



CANADIAN INFORMATION
PRODUCTIVITY AWARDS

Nunavut Department of Health and Social Services: IIU Telehealth Network

Providing a virtual highway between patients and timely, responsive medical care

The mission of the Nunavut Department of Health and Social Services is to promote, protect and provide for the health and well being of Nunavut residents, in support of leading self-reliant and productive lives.

Challenges

At just under 2 million square kilometres, Nunavut is the largest jurisdictional landmass in Canada, extending along the northern boundaries of Quebec, Ontario, Manitoba, Saskatchewan, Alberta and the Northwest Territories. Nunavut has a land that is one-fifth the size of Canada, where the 25 communities are separated by thousands of kilometres of tundra and ice. Travelling to and within Nunavut, without the benefit of roads and with weather as a constant deterrent, is a monumental task. Providing healthcare and diagnostic services to its residents is both extremely difficult and costly.

Traditionally, the only way for a resident of Nunavut to receive treatment from a medical specialist was to be flown thousands of miles to the south for a face-to-face visit. This system took a toll on both the patient, who was being separated from family, and the government, which absorbed the patient's transportation and accommodation costs.

Objectives

The Ikajuruti Inungnik Ungasiktumi (IIU) Telehealth Network was developed with the objective of providing increased access to healthcare in a manner that is cost-effective and timely, while decreasing many of the high costs associated with transporting patients to see a physician or specialist. Ikajuruti Inungnik Ungasiktumi is an Inuktitut phrase meaning "a tool to help people from far away".

Solution

The technical and operational difficulty of such an undertaking cannot be overstated. Issues of applying high-bandwidth videoconferencing and telehealth applications via satellite in Canada's high arctic are difficult. In the south, the standard delay for telehealth satellite transmissions is only one quarter of a millisecond, whereas there is a three-second delay affecting the signal to and from Nunavut. Without technical modifications, the transmissions between doctor and patient could easily become stilted, resulting in a mismatch between sound and image. The need for patient privacy when using technology and the logistics of dealing with six legal jurisdictions across three time zones also made this a monumental task not previously faced by any Canadian healthcare organization.

"Eighty-five percent of our population is Inuit," explains Victor Tootoo, Assistant Deputy Minister, Nunavut Department of Health and Social Services, "so there are often language and cultural differences between the patient and the healthcare provider. To bridge this gap, the IIU site located in each community health centre is staffed by a technician or translator who is Inuit."

Launched in three stages, the IIU project began in 1999 with the linkup of three sites.

During the second stage of the project, 15 sites were networked and the original equipment installed at the first three sites was replaced. Now, in the third and final stage, all 25 communities will be linked to the IIU Telehealth Network by the end of this calendar year.

To develop the network, the Nunavut Department of Health and Social Services worked with the Digital Group of Telehealth Companies to implement and train 30 local Inuit staff as well as test and install the equipment in 15 communities from 2000 to 2002. This venture was jointly funded by the Nunavut Government and Health Canada.

Innovative Use of Technology

The IIU Telehealth Network connects clients living in remote locations and communities to providers of medical, social and educational services via video and teleconferencing, thus improving access to a broader range of services for the residents of Nunavut. The creation of this network has enabled the establishment of a comprehensive Telehealth Program that supports the delivery of primary and secondary healthcare and related social services.

"People don't appreciate that we created a new province and started the program at the same time," remarks Tootoo. "Our government was building its infrastructure from the ground up just as we were trying to build capacity in Nunavut and adopt a primary care model. The fact that this project was accomplished is truly incredible."

The network allows for real-time transmissions (audio/visual/data) via satellite among Nunavut communities and provides key communication links to healthcare service providers at the main hospital in Iqaluit and outside the territory in Alberta, Manitoba, Ontario, Quebec and NWT. The IIU Telehealth Network is also used as a vehicle for delivery of educational material and provides staff access to professional development.

As a result, there has been a decrease in non-emergency patient transportation because medical professionals can conduct 'virtual visits' with patients. Using the network, physicians can often diagnose the severity of a medical situation prior to actually seeing the patient.

In many cases, telehealth provides the opportunity to keep the patient in the community and with families during diagnosis and even treatment. When patients have no alternative but to 'go south' for care, the IIU Network connects them with their families in the community from the attending hospital. This can have a tremendous impact on the patients' access to care, the care they receive and their recovery time. The IIU Network enables families to connect and communicate in their own language while supporting each other even though they are separated by vast distances. This communication tool has not been rejected by a client in the five and half years this service has been available in Nunavut. This is truly a remarkable and innovative way to provide access to clients in Canada's most remote and isolated region.

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For its exceptional and innovative application of Information Technology to solve real-world business problems and bring greater benefit to all its stakeholders, the Government of Nunavut was awarded a 2004 Canadian Information Productivity Award of Excellence in the Mobile Solutions category.