

Municipal Water Reuse Health Impact Assessments

What did we learn?

November 9, 2017 ♦ Manhattan, Kansas
Governor's Water Conference



**DO YOU CONSIDER HEALTH IN
YOUR DECISION-MAKING
ABOUT WATER ISSUES?**

HOW DOES WATER REUSE DECISION AFFECT?

Health is Broad



“

*“Evaluate the sources and potential
uses of lower quality water.”*

– The Kansas Water Vision

ACKNOWLEDGEMENTS

Project Team



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KANSAS HEALTH
FOUNDATION

FINDINGS AND RECOMMENDATIONS

- Community perception of water quality
- Water Quality
- Water Availability & Community Sustainability
- Consumption of beverages other than municipal tap water
- Cost & Utility Rates
- Guidance & Regulations



Water Quality & Community Perception of Water Quality



Finding #1: Decrease in the Community's perception of the quality of reused water if the community was not involved in the decision.



HEALTH IMPACT:
**LEAD TO AN INCREASE IN THE
CONSUMPTION OF BEVERAGES
OTHER THAN MUNICIPAL WATER**

PERCEPTION OF WATER QUALITY

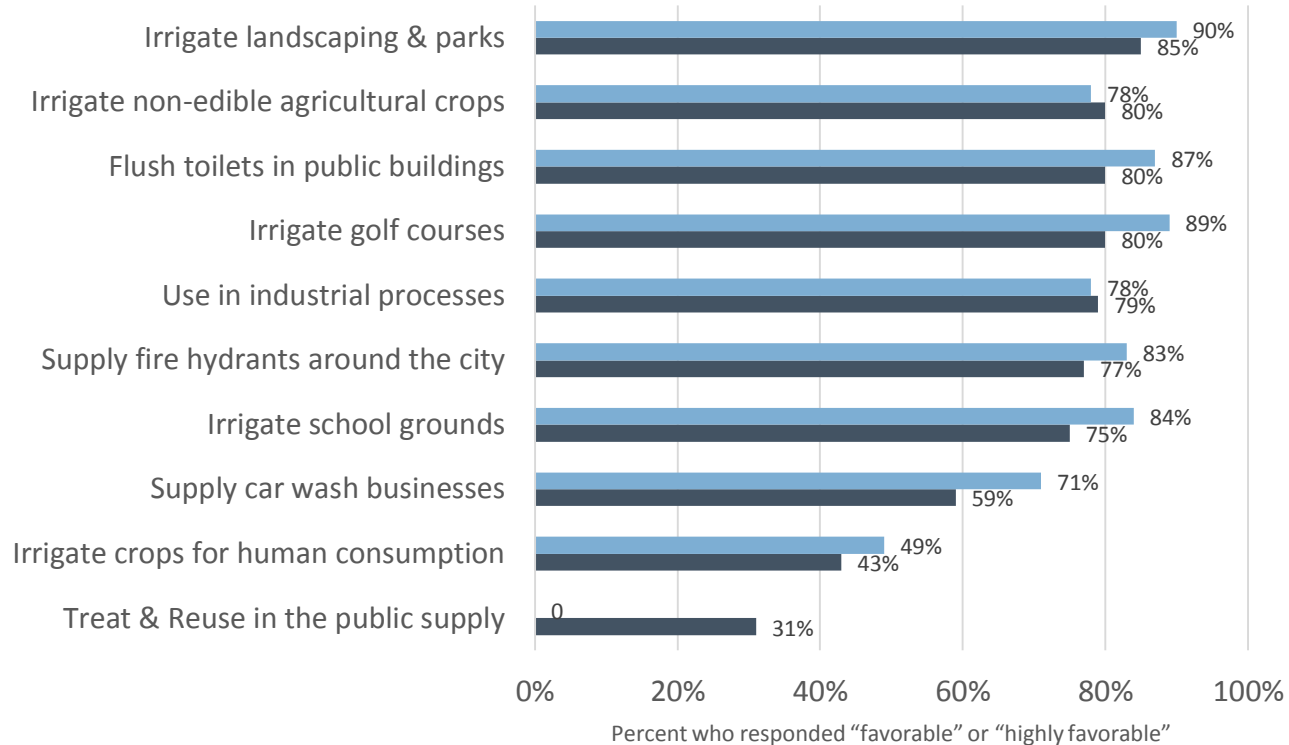
Two major components:

1. “Yuck” factor
2. Trust

- In government to make decisions with the public’s best interests in mind
- In technology to provide consistent quality product



FAVORABILITY OF WATER REUSE BY TYPE



Garden City: N = 154

Hays: N = 248

■ Hays ■ Garden City

SELECT

RECOMMENDATIONS

- Municipalities could consider:
 - Implementing targeted outreach and education campaigns about reuse and
 - Demonstrating and communicating the utility's trustworthiness in consistently providing high water quality
 - Taking steps to assess the community's perception of various types of water reuse
 - Increasing public awareness of the impact of bottled water consumption on oral health, household budgets and the environment



Guidance & Regulations



Finding #2: Consideration of new guidance and regulations that govern the use and treatment of reused water.



