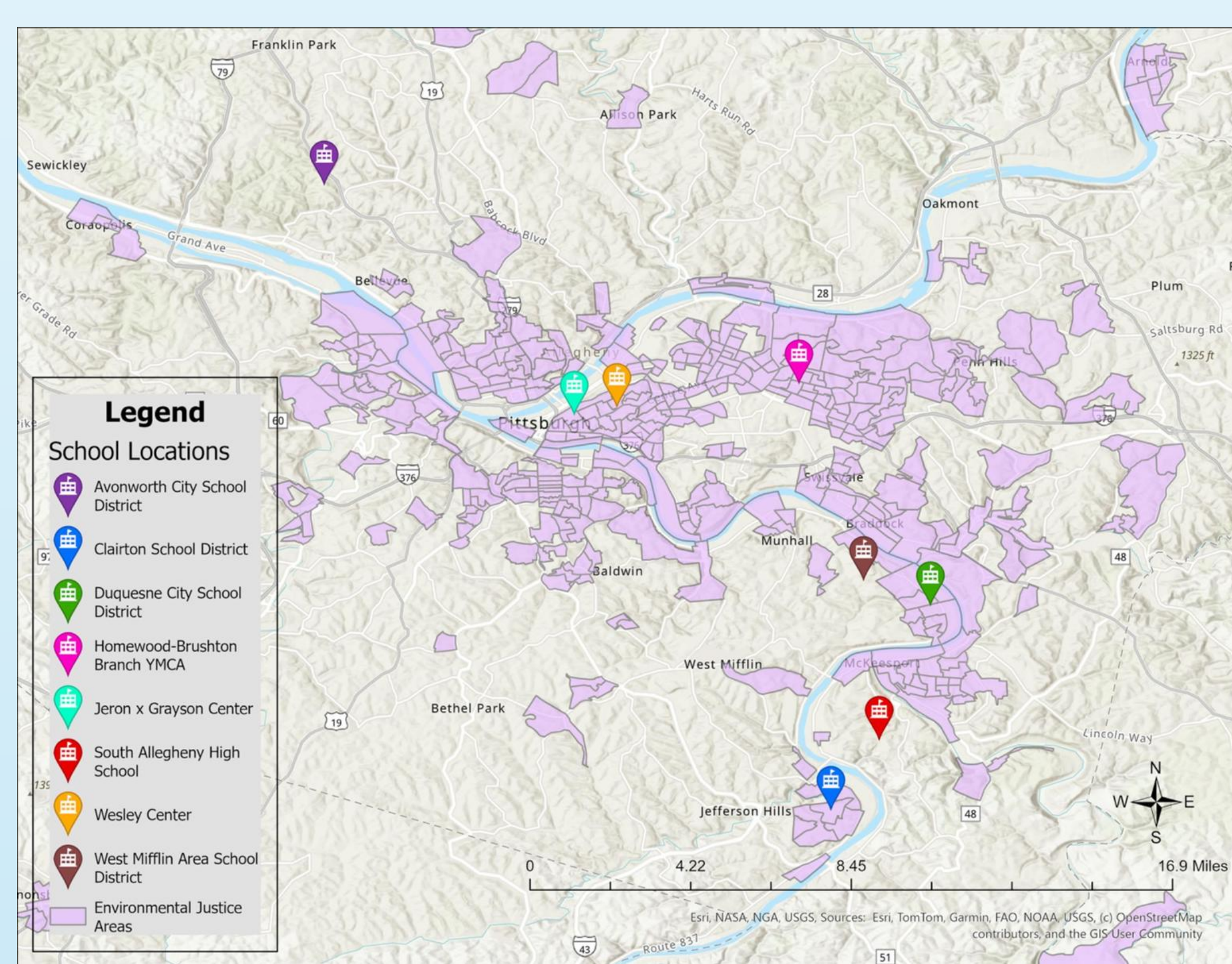


Figure II: Old Water Infrastructure



Figure III: New Water Infrastructure

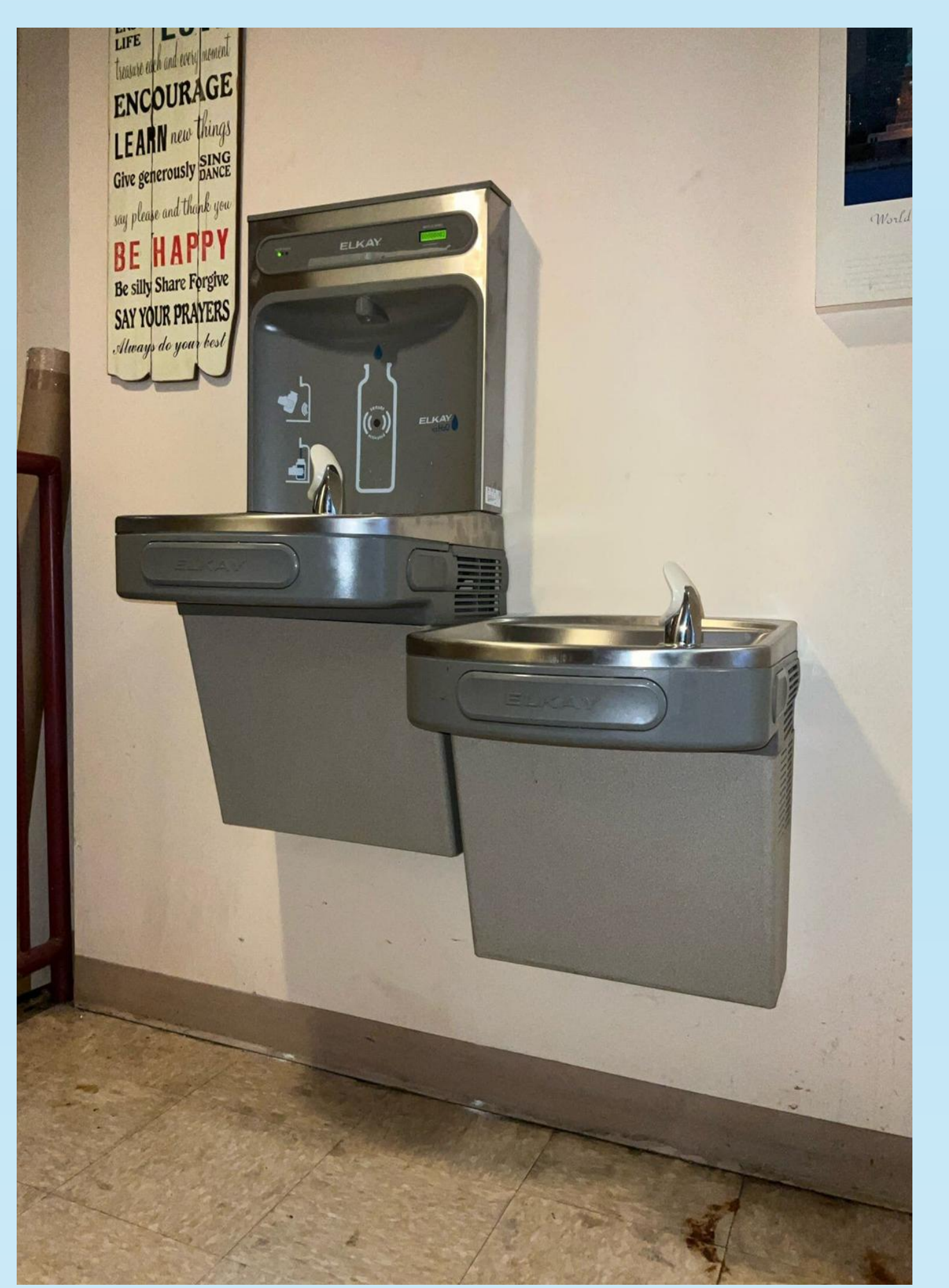


Table I: Assessment of School Interviews

School Name	Maintenance Frequency	Challenges	Important Remarks
Avonworth School District	As needed basis	The barriers to conducting regular testing and maintenance of water fountains are funding.	The aging infrastructure pose continuous challenges
Clairton School District	Did Not Know	The barriers to conducting regular water testing are funding due to the district being "the second poorest in Allegheny county and the seventh poorest in the state."	The athletic weight rooms in the basement of the building contain water fountains that are older than 1968.
Duquesne City School District	Cleaned every day by custodial staff.	The barriers to conducting regular testing are funding due to the school being grant funded or private.	Prior to the WHE infrastructure upgrades last summer, the water fountains were 27 years old.
YMCA Homeewood	Cleaned every day, do quarterly checks for water fountains.	The barriers in upgrading drinking water infrastructure is funding since the YMCA receives non-profit funds.	There is a lack of knowledge regarding how to maintain water fountains in which support is needed for testing water since the building was built 12 years ago.
Jeron x Grayson Center/Wesley Center	Did Not Know	The barriers to conducting regular water testing are funding.	The challenges in maintaining the water infrastructure is the lack of knowledge regarding the upkeep and maintenance such as changing the filter, the brand of the fountain, etc.
South Allegheny School District	Cleaned daily by custodial staff	The challenges regarding maintaining or upgrading the water fountains are funding.	The resources most helpful to ensure that students have consistent access to clean and safe drinking water are education
