

## ■ Commissioned Innovation Lab

# Going the “Last Mile” to Ensure Drinking Water Safety

## Recontamination en route from reliable source to point of use is a growing concern

About half of our planet’s six billion residents receive piped water. The fact that this proportion is rising steadily represents an incredible achievement. Yet as piped water access increases, problems of contamination can become more critical, with potential to harm larger populations who share a common water distribution network. To prevent waterborne diseases and outbreaks, this “Last Mile” Innovation Lab will focus on ensuring that water is safe up to the point where it is used. Water Institute researchers from the University of North Carolina Gillings School of Global Public Health are partnering with the International Association of Plumbing and Mechanical Officials (IAPMO) to find ways to reduce recontamination in utility-owned water system pipes, buildings and homes.

### Point of Delivery to Point of Use

In some places, safe water is collected from community sources only to become unfit for drinking during transport to the home. In others, safe water is delivered to a building but becomes contaminated because of inadequate or improperly modified internal plumbing.

### Where Water Safety Breaks Down

As infrastructure ages, concerns for water safety become more common and increasingly urgent. Even in the US, we cannot take clean water for granted. Causes for deteriorating water quality include:

- loss of pressure in the water distribution system, allowing contaminants to enter
- bacterial growth in plumbing systems
- contamination due to plumbing cross-connections
- broken distribution pipes or water mains breakdowns.

### Assessing an Effective Solution

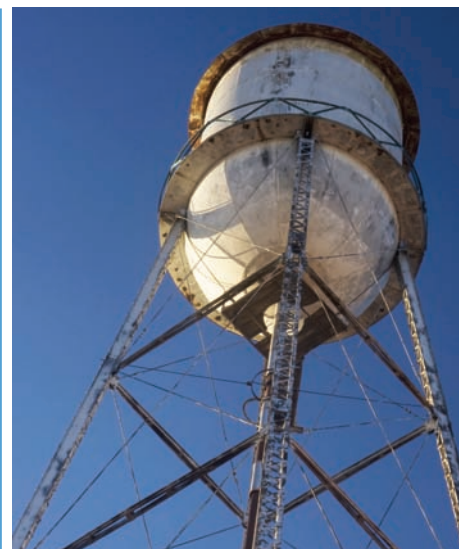
The Innovation Lab will look at the ways in which safe water is compromised during delivery and how recontamination can be prevented. Models of various strategies to improve the delivery of safe water will be compared and quantified in order to find a cost-effective, sustainable solution for the “Last Mile” of water delivery.

### Leadership



**Jamie Bartram, PhD**, Director of the Water Institute and Professor of Environmental Sciences and Engineering, formerly led water and sanitation programs at the World Health Organization. IAPMO will lend the services of **Stu Asay, PhD, PE**, one of the

world’s foremost experts in plumbing systems and the protection of potable water from contamination. Dr. Asay will work closely with Dr. Bartram’s team in the “Last Mile” research program.



#### VISION

To help government and water officials set policies and invest resources to make the greatest difference in keeping drinking water safe.

#### PARTNERSHIP

“What you are doing has put UNC a couple of steps ahead of any other university in the world in a future-oriented approach to water, health and development. We’re proud to partner with you.”

*GP Russ Chaney,  
Chief Executive Officer,  
International Association  
of Plumbing and  
Mechanical Officials*

#### IMPACT!

#### Safe, potable, drinking water

The “Last Mile” Innovation Lab will recommend new codes and regulations, enforceable standards, policy changes, technology enhancements, and education programs for water providers and consumers.

