

2-4-2011

Well Water Safety: A Study in Public Awareness

Naiara Barbosa

Griffin Boll


Chantell Hemsley

John Hoyt

Michael Lahey

See next page for additional authors

Follow this and additional works at: http://scholarworks.uvm.edu/comphp_gallery

 Part of the [Community Health and Preventive Medicine Commons](#), and the [Health Services Research Commons](#)

Recommended Citation

Barbosa, Naiara; Boll, Griffin; Hemsley, Chantell; Hoyt, John; Lahey, Michael; Hoffman-Contois, Razelle; Bress, William; and Carney, Jan, "Well Water Safety: A Study in Public Awareness" (2011). *Public Health Projects, 2008-present*. Book 63.
http://scholarworks.uvm.edu/comphp_gallery/63

This Article is brought to you for free and open access by the Public Health Projects, University of Vermont College of Medicine at ScholarWorks @ UVM. It has been accepted for inclusion in Public Health Projects, 2008-present by an authorized administrator of ScholarWorks @ UVM. For more information, please contact donna.omalley@uvm.edu.

Authors

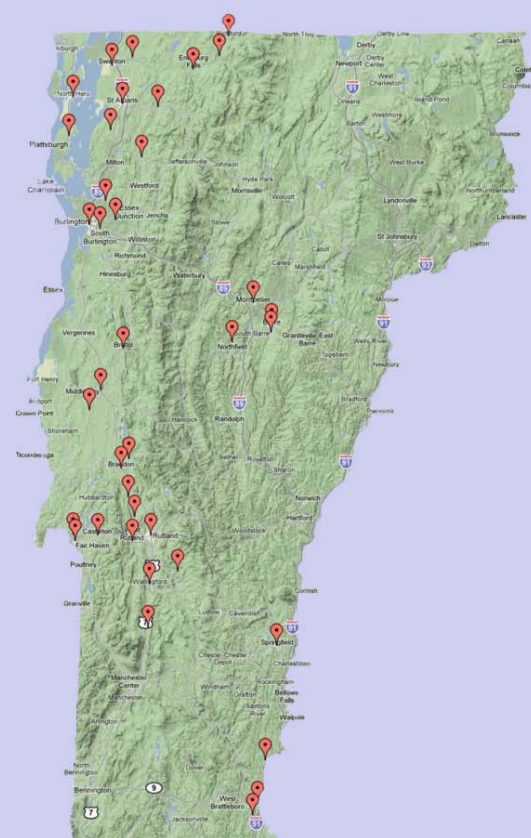
Naiara Barbosa, Griffin Boll, Chantell Hemsley, John Hoyt, Michael Lahey, Razelle Hoffman-Contois, William Bress, and Jan Carney

INTRODUCTION

Although 30-50% of Vermont citizens rely on private wells for drinking water, there is no state requirement for regular contaminant testing⁵. As a consequence, it is possible that private well users may be exposed to a variety of potential health hazards, including bacteria, arsenic, fluoride, and radionuclides⁵. Our group sought to better understand public awareness of testing recommendations, how often private well users have their wells tested, and what obstacles may be keeping them from doing so. With this information we hope to learn more about how Vermonters are using private wells, and how we can better serve public health in Vermont.

METHODS

- Surveys were distributed at Department of Health local offices across the state, Vermont state voting locations and at the Thomas Chittenden Health Center and were voluntarily completed in October and November, 2010.
- In total 284 surveys were included in the study, including 127 using private water sources.
- Graphs were created using Excel. Analytical statistics were completed using an online chi-square calculator from the University of Kansas.¹



