Municipal Water Reuse Health Impact Assessments
What did we learn?

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Water Reuse in Kansas: What about health?
TODAY’S AGENDA

1. Learn about Water Reuse HIA study findings and recommendations
2. Identify opportunities for considering health in environmental and natural resource decisions by using health impact assessments (HIA) or their elements
3. Learn about communities’ experience with water reuse efforts
ENVIRONMENTAL DECISIONS AND HEALTH
WHAT IMPACTS OUR DECISION-MAKING?
• Decisions are shaped by multiple competing priorities

• Decisions have LARGE impact on communities
Health Impacts
KEY HIA QUESTION

How does the proposed project, plan, policy

affect

- Housing
- Air quality
- Noise
- Safety
- Social networks
- Nutrition
- Parks and natural space
- Private goods and services
- Public services
- Transportation
- Livelihood
- Water quality
- Education
- Inequities

and lead to health outcomes?
HEALTH IMPACT ASSESSMENT

1. Identifies the feasibility of HIA
2. Identifies issues for the study
3. Assesses health impacts
4. Suggests options or alternatives
5. Communicates results
6. Identifies successes & areas for improvement

Source: Kansas Health Institute, Policymaker Profile, 2015.
WATER REUSE: CONSIDERATIONS FOR HEALTH
WHY HIA TO INFORM WATER REUSE?
“Evaluate the sources and potential uses of lower quality water.”
– The Kansas Water Vision
INTENDED OUTCOMES

• A summary of where water reuse efforts are currently happening in Kansas
• Identification of existing state and local laws, guidelines and policies that support water reuse
• Identification of health impacts associated with water reuse
• Recommendations that focus on considering health in water reuse decisions
• Guidance to serve as a starting point for communities interested in beginning or expanding water reuse
• Opportunity to use HIA to inform environmental decisions
ACKNOWLEDGEMENTS

Project Team

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WHERE IS WATER REUSE HAPPENING IN KANSAS?
WHAT IS WATER REUSE?

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
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

Source: Community Surveys in Hays and Garden City, 2017.
Recommendations

• Municipalities could consider implementing targeted outreach and education campaigns about reuse
• Municipalities could consider demonstrating and communicating the utility’s trustworthiness in consistently providing high water quality
Finding #2: Reused water quality may increase, decrease, or stay the same.
HEALTH IMPACT:
AS OF DECEMBER 2016, THERE HAVE NOT BEEN ANY OUTBREAKS OF ILLNESS RELATED TO REUSE
With current technology, effluent can be treated to a quality beyond potable water standards. Some concern exists about disinfectant by-products and contaminants of emerging concern (CEC). Existing literature and data show no instances of disease outbreaks due to water reuse. Potential risk of system failure.
WATER QUALITY

Figure 1-3
Treatment technologies are available to achieve any desired level of water quality

Recommendations

• KDHE and municipalities could consider working together to identify and adhere to standards, processes, and best practices for ensuring reuse water quality
Finding #3: Costs associated with reuse may or may not increase utility rates to the customer.
HEALTH IMPACT:

IF UTILITY RATES INCREASE, THIS COULD NEGATIVELY IMPACT CERTAIN INDIVIDUALS
COST AND UTILITY RATES

• Cost varies greatly; each type of reuse has unique cost components
  – Type of reuse

• Alternative financing mechanisms
  – Share the cost
Recommendations

• Municipalities could work with partners to share the costs and benefits of reuse infrastructure (e.g., industry partners, neighboring municipalities)
• Municipalities could consider pricing water to account for scarcity
• Municipalities could consider implementing affordability programs for low-income individuals
Finding #4: 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
GUIDANCE AND REGULATIONS

Recommendations

• KDHE could consider incorporating best practices into regulatory guidance, such as:
  – Establishing public health as top priority
  – Preventing cross connections
  – Marking all non-potable components
  – Having a proactive public information program
  – Having a monitoring and surveillance program.
Questions?

Access full report: www.khi.org/policy/article/WaterHIA
HOW CAN AN HIA REPORT BE USED?

- Implement HIA recommendations
- Consider HIA findings and put mechanism in place to address them (e.g., potential impact on utility rates, changes in consumption of sugary beverages)
- Use perception survey questionnaire to engage community
- Use HIA framework to routinely understand health impacts of decisions
THANK YOU

Any questions?

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