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Collaborative Investigation of Water Quality in a Community Bordering Landfills

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Background and Objective: The Rogers-Eubanks community is a historically black neighborhood that predates the Orange County Municipal Landfill sited along its border in 1972. The Rogers-Eubanks Neighborhood Association (RENA) collaborated with scientists at the University of North Carolina (UNC) at Chapel Hill with the aim of investigating long-time concerns of public health and well-water quality in their community.

Methods: Utilizing a community-driven research approach, RENA members and UNC researchers surveyed households to collect information about signs of private well vulnerability and septic system failure, and collected and analyzed community drinking water samples for microbial water quality.

Results: Study partners surveyed a total of 27 households. All households with a private well reported one or more signs of well vulnerability, and 68 percent of households with private septic systems reported one or more signs of failure. Partners collected and analyzed drinking water samples from 20 households. There was evidence of higher drinking water turbidity and fecal coliform concentrations at households with private wells than at those with regulated public water. Levels of fecal coliform and *E. coli* in household well water exceeded the maximum contaminant limit (MCL) of zero, and enterococci levels suggest fecal contamination of household drinking water supplies.

Conclusions: The results of this collaborative study provide evidence of noncompliance with federal public health statutes and a difference between the quality of private well water and regulated public water in the Rogers-Eubanks community. These results led to community actions to encourage compliance and initiated a dialogue with national public health and environmental policy leaders.

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