

Water quality study shows need for testing at state migrant camps

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The drinking water at one-third of migrant farmworker camps in eastern North Carolina failed to meet state quality standards, according to a new study from Wake Forest Baptist Medical Center.

"Testing [drinking water](#) is vital to protect the public from serious diseases," said lead author Werner E. Bischoff, M.D., Ph.D., [health system epidemiologist](#) at Wake Forest Baptist. "[Contaminated water](#) puts the health of the workers who drink it at risk. It also puts the health of the surrounding community at risk because they may be drinking and bathing in water from the same sources."

The aim of the study was to assess water quality in North Carolina migrant farmworker camps and determine associations with camp housing characteristics based on N.C. Department of Labor standards. The study published online in August ahead of print in the [American Journal of Public Health](#).

Researchers questioned two workers in each camp about housing. They used N.C. Department of Environment & Natural Resources guidelines to collect water samples in each camp. The water samples were tested in state-certified labs to check for total coliform bacteria and *E. coli*. The researchers looked at many factors for each camp that could affect water safety. These included housing conditions and distance from animal barns. They also examined whether each camp had a Certificate of Inspection from the N.C. Department of Labor, and whether the source of the camp's water was a "non-transient, non-community (NTNC)

public water system."

Sixty-one of the 181 camps studied during the 2010 agricultural season failed to meet state [water quality](#) requirements. Located in 16 eastern counties, water in these camps failed the test for total coliform bacteria, meaning that the levels of bacteria in the water were high enough to cause health concerns. Two of the camps also had *E. coli* in the water. Coliform bacteria are indicators of contamination from human and animal waste and signal the presence of [disease](#)-causing germs in the water, said study principal investigator Thomas A. Arcury, Ph.D. Arcury is the director of the Center for Worker Health at Wake Forest Baptist which administered the study.

Safe drinking water in the camps can be achieved, he said, with stronger enforcement, more monitoring and changes to the regulations such as testing during occupancy. Arcury said that often when the water is tested before occupancy, no problems are revealed, but additional testing during occupancy would help address problems when they arise.

Water polluted by human or animal waste can cause serious health problems, including diarrhea, vomiting and dehydration, as well as hepatitis A, Legionnaires' disease and cholera, Bischoff said. "When a [water](#) system is polluted, large numbers of people can get sick."

Provided by Wake Forest University Baptist Medical Center

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