



**The International Polar Year Nunavut Inuit Child Health Survey
2007-2008**



Canada



Health
Canada

Santé
Canada

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with the

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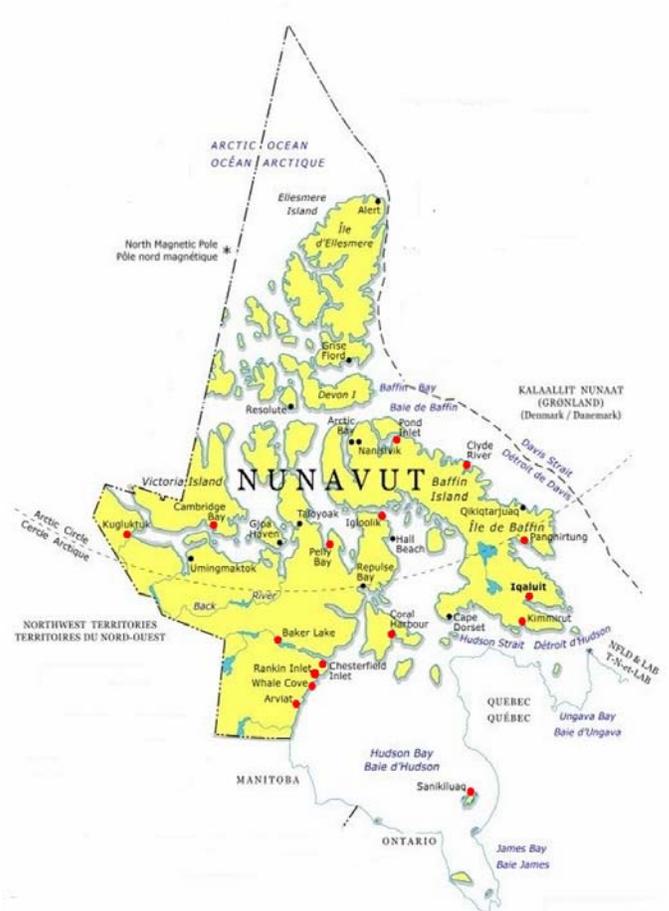
Nunavut Inuit Child Health Survey

Background

- The Nunavut Inuit Child Health Survey was conducted in 2007 and 2008.
- The survey was planned by a steering committee with members representing NTI, NAM, the GN Health and Social Services, the University of Toronto and was led by the Centre for Indigenous Peoples' Nutrition and Environment (CINE) at McGill University.
- The goal of the survey was to obtain an overview of the health status and living conditions of preschool Inuit children living in Nunavut.
- A total of 388 preschool-aged children 3-5 years of age from 16 communities in Nunavut participated in the Inuit Child Health Survey. Because of costs, all communities couldn't be included.
- The following communities participated in the child health survey:

- Arviat
- Baker Lake
- Cambridge Bay
- Chesterfield
- Clyde River
- Coral Harbor
- Igloolik
- Iqaluit
- Kimmirut
- Kugaaruk

- Kugluktuk
- Pangnirtung
- Pond Inlet
- Rankin Inlet
- Sanikiluaq
- Whale Cove



The Survey Content

The evaluation included growth and weight, vision, a blood test for weak blood (anemia) and vitamin D levels, bone health, health histories, mercury in hair, and a household questionnaire on smoking, crowding, and having enough food to eat. The findings presented in this report represent the observed (unweighted) prevalence of conditions.

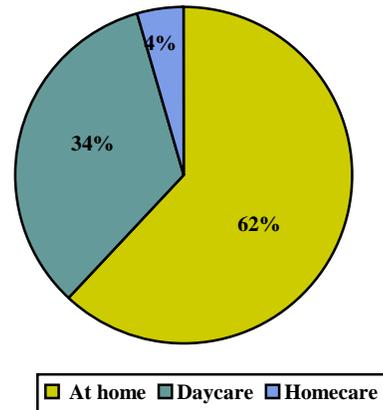
The research team included a nutritionist, bilingual research assistant, lab specialist, and in 2007 a bilingual Inuk nurse and in 2008 a nurse with considerable northern experience.