RESULTS

Figure 1: Private Water Source Testing Frequency

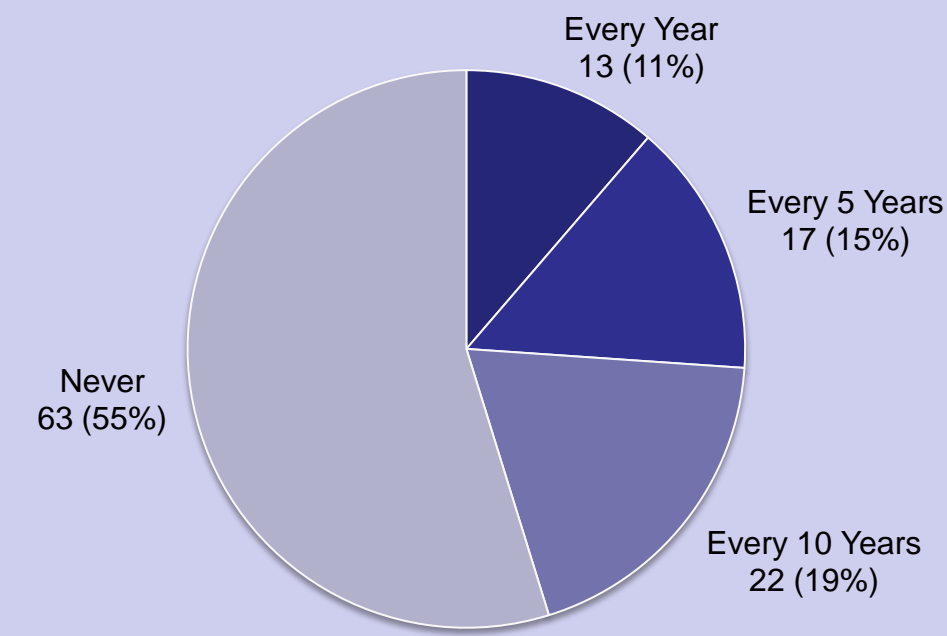


Figure 3: Testing by Education Level

Yates chi-square = 6.732; Yates p-value = 0.009

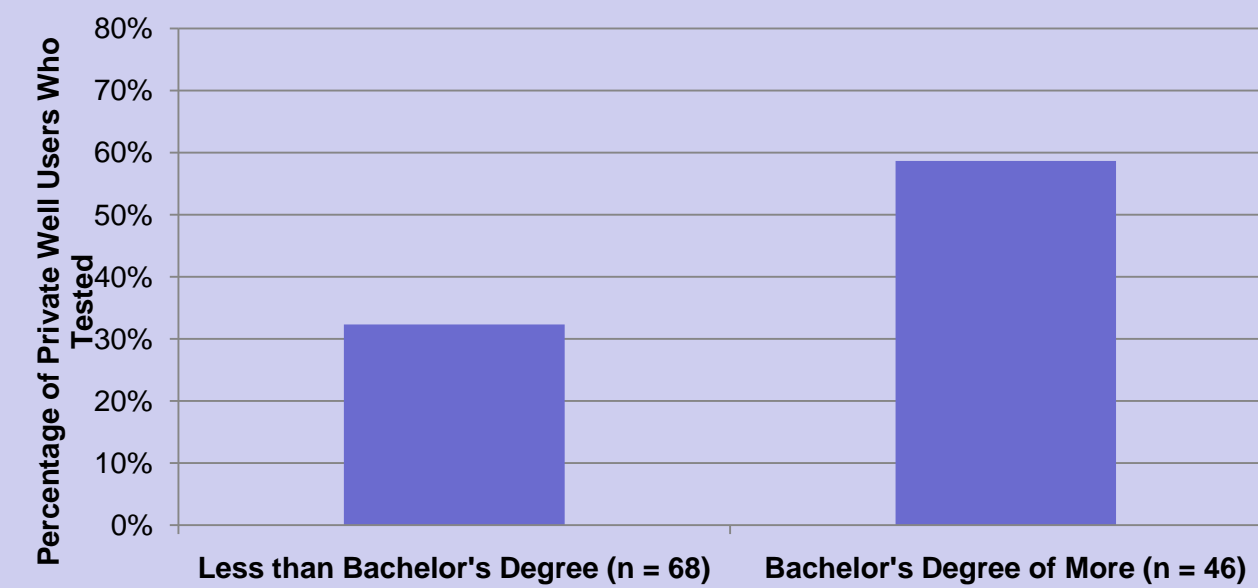


