

## Who We Are

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## First Nations Food, Nutrition and Environment Study (FNFNES)

### Drinking Water Component Water Technician/Specialist

The FNFNES aims to collect environmental health information from 100 First Nation communities across Canada. One of the five components of the study is the **Drinking Water Component**.

Trace metals like cadmium may occur naturally in water, but high levels of some trace metals can cause undesirable effects. The main objective of the Drinking Water Component is to determine levels of trace metals in water used for both drinking and cooking purposes. This estimate will allow the study to compare the trace metal intake from both drinking water and food.

In addition, chlorine levels will be measured in some samples to confirm adequate disinfection of tap water.



# Water Sampling Instructions for Water Technicians

A maximum of 20 households per community will be invited to participate in the Drinking Water Component

## Why sample drinking water?

The FNFNES is collecting and analyzing drinking water to determine the quantities of trace metals present in water consumed by households. Each water sample will be tested for a total of 36 different metals. In addition, chlorine levels will be measured in some samples to confirm adequate disinfection of tap water.

This information will help FNFNES determine the amount of metals ingested through drinking water. Along with the information gathered in the food sampling component, this will provide a total dietary intake of metals in First Nations people living on reserve

## Which households will be sampled?

Selection criteria for households to participate in the FNFNES Drinking Water Component are: (1) to have access to tap water at the home, (2) a signed consent form agreeing to participate in the water component. Only 20 households that meet this selection criteria and are located at strategic points along the distribution system will be invited to participate.



The Nutrition Research Coordinator (NRC) of each community will be involved in selecting households for water sampling. Using the information collected through the Public Works Questionnaire, the NRC will select 20 households equally distributed along the distribution system or, if this information is not available, equally distributed within the geographic layout of the community. It is crucial that the selected households not be clustered in one area.

## How many samples will be collected?

Two samples from each household will be collected. In each participating you will set a time with the householder to drop off a water sample container and will ask the participant to collect a first draw water sample first thing in the morning when the plumbing has not been in use for at least four hours. In the event that a household does not use tap water for drinking and food preparation, a second sample of the alternative water source should be taken. You will need to make an appointment to collect the second flushed water sample **on the same day** the first sample is collected.

## What does sampling drinking water involve?

To take the flushed water samples, let the cold water run for 2 minutes or up to a maximum of 5 minutes to flush out any water that has been sitting in the household pipes for an extended period of time. Once the pipes have been adequately flushed, you will fill a laboratory supplied bottle with drinking water and add the acid required to preserve the sample. Immediately after collecting the water sample, fill a glass with water at the same tap. Measure the temperature with a thermometer. Acidity or pH and chlorine residual are then checked using the water quality test strips.

Acid will also need to be added to the sample that the participant has collected earlier in the day for preservation.

It is very important to label these samples correctly (including date and time).



Thank you for your involvement!