Home Environment

- The home environment is important for the health and well-being of young children.
- Preschool Inuit children in Nunavut had a lot of contact with their extended family.
- 84% of children saw their extended family often or every day.
- Only 34% of children attended preschool or daycare, whereas the majority (62%) of children stayed at home during the day.
- In contrast, more than one-half (54%) of other Canadian children were in some form of child care (1).
- Smoking is very common in Nunavut. An average of 2 people smoked in children's homes, but the good news is that 93% of parents and caregivers said that they had restrictions against smoking inside the house.
- The most common restriction was that smoking was only allowed outside (84%).

Child Care

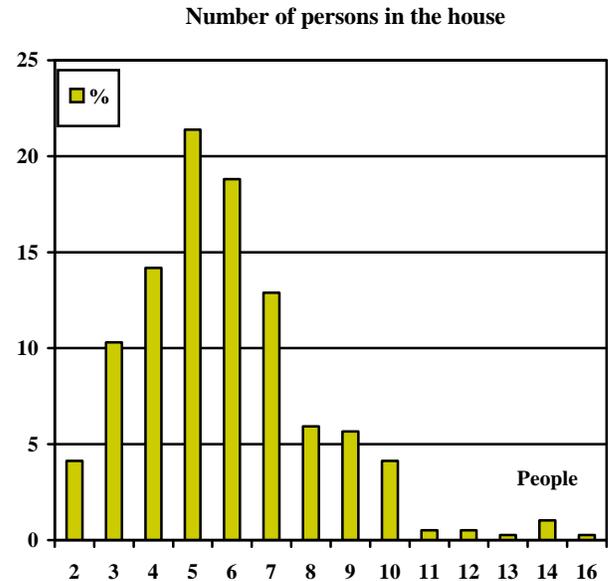


Extended family contact of preschool children

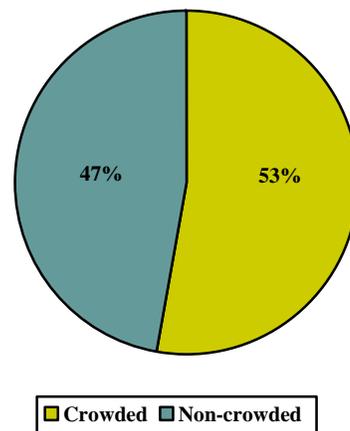
Frequency of contact	Percentage (%)
Daily	70.3
Often	13.8
Sometimes	14.6
Never	1.3

Homelessness and Crowding

- 11% of homes with 3-5 year old children reported giving shelter to homeless people in the past year.
- In the children's homes, there was an average of 6 people living in a home, whereas the average number of persons in other Canadian households was 2.5 people.
- An average of 3 bedrooms was reported in each home and 37% of children's homes had more than 2 people per bedroom.
- Using Stats Canada's definition of crowding which is having more than 1 person per room where rooms include kitchen, living room and bedrooms, 52.7% of homes were crowded. In contrast, according to the 2006 Census, only 3% of non-Aboriginal children live in a crowded dwelling (2).
- About 35% of the children lived in houses in need of major repairs compared with 8% of non-Aboriginal children's homes in Canada (2).



