TITLE: Domestic Well Testing Data from Real Estate Transactions: A Data Source for Arsenic, Nitrate and Coliform Contaminants in Private Well Water

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STUDENT SUBMISSION: No

TOPIC/TARGET AUDIENCE: Topic: Private domestic well water contaminants and stewardship.

Audience: Environmental public health professionals, policy makers

ABSTRACT: Background: Nearly 1 million Oregon residents rely on private wells as a water source. The EPA does not regulate private domestic wells under the Federal Safe Drinking Water Act. The Oregon Domestic Well Testing Act (DWTA) requires testing for arsenic, nitrates and total coliform bacteria at the point of a real estate transaction. Aim: To identify populations at risk of arsenic, nitrate and coliform contamination in unregulated domestic well water. Approach: Analyze DWTA test results for private domestic well water contaminants, compare them to the EPA maximum contaminant levels (MCLs) for drinking water and conduct a geospatial analysis. Results: Of the 11,596 arsenic test results in the RET database, 5.8% (671) exceeded the MCL of 10 ppb. Of the 25,778 nitrate test results, 5.4% (1381) exceeded the MCL of 10 ppm. Mapping of arsenic and nitrate test results suggests clustering of high values in areas known to be at higher risk because of underlying geology or human activity. Of the 28,943 coliform bacteria samples in the RET database, 10.5% (3,051) were positive for coliform bacteria. Relevance: This public health surveillance data tool informs environmental hazard assessments, helps identify vulnerable populations and target public health outreach for private well stewardship.

OBJECTIVE(S): After hearing this presentation, learners will be able to:

Describe the Domestic Well Testing Act (ORS 448.271) and name at least 3 potential hazards related to drinking water from private domestic wells in Oregon.

Explain Oregon’s Domestic Well Safety Program outcomes and goals.

Identify how public health agencies can work with local partners to promote domestic well safety and increase outreach to vulnerable populations.