Figure 5: Use of Bottled Water by Water Source

Yates chi-square = 8.915; Yates p-value = 0.030

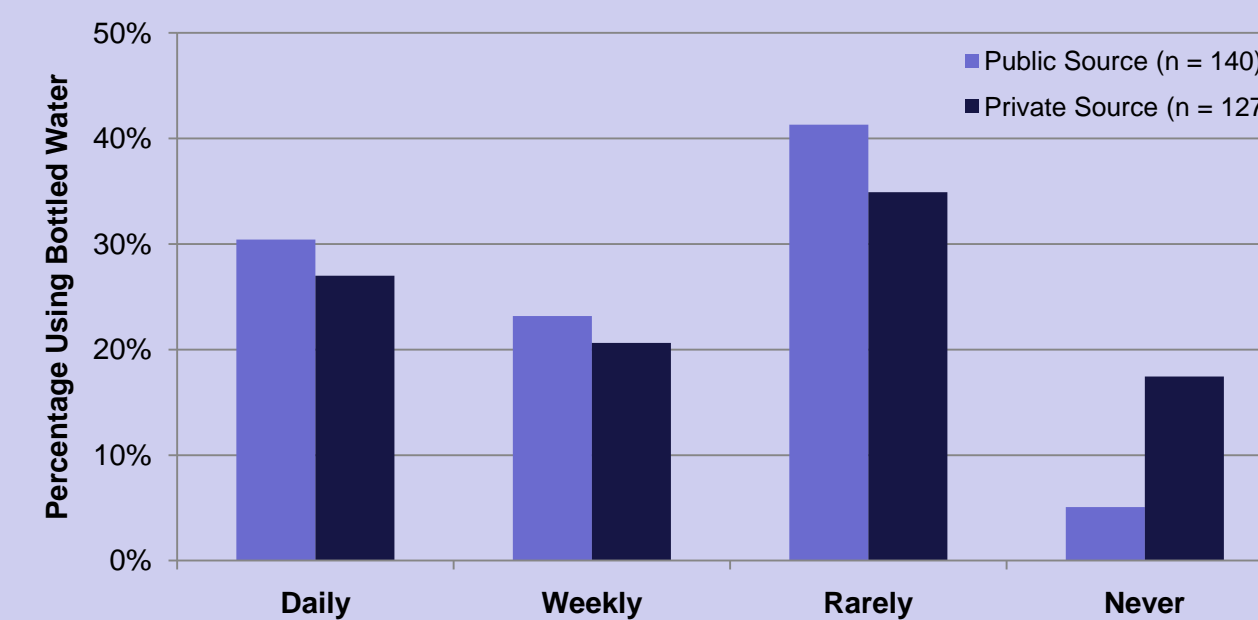


Figure 2: Testing by Children in the Household

