

## MEMORANDUM

DATE: May 8, 2017

TO: Virginia Department of Planning and Budget

FROM: Virginia Department of Health

SUBJECT: Board of Health Rules and Regulations Governing Campgrounds 12VAC5-450  
Action 4554 / Stage 7790

---

The Virginia Department of Health (VDH) concurs, in part, with the findings of the Department of Planning and Budget's (DPB) analysis of the Board of Health Rules and Regulations Governing Campgrounds 12VAC5-450.

As part of the analysis, DPB raised concerns as to whether the cost would outweigh the benefit of a few of VDH's proposed regulatory revisions. Specifically, concerns regarding those revisions that would require campground operators who utilize private wells to test those wells for nitrates and coliform bacteria and the cost associated with replacing or modifying open-bin type ice machines so as to prevent exposing campers to bacteria.

Per the proposed regulations, campground operators will be required to comply with new provisions for private well water quality testing, as well as the prohibition of open-bin type ice machines. These new provisions are intended to decrease the risk of waterborne infections in campers who use campground water supplies and to decrease the risk of nitrate toxicity (methemoglobinemia) in infants.

Testing well water for nitrate content and total coliform would incur additional costs (\$15 to \$60 per test, per well, per year) to campground operators; however, there are two important points among many that substantiate the new proposed requirement: (1) this practice is currently required as part of the Food Regulations (12 VAC 5- 421) to ensure the safety of consumers at food establishments and is an established process to determine well water safety when potentially the food establishment is the only source of water for the consumer similar to that of a camper at a campground and (2) the testing of well water to prevent nitrate toxicity in small children is strongly recommended by the American Academy of Pediatrics<sup>1</sup>. By including this provision in the regulations, the Board is following a common practice "prevention" public health approach. In addition, methemoglobinemia and waterborne infections (e.g. Norovirus, *Cryptosporidium*, and *E. coli*) can be fatal. According to the Centers for Disease Control and Prevention<sup>2</sup>, Norovirus and

---

<sup>1</sup> Greer, Frank R., MD & Shannon, Michael, MD (September 01, 2015) Infant Methemoglobinemia: The Role of Dietary Nitrate in Food and Water. *Pediatrics*, Vol 11 No. 3. Doi: [10.1542/peds.2005-1497](https://doi.org/10.1542/peds.2005-1497)

<sup>2</sup> Centers for Disease Control and Prevention. (2011-2012) *2011-2012 Drinking Water-associated Outbreak Surveillance Report: Supplemental Tables*. Retrieved from <https://www.cdc.gov/healthywater/surveillance/drinking/2011-2012-tables.html>

*E. coli* accounted for over 45% of the etiologic agents associated with waterborne disease outbreaks from 2011- 2012. In 2016<sup>3</sup>, Virginia confirmed 218 cases of *Cryptosporidium* and 124 cases of *E. coli*, of which two individuals were hospitalized. The estimated costs associated with treating *E. coli* alone in 2013 was approximately \$271 million dollars nationwide, according to the United States Department of Agriculture<sup>4</sup>.

Requiring campground water supplies to comply with the requirements of the Office of Drinking Water and obtain a permit to operate a waterworks is another viable alternative. However, said requirements are more stringent, with an exponentially higher cost to the campground operator than what is currently proposed.

The proposed language regarding the replacement or modification of open-bin type ice machines is necessary to reduce the risk of waterborne infections to those campers who utilize the campground's ice supply. Open-bin type ice machines are susceptible to contamination from yeast, mold, biofilm, bacteria, and other organic and biological pollution. Many of these agents are not visible to the naked eye and could cause illness similar to those listed above. The use of an automatically-dispensing ice machine considerably decreases the risk of contamination, as it reduces the exposure of the ice to the outside environment and the hands and utensils of the campers using the machine. Lastly, the analysis also outlined several areas where the proposed regulations served as a cost savings to campgrounds. In some areas, cost savings rose to several tens of thousands of dollars. VDH has during this most recent amendment to the Regulations, attempted to remove potentially burdensome regulatory requirements with little public health significance and focus on addressing the public health impact of water and sewage at campgrounds.

Many of the day to day activities at campgrounds are small gatherings while others host events where the number of campers exceeds 40,000 over a course of several days. Each individual is susceptible to illness if exposed to contaminated water or ice. Such events could have a negative impact on not only the campground and its operator, but on travel tourism in the Commonwealth of Virginia. VDH believes that the benefits resulting from efforts designed to reduce potential events related to contaminated water sources outweigh the minimal costs associated with these efforts.

---

<sup>3</sup> Center for Disease Control and Prevention. (2016). *Morbidity and Mortality Weekly Report* [Data set Week 52]. Retrieved from : [https://wonder.cdc.gov/mmwr/mmwr morb.asp?mmwr\\_year=2016&mmwr\\_week=53](https://wonder.cdc.gov/mmwr/mmwr morb.asp?mmwr_year=2016&mmwr_week=53)

<sup>4</sup> United States Department of Agriculture. 2013 *Cost of Foodborne illness estimates for Escherichia coli O157*. [Data file]. Retrieved from <https://www.ers.usda.gov/data-products/cost-estimates-of-foodborne-illnesses/>