**HEALTH IMPACT:
REGULATIONS WILL MAINTAIN
RATHER THAN IMPROVE HEALTH**

GUIDANCE AND REGULATIONS

- Likely could include:
 - Water quality
 - Public access
 - Monitoring & reporting
- [EPA Guidelines for Water Reuse](#)



SELECT RECOMMENDATIONS

KDHE could consider

- Developing clear and consistent regulations based on the best-available science and lessons learned from Kansas reuse projects and other states
- Incorporating best practices into any new regulatory guidance
- Establishing consistent requirements for signage to limit public contact with lower-quality, non-potable reused water



WHAT CAN YOU FIND IN HIA REPORT?

- More than 50 recommendations
- HIA findings
- Community perception survey information & questionnaire
- Map of current water reuse in Kansas
- Community sustainability index & maps
- Additional data and data sources

Questions?



EVENT RECAP
November 2017
KHI.ORG

Water Reuse in Kansas: What About Health?

Decision-making often requires balancing multiple priorities, such as the availability of funding and workforce and existing regulations. In many cases, decisions made in various sectors, including energy, transportation or natural resources, can affect a community's physical environment, quality of life and health. Routinely considering health implications in decision-making can ensure that decisions do not negatively impact health. Health impact assessments (HIAs) are one tool to identify health considerations in policy-making for sectors not directly associated with health. On October 19, the Kansas Health Institute convened water experts to discuss how HIAs can be used to inform environmental and natural resource decision-making.

To demonstrate how this tool can be applied locally, KHI shared findings and recommendations of a newly released HIA, *Potential Health Effects of Municipal Water Reuse in Kansas*. Although many water-related decisions already consider public health and safety, the HIA examined health effects more broadly—beyond the prevention of acute infection from water-borne pathogens—and included what are known as the social determinants of health. The findings, presented by Carle Houchen, KHI analyst, suggest that water reuse could impact community health by affecting the following issues: water availability as it contributes to community sustainability, community perception of water quality, actual water quality, consumption of beverages other than municipal tap water, costs and utility rates, and guidance and regulations.

"Before the Water Reuse HIA, one might not have recognized potential connections between water reuse and mental health, stress, obesity and other health issues. An HIA allows a more structured approach to making decisions and a better dialogue about the tradeoffs."

— HIA Team
Kansas Health Institute



For example, if a community is not engaged in a decision to reuse water, there could be a decrease in the community's perception of the quality of water after reuse begins. This could lead to an increase in consumption of soda or other sugary drinks. A switch from water to soda or sugary beverages can increase the risk of type 2 diabetes, heart disease and other chronic conditions.

Health Impact Assessment: A New Approach for Environmental Health

Keynote speaker Florence Fuik, Ph.D., formerly of the Environmental Protection Agency (EPA), shared a national perspective on the ways in which HIAs have been used to inform environmental decisions.

- An HIA was used to inform an update to sanitary codes in Suffolk Co., New York, and helped to balance the residents' desire for independent decision-making with the need for safe sewage disposal systems.
- Persistent flooding and impaired water quality was the subject of the Proctor Creek HIA, which raised awareness about the value of green infrastructure and re-established productive communication between affected communities and the City of Atlanta, Georgia.
- The Kingsbury Bay (Duluth, Minnesota) HIA included strategies for improving health during the construction phase of habitat remediation work.

In these case studies, an HIA identified previously unrecognized health impacts (e.g., stress, injury) related to green infrastructure, sanitary code for onsite sewage disposal systems and habitat remediation and restoration.

KHI/17-31



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Informing Policy. Improving Health.

POTENTIAL HEALTH EFFECTS OF MUNICIPAL WATER REUSE IN KANSAS

Kansas Health Impact Assessment Project



OCTOBER 2017

Access Event Recap:

[http://www.khi.org/policy/article/17-](http://www.khi.org/policy/article/17-31)

[31](http://www.khi.org/policy/article/17-31)

Access full report:

www.khi.org/policy/article/WaterHIA

THANK YOU

Any questions?

You can connect with us at:

Carlie Houchen: chouchen@khi.org

Tatiana Lin: tlin@khi.org



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