

New Wisconsin study on viruses in drinking water could have national impact

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A Wisconsin study that shows a connection between viruses in drinking water and human illness is likely to have a national impact and could eventually lead to federal rules requiring treatment of all public water systems, according to experts.

The research, published online Friday by the journal *Environmental Health Perspectives*, was conducted in 14 Wisconsin communities by Mark Borchardt and Susan K. Spencer, microbiologists with the Marshfield Clinic Research Foundation. Both Borchardt and Spencer now work at the U.S. Department of Agriculture's Agricultural Research Service in Marshfield.

The two-year study was among the first to closely link the presence of viruses in tap water to sickness in people drinking that water. The evidence in the study was so powerful that it resulted, even before its formal publication, in a state law in Wisconsin that required treatment of all municipal drinking water systems in the state.

That law was rescinded by the Republican-controlled state Legislature a year ago. State Rep. Erik Severson, R-Star Prairie, sponsored an amendment that removed the requirement, arguing that the rule was an unnecessary financial and bureaucratic burden on communities with already strong water standards.

At least 60 communities in Wisconsin do not treat drinking water with chlorine or ultraviolet light, both of which kill the contaminants, according to the DNR. The study found the source of viruses contaminating drinking water was likely wastewater coming from leaking sanitary sewers.

Jill Jonas, director of the state Department of Natural Resources' Bureau of Drinking Water and Groundwater, said Thursday that Borchardt's study has prompted the U.S. Environmental Protection Agency to begin a nationwide sampling program that could eventually result in a federal rule requiring treatment.

"It's a significant study that has national implications," Jonas said.

The EPA-funded study showed that:

- All 14 communities studied during the two-year project had human viruses in their tap water. Of 1,204 samples, 287, or 24 percent, were virus positive.

- The higher the virus concentration, the higher the rate of illness found in each community.
- The type of virus found in drinking water most strongly related to illness was norovirus, the same virus notorious for causing outbreaks on cruise ships.
- During one part of the study, when norovirus was very common in one community's tap water, the proportion of illness in children younger than 5 years old attributable to their drinking water could have been as high as 63 percent.

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