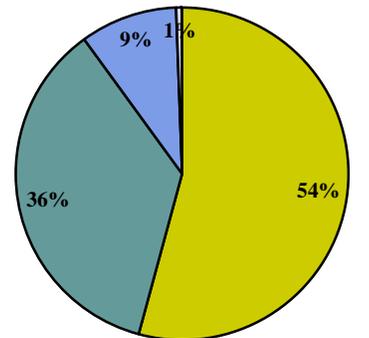
Crowded dwelling with children 3-5 years old



Language

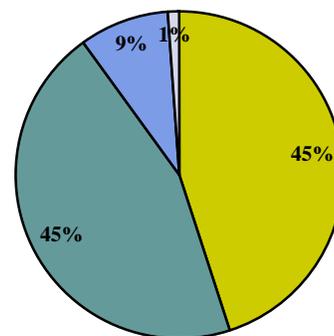
- More than one-half (54%) of the children were spoken to by adults in Inuktitut, whereas 10% were spoken to in both English and Inuktitut.
- The Inuktitut language is thriving. In Kivalliq and Baffin, 80% of children spoke Inuktitut.
- In Inuinnaqtun speaking communities, no preschoolers spoke Inuinnaqtun.
- As not all Inuinnaqtun communities were surveyed the results should be interpreted as incomplete information on the extent of Inuinnaqtun speaking households.

Primary language spoken to children 3-5 years of age



■ Inuktitut ■ English ■ Both ■ Other

Primary language preschool children spoke



■ Inuktitut ■ English ■ Both ■ Other

Food Security: Having Enough to Eat

➤ The food security questionnaire developed by the United States Department of Agriculture was used (3). Indian and Northern Affairs Canada (INAC) modified the questionnaire based on discussions with Inuit interviewers (4).

➤ About one third (34%) of the homes with 3 to 5 year old children, said that they did not have enough food and had to skip meals or eat only small meals, which was severe food insecure (FIS severe).

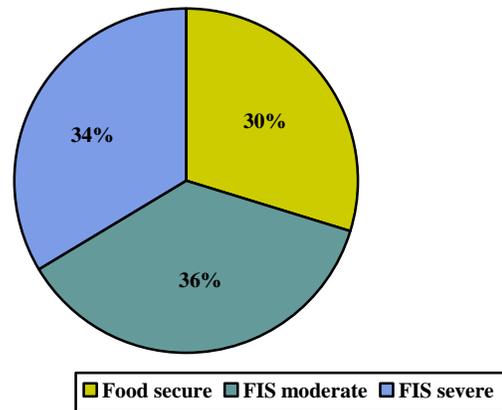
➤ Only 29.7% of homes had no problems and said that they had enough food to eat (food secure).

➤ 24% of 3-5 year olds were from homes reporting evidence of severe child food insecurity. Those receiving income support and living in public housing were more likely to be child food insecure.

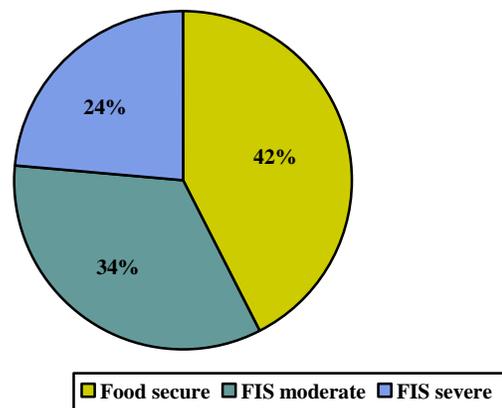
➤ According to the Canadian Community Health Survey (CCHS) 2004, only 5.2% of Canadian households with children reported moderate or severe food insecurity (5).

➤ These results show that not having enough to eat is a problem for homes with young children in Nunavut.