Yates chi-square = 5.627; Yates p-value = 0.018

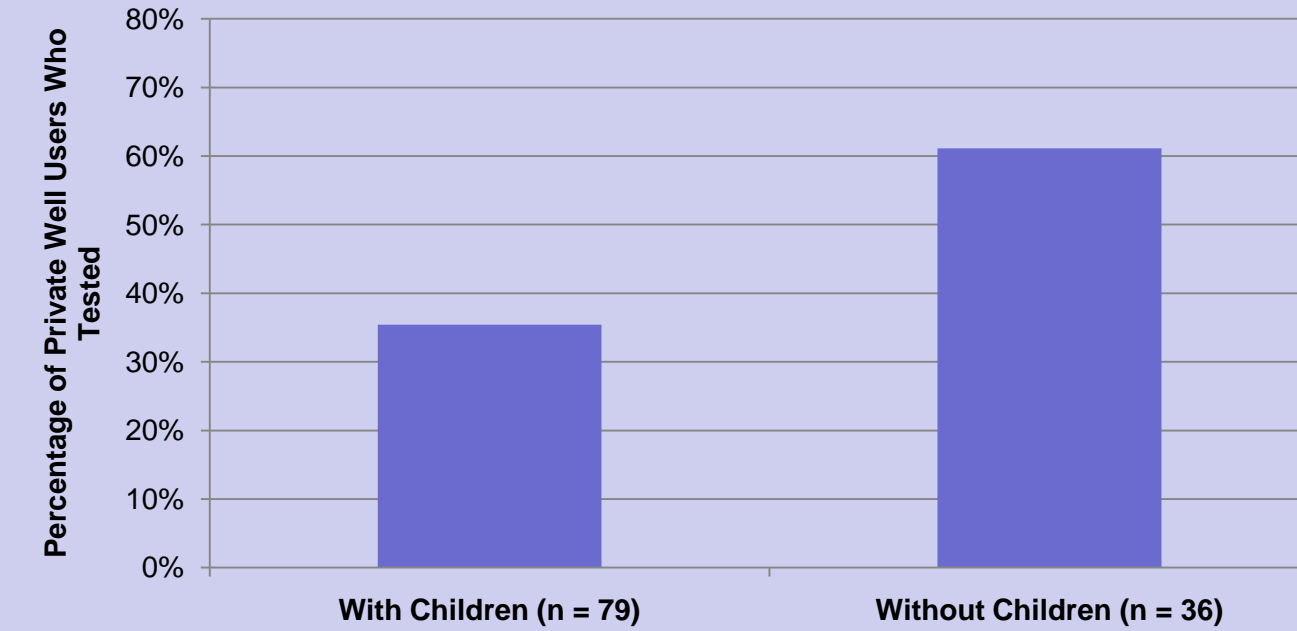


Figure 4: Reasons for Not Testing by Education Level

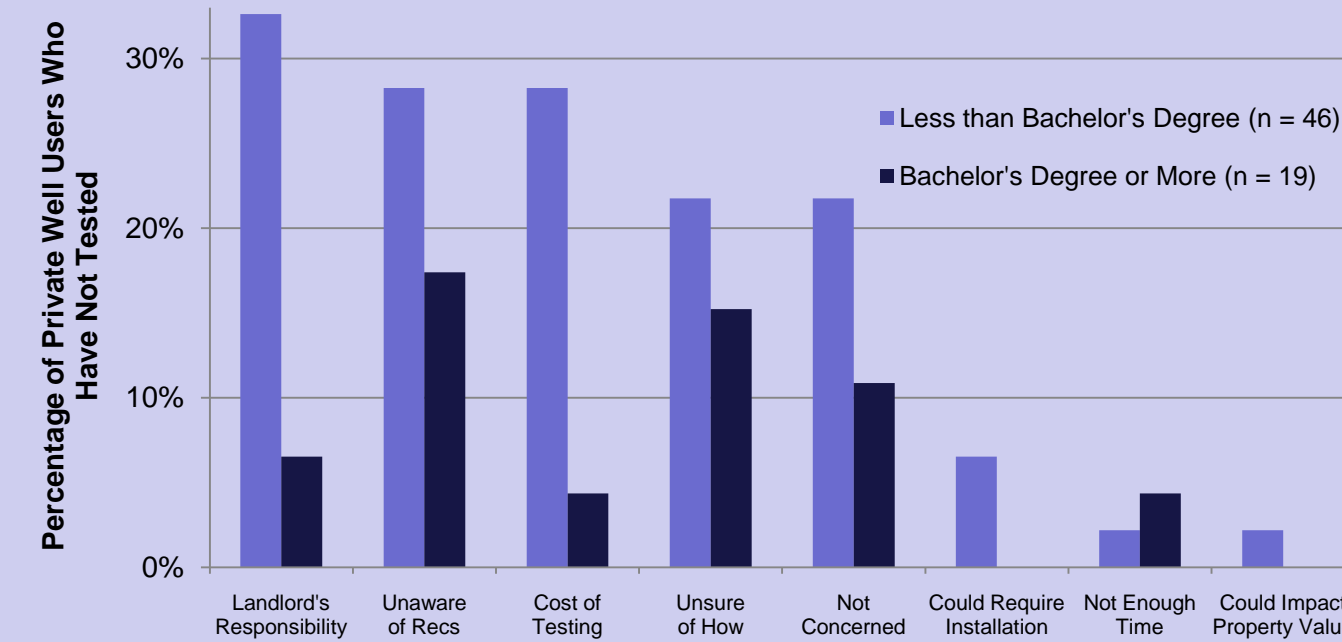
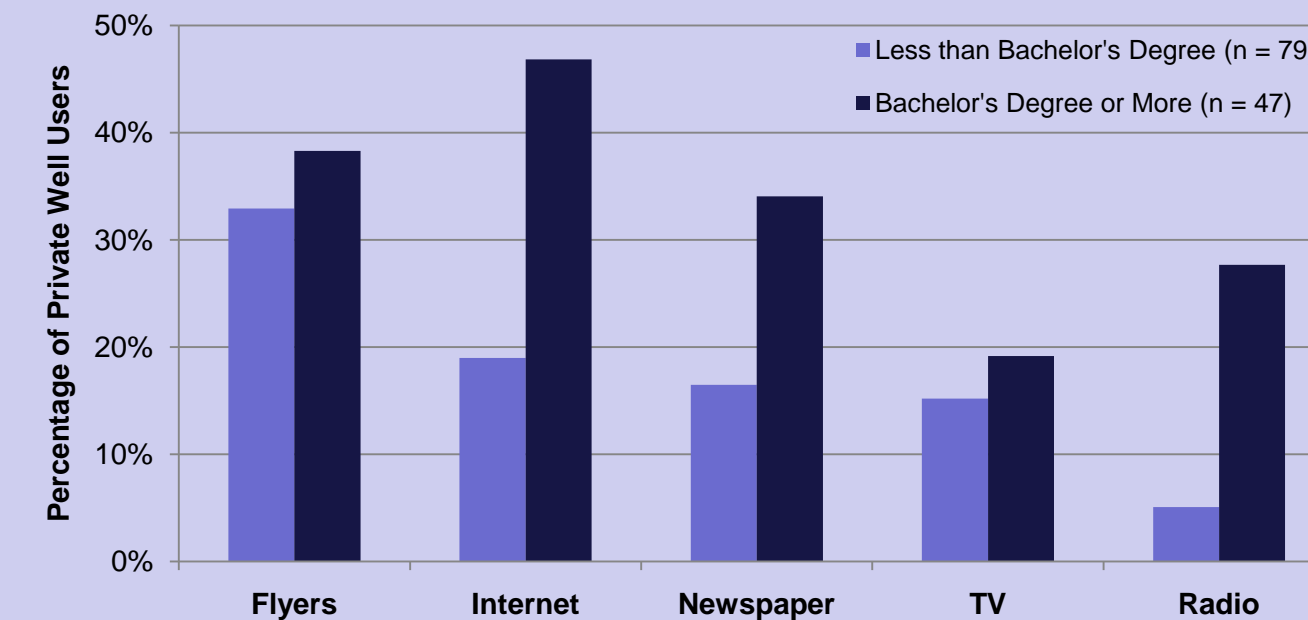


