

NUTRITIONAL SERVICES DEPARTMENT RESPONDS TO SEVERE RAIN INCIDENT IN COMOX VALLEY

When high turbidity levels in Comox Valley's water reservoir forced a boil water advisory, Nutritional Services staff at St. Joseph's Hospital respond with a contingency plan to keep the food and drink safe.



INTRODUCTION

For over 100 years, St. Joseph's General Hospital has proudly served the evolving medical needs of the residents of mid and North Vancouver island; doing so with core values of dignity, respect, compassion and excellence. Currently, the site is comprised of the hospital with its 116 acute care beds, and the Views at St. Joseph's General Hospital which contains 125 residential care beds.

St. Joseph's and thousands of other water users in the Comox Valley get their water from the Comox Lake Reservoir but when an extremely heavy rainfall event occurred from December 8-11, 2014, there was cause for concern.

Turbidity levels in both Comox Lake and the Puntledge River, from which water supplies for the Comox Valley originate, had risen above the acceptable level of one nephelometric turbidity unit (NTU) as defined by Canadian drinking water quality guidelines. At the height of the storm, the water had briefly reached 20 NTU, subsequently leveling off at around 2.8 NTU before beginning a steady decline of about 0.1 NTU every two days for the next five weeks. During this period, the turbidity of the drinking water was still too high for safe use. For the protection of human health and safety, a boil water advisory for approximately 41,000 residents was issued December 11, 2014 lasting until January 27th, 2015.

IMPACTS

The building itself was under no imminent danger but it did mean changes to the way Nutritional Services prepared patient and cafeteria foods.

Once the Island Health Medical Health Officer called the boil water advisory, staff at St. Joseph's immediately put in place their bottled water protocol, requesting their local contracted supplier deliver 108 cases of 330 ml bottled water, 20 five gallon carboys of water and six water dispensers for placement throughout the facility. Food preparation practices were also modified to comply with the order.

KEY VULNERABILITIES

Under the order, the use of tap water was permitted providing it was used in food products that would be heated sufficiently. Dishwashing was also performed using tap water because the temperature reached during the rinse process was deemed safe by authorities to kill any bacteria.

Beyond cooked food and washing dishes, St. Joseph's had the option of either using boiled water for drinking, brushing teeth, and cleaning fruits and vegetables, or

using bottled water. Because of the volume of water required to service the site's 500 daily residents and staff, reliance was primarily on bottled water which was consumed at a rate of approximately 500 ml to one litre/person/day. Water was provided freely in the cafeteria and in bulk through dispensers throughout the building.

Throughout the event, all plastic water bottles were recycled through a local recycling facility keeping them from being a landfill issue.

Both the making of ice and use of ice was discontinued immediately and notices were placed at all sinks warning of the boil order.

Using bottled water also posed an additional onsite storage problem given the limited space available to house the water bottles and the uncertainty surrounding the duration of the boil order.

Bottled water was available in all nursing units and the boil order further posed some challenges for nursing staff that monitored the ready availability of drinking water in patient rooms and water for brushing in their bathrooms. Because some clients in residential care suffer from dementia, staff had to exercise an extra degree of vigilance to ensure no one drank from the tap or brushed teeth with tap water.

While the financial tally has yet to be completed, it is estimated \$10,000 was spent on bottled water to meet the needs of the organisation during the 47-day boil order. Costs for additional labour to receive and distribute the water also need to be factored into the total.

Wanda McMillan, St. Joseph's Director of Nutritional Services claims *"this type of incident really highlights the need to have contingency plans in place. It's one thing to deal with a boil water advisory, it is another thing to deal with a natural disaster where you don't have a ready supply of water. You need to have contingency plans in place for both."*

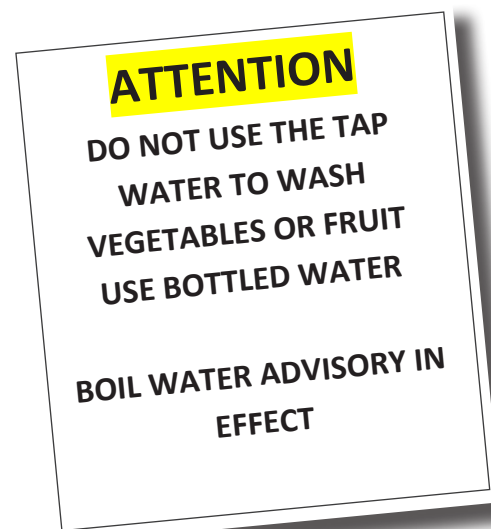
A similar one-week boil water order in November 2014 had provided an opportunity for St. Joseph's to test their contingency plan and turn it into a Standard Operating Procedure which was easily deployed in December, throughout which time they steadily fine tuned the plan for maximum effect. This included looking at a number of options such as the installation of filters on individual taps, ultra-violet (UV) sterilization and whether there was an opportunity to somehow take advantage of the Central Supply Department's reverse osmosis (RO) system to provide drinkable water.

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RECOVERY

Following the lifting of the boil water order, all advisory signage was removed from the facility required sterilization of equipment occurred. Ice machines for example had their filters replaced and were thoroughly cleaned and certified by the plant maintenance department. All water dispensing equipment was collected and in the case of the bulk dispensers, returned to the vendor. Nutritional Services staff also had to arrange for the return of a pallet of bottled water that had just been delivered in anticipation of a boil water order continuance.

PLANNING FOR RESILIENCY

"We've got a good plan, and it worked very well," says McMillan who adds *"I think because we had 35 days to massage the process, what we ended up with at the end is where we will start next time. We have a much better idea of where to put water dispensers, how to communicate with staff and patients, and how to best work with housekeeping and distribution to keep things working smoothly."*

The experience demonstrated the efficacy of St. Joseph's contingency plan but water storage remains an issue which is currently being investigated with options including nearby offsite storage and converting existing space into storage to accommodate a minimum 72 hour supply for emergencies. Rotating the water for freshness must also be taken into consideration.

The message McMillan reinforces is have a contingency plan and plan for that disaster. *"Sticking your head in the sand thinking a major natural disaster won't happen is not a good option. Being prepared is essential"*

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