Household food security



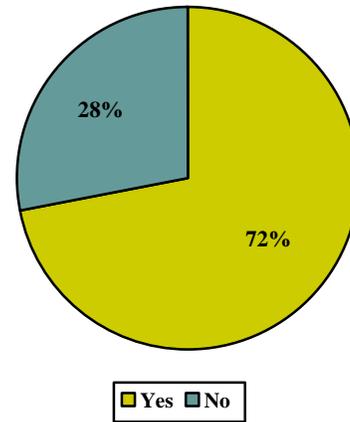
Child food security, 3-5 years of age



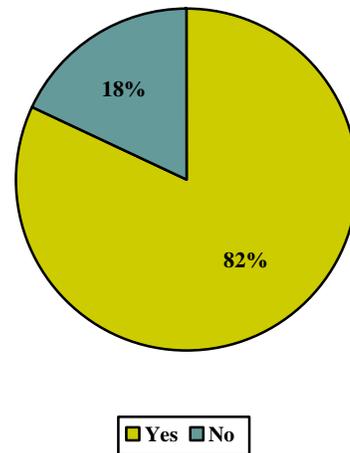
Country Food and Food Sharing Networks

- There is good news because many said that they have an active hunter (72%) in the home.
- Also, food sharing networks are strong in Nunavut.
- Most of the households with preschoolers (82%) shared their country food with others in their community.
- Up to 73% of households said they obtained country food from their families. Another important way to obtain country food was from friends (42%), stores (17%), and community freezers /hunters and trappers organizations (13%).
- About one-half (48%) of homes worry or somewhat worry about the contaminants in the country food, while 17% were somewhat worried and 52% were not worried about contaminants.

Active hunter in the house with children 3-5 years of age



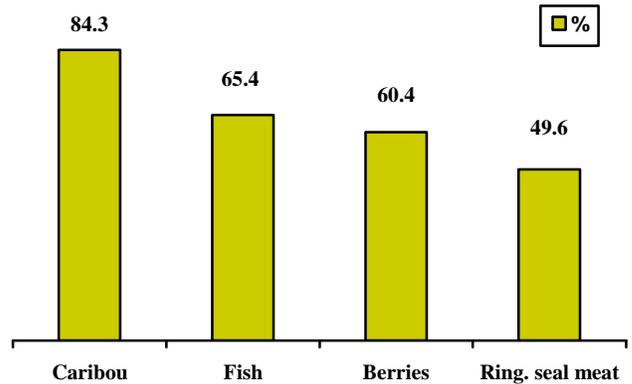
Contribute country food to others in their community



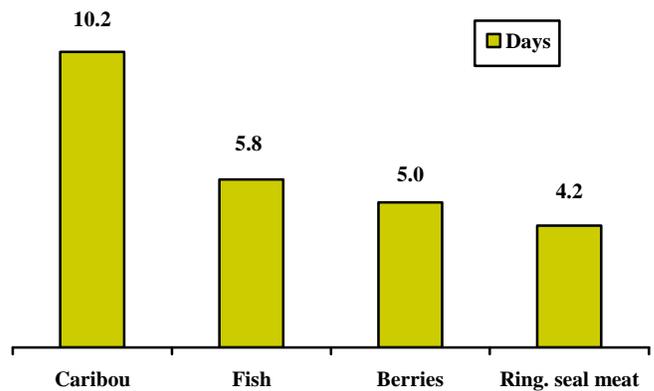
What Children Ate

- What a child eats and drinks is important for healthy growth, strong bones, and development.
- The good news is that almost all children (99%) ate country food in the month prior to the survey. Also, a third of the children (33%) had country food an average of 30 times or more in the month prior to the survey.
- When we asked about the day before the interview, 46.3% of children ate some type of country food.
- The top 3 favorite country foods were caribou, fish, and berries.
- When intakes were compared with days where no low or high amounts of traditional food was consumed, the children with the highest intake of traditional food had higher intakes of protein, cholesterol, vitamins A and D, iron, zinc and magnesium and lower intakes of carbohydrates.
- Fiber intake for Inuit children was low. Fiber can be found in plants, caribou stomach, fruits, vegetables and cereal grains.

