

# HEALTHY LIVING IN NUNAVUT: An on-line nutrition course for Inuit communities in the Canadian arctic

## ABSTRACT

**Objectives.** It is recognized that empowerment of Indigenous Peoples through training and education is a priority. The objective was to design a course that would provide an innovative training approach to targeted workers in remote communities and enhance learning related to the Nunavut Food Guide, traditional food and nutrition, and diabetes prevention.

**Study Design.** A steering committee was established at the outset of the project with representation from McGill University and the Government of Nunavut (including nutritionists, community nurses and community health representatives (CHRs), as well as with members of the target audience. Course content and implementation, as well as recruitment of the target audience, were carried out with guidance from the steering committee.

**Methods.** An 8-week long course was developed for delivery in January - March, 2004. Learning activities included presentation of the course content through stories, online self-assessment quizzes, time-independent online discussions and telephone-based discussions. Invitations were extended to all prenatal nutrition program workers, CHRs, CHR students, home-care workers, Aboriginal Diabetes Initiative workers and public health nurses in Nunavut.

**Results.** Ninety-six health-care workers registered for Healthy Living in Nunavut, with 44 actively participating, 23 with less active participation and 29 who did not participate.

**Conclusions.** Despite having to overcome numerous technological, linguistic and cultural barriers, approximately 40% of registrants actively participated in the online nutrition course. The internet may be a useful medium for delivery of information to target audiences in the North. (*Int J Circumpolar Health* 2004;63(3):243-250)

**Keywords:** distance education, internet-based, nutrition, Arctic communities, health workers

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## INTRODUCTION

Nunavut officially acquired territory status in Canada in 1999; it is home to 28,000 residents, with communities ranging in size from approximately 200 to 6,000 people. Inuit represent over 85% of residents and Inuktitut is spoken at home by 60% of the population.

Nutrition education and promotion are essential components of the jobs of community health workers in Nunavut. Nutrition-related health concerns are numerous. A recent study of northern communities found that 36% of infants aged 4-18 months had iron-deficiency anemia (1) and, in a 2003 survey of nurse managers and public health nurses in Nunavut, poor nutrition and poor dental health were among the most frequently cited health problems for school-aged children in Nunavut (2). Rates of overweight in adult residents of Nunavut are similar to levels found in southern Canada, but rates of obesity are higher (3). Approximately half of adults in Nunavut reported being physically inactive. These factors put Inuit at significant risk for developing type 2 diabetes.

Currently, there are two regional nutritionists working in Nunavut. Providing appropriate nutrition training to over 100 health workers in 25 remote communities (fly-in only) is challenging. Community health workers are non-nursing workers who have minimal training. They are usually local people who speak the language and understand the culture and are an important source of nutrition information for the community. For example, community health representatives (CHRs) regularly discuss nutrition with clients one-on-one, over the local radio, in schools and during special health promotion events. Almost 90% of current CHRs have received some formal nutrition training, but Nurse Managers have indicated that, with more training, they could be better utilized in public health programs (2).

The goal of the Canada Prenatal Nutrition Program (CPNP) is to improve birth outcomes and infant health by promoting healthy eating during pregnancy and breastfeeding. Program workers in Nunavut typically have one workshop per year during which nutrition is just one of the subjects covered. Home and Community Care (HCC) workers provide assistance to the elderly and house-bound individuals; this often includes meal preparation. Most HCC workers in Nunavut are trained on-the-job, or by mentoring from very skilled staff, such as nurses, and via teaching sessions. Early childhood education and Head

Start program workers are also expected to teach nutrition and provide healthy meals, or snacks, to young children, but they have minimal nutrition training.

Presently, workshops are a common means of providing training and continuing education to health workers. However, the costs associated with flying workers to a central location and providing room and board are high, averaging approximately \$4,000 per person. Although face-to-face learning is generally preferred by Inuit, the demands for training and education exceed the ability of programs to deliver it this way. Print-based distance education has had limited success when used in Aboriginal and other communities without a strong history of written literacy (5).

The internet is a powerful and increasingly available communication medium that has enabled the development of distance education programs with high levels of interactivity and low delivery costs. Internet-based distance education has the potential to meet the special cultural and educational needs of learners in Nunavut and other remote locations.

There has been an important increase in internet connectivity over the last 5 years in Nunavut and, while home-based access is less common, public institutions, such as schools, hamlet offices, health centres, Arctic College learning centres and libraries, have internet access. Arctic College learning centres and libraries offer access to community members at no charge. CHRs and nurses typically have good internet access through the health centre, while CPNP and HCC workers may, or may not, have adequate access at their workplaces, depending on factors like the size and length of existence of their programs.

This paper describes the development and delivery of an on-line nutrition course for community health workers in Nunavut offered in 2003 - 2004.

## METHODS

From the course's inception, a formal participatory process has been used to guide all aspects of development, delivery and evaluation. Its central feature was the creation of a Nunavut-based steering committee, which included representation from McGill University and the Government of Nunavut (including nutritionists, community nur-

ses and CHRs), as well as members of the target audience. During the approximately 6-month long development and delivery period for the course, the Steering Committee meets monthly by teleconference.