West Mifflin Area School District	Cleaned daily by maintenance team	The barriers regarding conducting maintenance of water fountains are funding.	The challenges regarding maintenance or upgrading water infrastructure is "manpower" or personnel for general upkeep of the fountains.

## Conclusion and Discussion

- Safer water fountains can lead to **decreased plastic bottle usage**, reducing potential toxins to students and improvement of environmental quality.
- **Funding limitations** for both installation and ongoing filter maintenance across all schools.
- Significant **lack of consistent protocols and knowledge** regarding filter change frequency and general maintenance.
- Critical need for the **improvement of equitable standards and policies** that foster healthy learning environments.
- Importance of **external support** in infrastructure improvements - specifically WHE targeting school districts without documented lead remediation through new grant opportunities.
- For future recommendations, implementing **water management protocols** regarding maintenance procedures are critical applications for WHE .

## Public Health Relevance

Identifying the schools lacking documented lead remediation shows the critical **public health gap and inequity in Allegheny County**. There is a profound need to increase **lead testing and remediation efforts**, in order to improve the **accessibility** to safe drinking water infrastructure. Ultimately, this will **positively contribute to children’s long-term neurodevelopmental and reproductive health**.

## References

For references and interview questions, scan this code.



## Acknowledgements

I would like to express my sincere gratitude to Women for a Healthy Environment for hosting this internship. Special thanks to Dr. Maureen Lichtveld, Dr. Jeanine M. Buchanich, Dr. Grace Drnach-Bonaventura, Ms. Terri Washington, Mr. Ryan Gordon, and the CDC John R. Lewis Undergraduate Public Health Scholars Program for this opportunity.