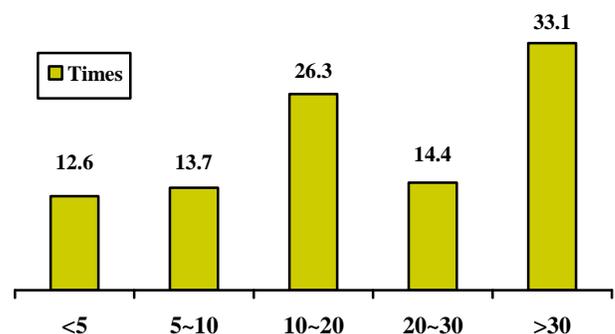
Percent of children consuming country food in the month prior to the survey



Average number of days children consumed country food in month prior to survey



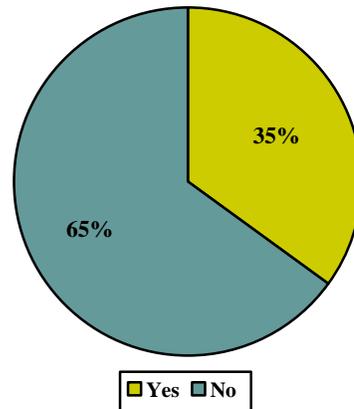
Total times country food was consumed by children in the month prior to the survey



Market food high in sugar and fat

- A big problem found in the Inuit Child Health Survey was that too many children were having drinks and snacks that have high amounts of sugar and fat.
- Almost 35% of total energy from food came from high sugar or high fat food and drinks, such as chips, candy, soft drinks, powdered sweet drinks, high sugar cereals, fruit juice and high sugar baked goods.
- These foods and drinks do not have the important nutrients that children need to grow healthy and strong.
- The survey found that on average, 78% of children consumed sweet drinks the day before the interview and that the average number of sweet drinks they had was 3 glasses.
- This means that children are drinking about 30 sugar cubes each day. Over a year this adds up and it is too much sugar for a little child's body and will lead to unhealthy body weights.
- Overall, the percentage of energy (Calories) the children received from protein (16.1%), fat (29.2%), and carbohydrates (55.2%) was similar to other Canadian studies such as Canadian Community Health Survey (CCHS).

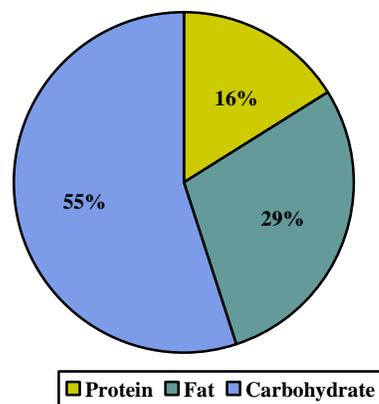
Energy from high fat and high sugar market food for children 3-5 years of age



Too much sugar for little children



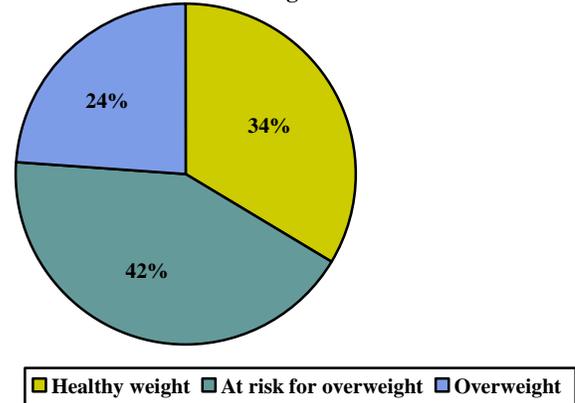
Energy as macronutrients in children 3-5 years of age, in 24-hour recall



Healthy Body Weight

- The survey found that only one third of children had healthy body weights for their age or height using International Obesity Task Force criteria for healthy body weights.
- In the rest of Canada, 21% of 2-5 year olds were overweight in 2004 (6).

