



If Nothing Changes, It Will Happen Again: New Zealand's Untreated Drinking Water

Fred M. Reiff, P.E.

Just over a year ago, in August 2016, I wrote about how more than 5,000 of the 14,000 residents of Havelock North—a suburb of the City of Hastings on the North Island of New Zealand—became sickened after drinking untreated [groundwater contaminated with *Campylobacter* bacteria](#), a common food- and waterborne disease-causing microorganism that is transmitted in the feces of infected persons and animals. It was New Zealand's [largest and most costly](#) drinking water outbreak. Last February, I provided an [update on a government inquiry](#) into the **avoidable outbreak**, which may have contributed to the loss of three lives. Now I will comment on the current national discussion in New Zealand about whether or not to require treatment of drinking water, which believe it or not, is still going on.



Government Inquiry and What the Experts Have to Say

The [first stage of the inquiry](#), which included extensive public hearings, focused on the cause(s) of the outbreak. The inquiry found by means of tracer dye studies that after heavy rains, runoff water contaminated a pond with sheep feces. The pond water seeped into the ground, contaminating the aquifer serving a nearby shallow-bored well that was used as a water source for the Havelock North community water system. I noted that these circumstances were “hauntingly familiar to the deadly pathogenic *E. coli* and *Campylobacter* outbreak that occurred in 2000 in Walkerton, Canada, where seven people died and thousands fell sick. In Walkerton, heavy rain washed cow manure applied as fertilizer into a municipal well whose chlorinator was not operating due to inadequate maintenance.”

[Stage 2 of the inquiry](#), which is still ongoing, is examining systemic issues and managing water supplies across New Zealand, with recommendations expected in December 2018. It began in August 2017 with [five international drinking water experts](#) discussing lessons needing to be learned from the Havelock North *Campylobacter* outbreak. Their unambiguous statements were widely reported, heavily quoted, and almost unanimous about the need for universal drinking water treatment in New Zealand, including: [Water treatment 'fundamental' to preventing contamination, say experts at Havelock North inquiry](#);

[Experts slam chlorine debate](#); and [Expert: Simple treatment would have prevented Havelock North outbreak](#). Unfortunately, experts rarely have the final word, even in a public health debate.

Lessons Learned?

Even though Havelock North and [other communities across New Zealand](#) are now chlorinating their water, and the *Campylobacter* outbreak is long over, it is clear that many residents and politicians want to [maintain or return to untreated drinking water](#), relying instead on improved water quality monitoring and source water protection—even some that were struck ill in Havelock North. One prominent politician in Napier, New Zealand, a community considering permanent chlorination of their groundwater-sourced drinking water, said “going down the route of chlorination was easy, and lazy. ‘It’s like putting a Band-aid on a sore, the sore is still there. I accept that yearly or twice a year maybe you flush the system with chlorine, but if they want to put chlorine in full time I will go hard against it.’”¹

What I stated in my [first article](#) last year still holds true in New Zealand and everywhere, “Because chlorine is both economical and effective in killing/inactivating *Campylobacter* and most other pathogenic bacteria and viruses, it can be viewed as a very inexpensive insurance policy against the high cost of waterborne illness when it is continuously applied at the proper level.” And I’m not alone. A prominent Canadian water scientist, Dr. Steve Hrudey, who is familiar with the Walkerton tragedy and recently visited New Zealand for a national water conference, compared the use of untreated water supplies to a roll of the die. “It is not a question of if somebody will get sick, but a question of when and how many ... the answer was simple—treat the water.” He also noted “It is kind of an urban myth that somehow treating water to make it safe is bad. I don’t understand that.”² I don’t understand it either, and after water supply and distribution being hailed as one of the [greatest engineering achievements of the 20th century](#), it should not be open to serious debate. Although source water protection efforts, water quality monitoring, and additional treatment measures are important in the [provision of safe drinking water](#), resisting the disinfection of a water supply is simply irresponsible from a public health perspective.

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¹ Stuart Nash vows to fight chlorination of Napier water. http://www.nzherald.co.nz/hawkes-bay-today/news/article.cfm?c_id=1503462&objectid=11899833.

² Untreated water: 'If nothing changes, it will happen again'. <http://www.radionz.co.nz/news/national/339846/untreated-water-if-nothing-changes-it-will-happen-again>.