The content and presentation style of the course, entitled *Healthy Living in Nunavut*, was established with input from the steering committee and via formative evaluation with members of the target audience. The focus is on the use of the Nunavut Food Guide (which was introduced in 2001, the first year of course development for Nunavut), traditional food and nutrition, and diabetes prevention. Initial formative evaluation was undertaken during a workshop in Iqaluit, where members of the target audience had gathered for training. Additional insights into course development and delivery for this group of learners had been gained during previous online courses given to CPNP workers in the Yukon and Northwest Territories.

*Healthy Living in Nunavut* uses a story-telling approach, in which food and nutrition information is presented through stories of fictional family members who include pregnant women, a breastfeeding woman, a child, a young man and two elders. This has allowed us to present the nutrition concerns of many of the clients of our target audience in scenarios that are familiar to them.

Other learning activities included in the course were online self-assessment quizzes and asynchronous (time-independent) online discussions, which took place in an area of the course website called the "Meeting Room". Activities initiating these discussions came near the end of each story and required that participants respond, in writing, to a question, or exercise. Meeting Room activities could be done individually, or as a group. In addition to posting their own messages, they were encouraged to read the postings of the other participants.

In 2004, two regionally-based telephone meetings were offered to participants, to provide them with a chance to learn about and discuss the growing problem of type 2 diabetes in their communities. One session of each meeting was offered in Inuktitut. Telephone discussion meetings were facilitated by the project coordinator and a co-facilitator from the region. A Resource Binder, which contained printed summaries of each story, a Nunavut Food Guide Bingo game, traditional food fact sheets, beverage fact

sheets and diabetes resources, was mailed out to each program midway through the course. An online evaluation was placed on the course website as the session drew to a close.

Participation in the course was evaluated by analyzing web server log data, reviewing postings in the Meeting Room and noting attendance at the telephone discussion meetings, as well as by following up with participants during and after the course.

## RESULTS

### Participation rates

In 2004, ninety-six health workers registered for the course, representing 21 of the 23 invited communities. Forty-six were part of the Home and Community Care program, fourteen were CPNP workers, and there were thirteen CHR students, as well as 10 practicing CHRs. Registrants also included early childhood education workers (6), nurses (4) and others (3).

Forty-four registrants actively participated in the course. An active participant was defined as one having logged at least 200 page hits – enough to have viewed all the course pages (but not necessarily all of the Meeting Room postings). Sixteen of these active participants completed at least 6 of the 10 Meeting Room activities and 33 attended at least one of the two telephone discussion meetings.

Of the remaining 52 registrants, 23 participated less actively, that is, logged fewer than 200 page hits. Ten of the 13 CHR students fell into this category. We learned later that their instructor had printed off all the course pages and had gone over them with the group in class. These less active participants also posted less often in the Meeting Room, appearing in less than 5 of the activities, but 13 of them attended at least one telephone discussion meeting.

Of the 29 who did not participate in the course, 8 had either moved, left their jobs, or were traveling during the course delivery. In two communities with 5 registrants each, internet access was not available during course delivery, 5 registrants were not comfortable using computers in English, 2 were too busy with their full-time jobs and the remainder could not be reached.

## DISCUSSION

The experience of the last three years of online nutrition education in Nunavut has established the feasibility of this innovative technique for delivering training to community health workers. Although more people registered for the course than actually completed it, the level of "active participation" of approximately 40% was similar to the completion rates described in a meta-analysis of distance education completion rates (5). In a study of women enrolled in a nurse-midwifery distance education program, barriers to completion were family, work and financial responsibilities, life events and lack of student/faculty interaction (6). Some of these, such as family responsibilities and life events, were also important barriers to participation for members of our target audience. Further barriers included difficulties with internet access and lack of experience in using it, lack of ease in a text-based environment and, for many, the the language of course delivery being different from mother tongue.

The telephone discussion meetings were an attempt to provide a more culturally accessible means of communication during the course and, while they were well attended, evaluation results suggest they were not satisfactory to all. People did, however, express great satisfaction with the Inuktitut-speaking guest speakers.

The steering committee has played a very active role in guiding the course development and in helping to ensure that workers are well supported in their efforts to go online. Strong support from regional and community-based program coordinators and McGill based staff is essential for program workers. Due to the large number of registrants, a territory-wide coordinator was hired to provide phone-based technical support, organize telephone meetings and generally encourage workers. Early in course delivery, some registrants emerged as being able to assist others in their communities, usually because of their organizational, internet and language skills. Identifying these individuals early on can improve participation from those registrants not comfortable with the internet and/or English.

## CONCLUSION

Internet-based nutrition courses are of interest to health workers in Nunavut and, despite having to overcome numerous technological, cultural and linguistic barriers, many have actively participated in them. The online courses have built community capacity by providing nutrition information needed by health workers for their jobs and personal lives, and by encouraging participants to improve their computer and internet skills. They have afforded an opportunity for exchange amongst health workers – both outside and within their own disciplines and communities, – as well as with subject matter experts.

We are evaluating the effectiveness of the course by analyzing the feedback from the participants collected in a course evaluation survey and a pre- and post-course evaluation. Future plans for online nutrition education in Nunavut include improving access for people more comfortable communicating in Inuktitut than in English, improving methods for formally evaluating learning, and finding better ways to include members of the learning community in the course development.

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