Healthy body weight in Inuit boys 3-5 years of age



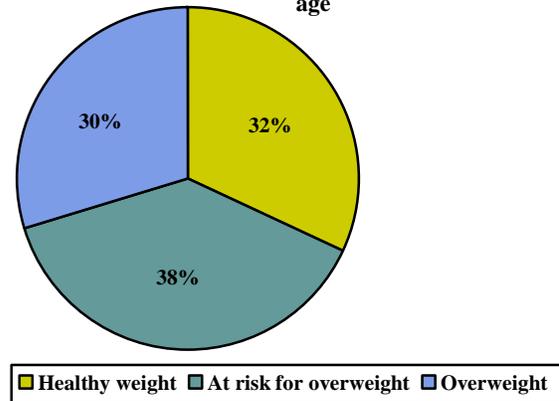
Dental Health

- The survey found that the majority of children (72%) had decayed, extracted or filled baby teeth. When children have too much high sugar juice, pop and candy it can decay their teeth.

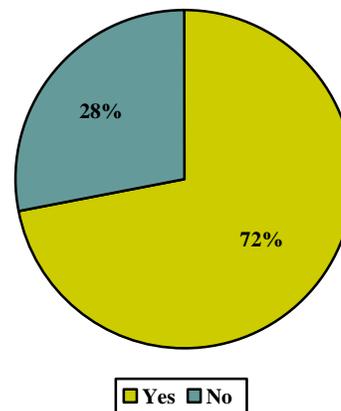
Recommendations

- Give children water and milk and cut down on all sweet drinks and high fat and sugar snacks, like cakes, cookies, and chips.
- Examples of healthy snacks include dried fish, caribou and muskox, apples and oranges and carrots and other vegetables.

Healthy body weight in Inuit girls 3-5 years of age



Decayed, extracted or filled teeth of children 3-5 years of age



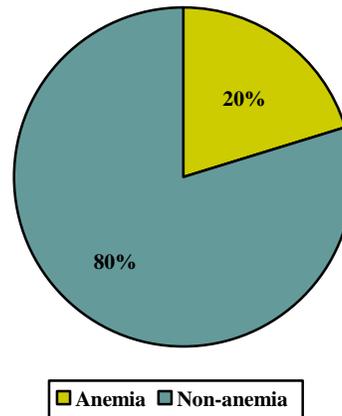
Anemia and Iron Deficiency Anemia

- **Anemia** is sometimes known as “weak blood and indicates a decrease in the normal number of red blood cells .”
- Children with anemia may feel tired or weak. Because of this, children may have trouble paying attention in school and may grow more slowly than children without anemia.

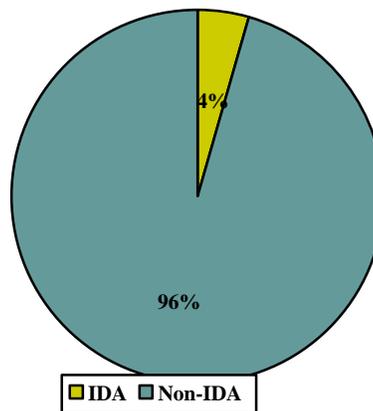
The survey found that 20% of the children had low hemoglobin showing that they were mildly anemic whereas 1.5% of US children have anemia (7).

- Some cases of anemia are related to **NOT** eating enough iron. Iron is found in most animal meat and organs. Many country foods are a good source of iron and other important nutrients that prevent anemia.
- Some good news is that the Inuit Child Health Survey found that only 5% of children had weak blood due to low iron stores (**iron deficiency anemia**). This compares to 0.5% of US children (7).

