



liyyiuch know that the land, water, and animals are closely tied to their well-being. *Nituuchischaayihititaa* *Aschii* is a project to study the links between people's health, the kinds of food they eat, and the contaminants in the environment.

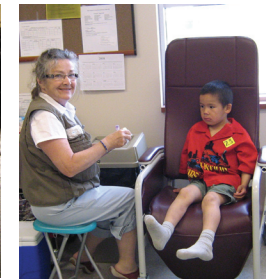
We need to know whether the benefits of eating traditional food outweigh the risks. To find out, the project asked five questions:

1. **Nutrition:** What kinds of food are of foods are people eating in Iiyiyu Aschii? What nutrients are people getting from traditional foods?
2. **Physical Activity:** Are people leading active lives?
3. **Contaminants:** What contaminants are found in people's bodies?
4. **Zoonoses:** How many people have caught infections from animals?
5. **General Health:** Do people have health problems that might be linked to their food choices and to contaminants?

The project is funded by Niskamoon under the 2001 Mercury Agreement between the Crees and Hydro-Québec. It will visit all 9 liyiyu communities.



Waskaganish was visited in June 2008 and 176 people, including babies, children, adults and elders, participated in the study.



Participants gave samples of their hair, nails and blood to be tested for contaminants. They also did clinical tests to check their weight and blood pressure, and answered questionnaires about their health, nutrition and activities.

A photograph showing three students in a classroom setting. A boy on the left, wearing a yellow and black striped shirt, is using a wooden stick to stir something in a blue plastic container. A girl in the middle, wearing a pink shirt, is also working with a bowl. A girl on the right, wearing a light blue shirt, is holding a small container. They are all focused on their task. The background shows classroom shelves with various items and a computer monitor.

Recycled paper workhosp with grade 4 students.

The project's educational component aims to make science exciting through fun, hands on activities. The goal is to encourage young people in Iiyiyi Aschii to pursue science and health careers

Workshops about science, recycling and nutrition were held at Annie Whiskeychan elementary school, Wiinibekuu high school and the local daycares.

Twenty kids also took part in a week-long Science Summer Camp, organized in collaboration with the Gathering Place and Recreation Department.

Over 300 kids took part in the educational activities!

People do have some traces of contaminants in their bodies, but this is not a major health concern in Waskaganish right now.

However, development projects like the Ruper River hydro project will continue to impact the environment. Therefore, it is important to keep checking the levels of contaminants in the environment and in people's bodies to make sure that they do not reach levels that could impact our health.

Being overweight, eating unhealthy food, and lacking physical activity are bigger health problems than contamination.

Traditional food remains a healthy choice compared to market food with high fat and sugar content. **The benefits of eating traditional food outweigh the risks!**

The priorities for health promotion in Waskaganish are:

- ✓ Do not smoke
- ✓ Be active by walking, doing physical work, and playing sports.
- ✓ Eat foods high in vitamins like fruits and vegetables
- ✓ Cut back on store-bought foods with high fat and sugar
- ✓ Keep eating traditional foods as they are healthy

Laura Atikessé
Public Health Department
Cree Board of Health and Social Services of James Bay
Tel: 514-861-2352
E-mail: atikesse.laura@courrier.uqam.ca



1. Nutrition

Traditional foods such as game, fish, fowl and berries are healthy. They are low in fat and high in some vitamins and minerals that help protect against illness. Moose, goose, rabbit, beaver and ptarmigan are the most common traditional foods eaten in Waskaganish. On average, people eat each of these foods at least once a month.



As in other Iiyiyu communities, people over 40 years of age eat traditional foods more often than people aged 18-39, and children eat the least amount of traditional food.

People in Waskaganish get enough protein and carbohydrates in their diets. However, most people tend to eat too much fat, saturated fat, and cholesterol

People eat more than the number of servings of meat recommended by the Canadian food guide. Therefore they get plenty of zinc and iron. However, people eat fewer fruits, vegetables, and milk products than recommended. This leads to low levels of calcium, magnesium and some vitamins

Men, Women, and Children get about 10% of their daily calories from drinking pop and other sweet drinks (not including fruit juice). The extra calories and sugar contribute to being overweight and can lead to diseases like diabetes.