Figure 6: Preferences for Additional Information by Education Level



DISCUSSION

- Our study shows that over half of private water users do not test their water, which puts them at risk of potential exposure to drinking water contaminants.
- Education level seems to play a significant role in water testing, awareness of testing recommendations, and the barriers to testing.
- Less educated populations may be more likely to rely on a landlord for testing, to not be concerned about water quality, and to be unaware of testing recommendations.
- According to the respondents, having free water testing and more information available through flyers and the internet would be most helpful.
- Study results indicate that additional education should be focused on households with children, as children may be especially vulnerable.
- Visible public education, specifically using flyers and internet, is needed.

REFERENCES

1. *Calculation for the Chi-Square Test*. University of Kansas Website. 2010. Web. <<http://www.people.ku.edu/~preacher/chisq/chisq.htm>>.
2. Jones, Andria, Catherine Dewey, Kathryn Dore, Shannon Majowicz, and Scott McEewn. "Public perceptions of drinking water: a postal survey of residents with private water supplies." *BMC Public Health* 6.94 (2006)
3. "Radioactivity - Naturally Occurring in Rock, Soil and Water." *Vermont Geological Survey*. the Division of Geology and Mineral Resources in the Department of Environmental Conservation, 2002. Web. <<http://www.anr.state.vt.us/dec/geo/radindex.htm>>.
4. "Testing Your Water." *Vermont Department of Health*. Vermont Government Website, 2005. Web. <http://healthvermont.gov/enviro/ph_lab/water_test.aspx>.
5. *Vermont Department of Health*. Vermont Government Website, 2010. Web. <<http://www.healthvermont.gov/>>.