Anemia in children 3-5 years of age

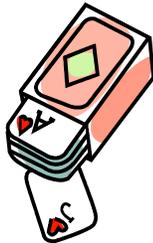


Iron Deficiency Anemia in children 3-5 years of age



Vitamin D

- Vitamin D is important for strong bones and healthy teeth. When children do not have enough vitamin D, they may be more likely to break bones or develop a condition called rickets, where bones in the body are soft and bend.
- In the survey, the blood tests showed that 3 to 5 year old children in Nunavut are not getting enough vitamin D.
- Only 21% of children had healthy, optimal, levels of vitamin D.
- Also, 13% had very low and insufficient levels of vitamin D in their blood.
- In the warmer months of the year, our bodies can make vitamin D when the sun shines on our skin. But with the long and dark winter in Nunavut, vitamin D needs to come from food.
- There are only a few foods that are good sources of vitamin D. To get the minimum amount of vitamin D, children should eat Arctic char (in an amount similar to the size of 1 deck of cards) and/or drink 2 glasses of milk each day.



Vitamin D status in children 3-5 years of age

Vitamin D status	Percentage (%)
Insufficient	13
Deficient	39
Suboptimal	27
Optimal	21

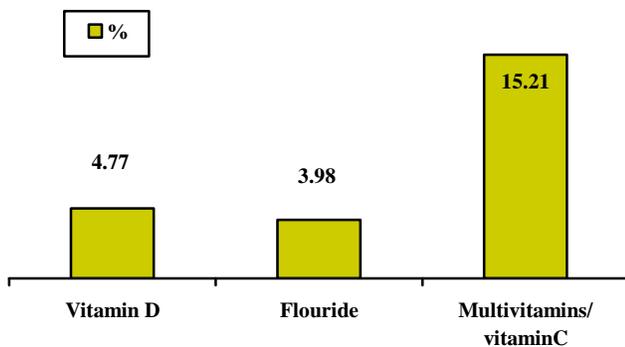
Mercury in Hair

- Children's hair was tested for methylmercury, which is an environmental contaminant. There has always been some methylmercury in our bodies because it is part of the natural environment, but man-made pollution has increased the levels that are now found in the environment.
- The survey showed that the majority of children had low hair mercury levels (< 2 ppm) and that all children had hair mercury levels below levels that have negative effects on health.

Vitamins and Supplements

- 21.3% of children take supplements and among those children, multivitamins and vitamin C were the most popular supplements.
- Vitamin D supplements are free at each local health centre but aren't commonly taken.

Supplements use by children 3-5 years of age



Vision

- Children's vision was very good with 99% having normal vision. Excellent news!

Ear Infection

- 37% of children had an ear infection in the year prior to the survey and 84% of them received treatment for their condition.

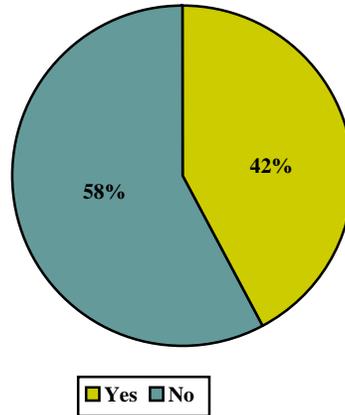
H. pylori Exposure

- Almost half (45.4%) of the children had evidence that they were exposed to a bacteria called *H. pylori*. This means that this infection is very common in Nunavut, as it is in other northern communities. *H. pylori* is a bacterial infection of the stomach.
- In most children, this infection is not a serious health problem. However, in some children who are infected for a long time or repeatedly, *H. pylori* can lead to weak blood or contribute to the development of stomach problems in adulthood, such as ulcers.
- Health care personnel should be on the look-out for the signs and symptoms of chronic or repeated infection with this bacterium.
- The good news is that we did not find a relationship between *H.pylori* infection and weak blood in the children.

Respiratory Illness

- Respiratory illnesses are common among Inuit children. These illnesses reported were coughing, asthma, bronchiolitis, bronchitis and pneumonia.
- The survey found that 42% of children had to go to the health center or hospital within the last year for a respiratory illness.
- Also, before they became 2 years old, 32% of children had a serious lung infection. Among these children, about half (54%) needed to be hospitalized outside of Nunavut.
- Overall, respiratory infections were the most common reason for why children had to stay in the hospital.