2. Physical Activity

In Waskaganish, the study found encouraging links between physical activity (especially walking) and better weight. Other studies have established that doing regular physical activity lowers the risk of heart disease, diabetes, and other health problems.



People who walk a lot tend to be less overweight

3. Contaminants

Contaminants are chemicals like mercury and pesticides that can be harmful to our health.

Some contaminants are released into the environment by industries in the South and carried north by the wind and rain. Mercury is present naturally in the soil, but developments such as hydroelectric dams and forestry cause mercury to move from the soil into lakes and rivers, where it is absorbed by plants and tiny animals. Contaminants travel up the food chain and accumulate in the fish and animals that we eat.

Our bodies can tolerate a small amount of contaminants, but too much is toxic to our health. Babies, children and pregnant women are especially vulnerable. The project tested for Mercury, Lead, Cadmium, Selenium, PCBs and other Organic Contaminants, such as pesticides and fire retardants

Fortunately, most people in Waskaganish have only small amounts of these chemicals in their blood. Older people who have eaten a lot of fish and game in their lifetime tend to have higher levels of Mercury, Lead and other contaminants, but not enough to be dangerous to their health. In fact, the mercury levels detected in Iiyiyu Aschii are lower than they were in the 1970s.

In Waskaganish, the study found two women and one child had slightly high levels of lead in their blood. They were seen by a doctor or nurse to try and determine the source of the contaminant. Some possible sources of lead are lead shot and kinds of old paint.

Another contaminant that is cause for concern is Cadmium, a chemical that affects kidney health. The people with high Cadmium levels were mostly smokers under 40 years of age. This suggests that cigarettes, and not traditional food, are the main source of Cadmium in Waskaganish.

Finally, the study found that people in Waskaganish had very low levels of PCBs and pesticides. However, 2 people over the age of 40 received a follow up for these contaminants.



Traditional foods such as game, fish, and berries are healthy.

4. Zoonoses

Zoonoses are bacteria, germs and viruses that people can catch from animals. Hunters and trappers who come into contact with wild animals may be at risk. When we come into contact with zoonoses, our bodies make antibodies to fight infection. These antibodies stay in our blood for years and can be detected with a blood test.

The study found some traces of past infection by zoonoses, but nobody was currently infected. Often these infections have very few symptoms..

A local group like the CTA could tell hunters and trappers what symptoms to look out for. Health care workers should also be informed about the symptoms of these illnesses

5. General Health

Some health problems are linked to people's eating habits and contaminants. These include thyroid problems, heart disease and diabetes.

Risk Factors for Heart Disease

Weight

- 72% of participants were overweight.
- 42% can be considered obese.
- People in Waskaganish are less overweight than people in Mistissini, Eastmain and Wemindji.



Blood pressure

- 16% had high blood pressure.

Cholesterol and fats

- 29% of the participants had low levels of "good" High-Density cholesterol.
- 20% had high triglycerides, another unhealthy fat.

Carotid artery thickness

- This was measured with a neck ultrasound
- Overall, men and women had healthy arteries.
- Women tended to have more buildup inside their arteries than men. This is different from the Southern population, and further analysis is required.

Diabetes

- 9% of participants had fasting blood sugar levels that indicate undiagnosed or improperly managed diabetes. Another 13% are considered at risk for diabetes.
- The rate of diabetes in Waskaganish is more than double what it is in the rest of Canada. However, it is slightly lower than in Mistissini, Eastmain and Wemindji.
- To reduce chances of getting diabetes and heart disease, people need to eat less foods high in cholesterol, fat, and sugar, and to be more active.**

Fragile Bones

Osteoporosis, or fragile bones, mostly affects older women. The study used ultrasound to measure the bone strength of women over the age of 35 in Waskaganish. **Compared to women in Quebec City, women in Waskaganish have a low risk of breaking a bone.**