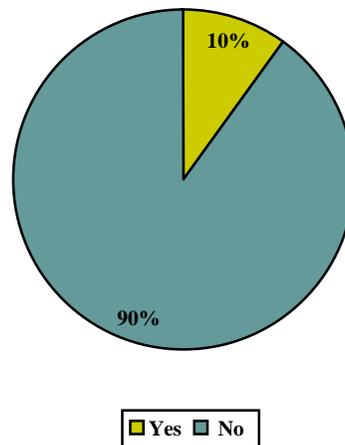
Health centre/hospital visits in last 12 months for respiratory problem



Injuries

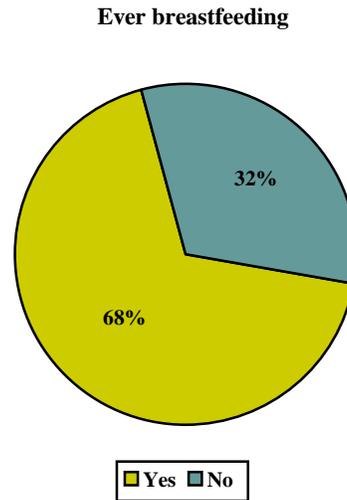
- The survey found that not many preschool Inuit children (10%) in Nunavut had to go to the health centre or hospital because of an injury in the past year.
- When injuries did happen, they were most commonly cuts (8/38) and lacerations (7/38).
- 13% of those with an injury stayed in the hospital.

Health centre/hospital visits in last 12 months for injuries



Pregnancy and Early Infant Feeding

- The survey asked parents some questions about when they were pregnant and how they fed their babies. Some good news was that 68% of mothers breast fed their child.
- The survey found that mothers who did breastfeed breastfed their children for an average of 18 months.
- The World Health Organization recommends that babies be breastfed without other forms of milk or food for 6 months (8). Complementary foods should be given to babies at 6 months but, if possible, breastfeeding should continue for up to 2 years.
- The majority of mothers (83%) smoked during pregnancy.
- Smoking during pregnancy makes it hard for babies to get enough oxygen and nutrients. This means that babies will not develop as well.
- Up to 24% of moms drank alcohol during pregnancy and 8% reported more than 5 drinks on one occasion during pregnancy.
- 31% mothers took iron or vitamin D during pregnancy, and most of them took iron (84%).



Iron or vitamin D intake during pregnancy

Type	Percentage (%)
Vitamin D	16.1
Iron	74.2
Vitamin D & Iron	9.7

Summary

Areas in need of improvement!

The survey found areas in need of improvement. The majority of Inuit adults smoke. Quitting smoking is important, especially since children who have parents or family members who smoke are more likely to begin smoking themselves. Work is needed at the community and government levels to support healthy homes that are less crowded, have better ventilation and where all family members have enough to eat. Vitamin D levels were low in the children and the percent of children taking the free vitamin D supplements offered by each health centre was very low (less than 5%). Finding ways to increase the number of children taking vitamin D supplements will help improve children's bone health and growth and it is free. Also, children can get vitamin D from milk and country food such as Arctic char, liver, and muktaaq. All too many children are drinking too many sweet drinks. Finding ways to replace sweet drinks with water and milk will help teeth stay strong and will prevent unhealthy weight gain. Finally, pregnant women need the support of their families and communities to not drink alcohol and to quit or cut down on smoking.

Good News!

The Nunavut Inuit Child Health Survey found some very good news. Children are spending time with their extended families, they are speaking Inuktitut, and they are eating country food. Children are learning Inuit ways. The Inuit Child Health Survey also showed that young children have better nutrition on days when they eat country food than on days when they only eat store bought food. It is great news that families are giving country food to so many of their young children. The survey also showed that there are many active hunters in children's homes and many homes share country food with others. Country food is good for children's health and it brings families together to honour and teach Inuit traditions to Nunavut's young children. This is all very good news for Nunavut's Inuit preschoolers.

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