

# BACKGROUND ON TELEHEALTH ACTIVITIES IN FIRST NATIONS AND INUIT COMMUNITIES

Aboriginal Crossing Boundaries-On-line Discussion Document

PREPARED BY: e-HEALTH SOLUTIONS UNIT  
First Nations & Inuit Health Branch, Health Canada  
August, 2004

**TABLE OF CONTENTS**

1. INTRODUCTION ..... 3

2. TELEHEALTH OVERVIEW

*Definition* ..... 5

*Benefits* ..... 6

*Canadian Overview* ..... 7

*First Nations & Inuit* ..... 8

3. WHY INVEST IN FIRST NATIONS & INUIT  
TELEHEALTH?..... 9

4. LESSONS LEARNED

*Strategies and Guidelines* ..... 12

*Evaluation* ..... 14

    Critical success factors ..... 15

5. CONCLUSIONS/NEXT STEPS.....17

## 1. INTRODUCTION

This paper has been prepared to provide an overview of national and international telehealth activities, with a view to stimulating discussion about the potential for telehealth to be a useful tool in the delivery of health programs and services for First Nation and Inuit communities. It is timely for First Nation and Inuit Health Branch (FNIHB) of Health Canada to develop a broader telehealth strategic plan - a plan that sets the direction, outlines actions, and identifies potential investments that would move the telehealth agenda for First Nation and Inuit communities over the next five to ten years.

In 1999, the Advisory Council on Health Infostructure, in their Final Report, identified the importance of telehealth for improving the health of Canadians.<sup>1</sup> That Report identified three key aspects of health care delivery that would benefit from telehealth: linking diverse health care services; delivering better health care to under-serviced rural and remote areas; and assisting local health care professionals and providers to deliver better care. By 2003, Canadian premiers added to the national discussion on telehealth by identifying community mental health as one of eight priority areas for new telehealth investment.<sup>2</sup>

Internationally, in the period from 1990 through 2004, the convergence of **key drivers** saw the use of telehealth expand throughout the health care sector in many countries. Various factors were identified as contributing to this increased use of telehealth. For example, the Telehealth Think Tank held in Melbourne, Australia, in 2000<sup>3</sup> identified the following:

### *Ageing Population*

Due to the gradual long-term increase in life expectancy, there is a major increase in the overall number of older people requiring medical treatment.

### *Paradigm Shift from Treatment to Prevention and Care*

Due to the ageing population and the increasing number of people living longer with severe disabilities, health care is expected to become more about managing chronic conditions than responding to acute illness.

### *Changing Models of Care*

With the number of people going into hospital and their length of stay continuing to be shortened, health care is likely to be delivered in the home or work place. There is an understanding that moving data rather than people is more effective, more efficient, and more favorable to the quality of life.

### *Expanding Diagnosis and Treatment Options*

Technology is allowing for the improved quality of imaging and the increased capacity for care and monitoring in the home and community.

---

<sup>1</sup> Canada Health Infoway, Paths to Better Health, Final Report of the Advisory Council on Health Infostructure, 1999

<sup>2</sup> Improving Health Care for Canadians, Premiers' Council on Canadian Health Awareness, February 3, 2003, page 3

<sup>3</sup> Telehealth: Strategic Drivers <http://www.telehealth.org.au/telehealth%20think%20tank%202000/Factsheets12.pdf>

## TELEHEALTH STRATEGIC PLANNING OVERVIEW

### *Information Technology and Communications (ICT)*

The performance of ICTs and accompanied declining costs has enabled an increase usage.

### *Market Forces*

The ICT industry continues to have a strong perception that the health sector is a major market.

### *Pressure to Reduce Healthcare Costs*

Healthcare costs continue to rise and governments are endeavouring to reduce the overall costs. There are pressures to control health sector costs via reduced hospital lengths of stay, reduced re-admissions, reduced number of beds, and greater service efficiency.

### *Consumer Demands*

Consumers are becoming better educated in relation to health care and technology and are demanding universal access to high-quality medical care. They are becoming more empowered and want to make decisions about their own health care.

### *Urbanization and Globalization*

Declining rural urbanization is increasing urban populations and stressing the health care system. National boundaries are disappearing and there is a widening gap between rich and poor nations, regions and economies.

First Nation and Inuit communities may be impacted by these key drivers no less than other communities within Canada and throughout the world. At the same time, there are various **system-wide barriers and constraints** influencing the potential for broader adoption of telehealth in health care:

- the lack of adequate telecommunications bandwidth and connectivity;
- the fragmented regulatory environment, and the lack of uniform statutes and codes of practice for the implementation of technologies by health professionals;
- the general impact of information technology within the health sector, and the impact technology is having on the delivery and management of services; and,
- the challenges of long term funding and sustainability.

FNIHB telehealth services have the potential to reach all 601 First Nations communities with a total population of approximately 657,000, and all 56 Inuit communities with a total population of approximately 40,000. Two hundred and fifty two (252) of FNIHB's 536 health care facilities situated across the country – including Hospitals, Nursing Stations, Health Stations, Health Centers, Health Offices, Alcohol and Drug Treatment Centers – are categorized according to geographic location: Remote-Isolated [no road access, no scheduled flights], Isolated [no road access, scheduled flights] and Semi-Isolated [road access, located more than 90 km to physician services]. The remaining facilities are grouped in a category called Non-Isolated.

The lack of a modern telecommunications infrastructure and access to Information and Communications Technology (ICT) in First Nations and Inuit communities significantly limits opportunities to link federal health facilities to health programs and services delivered through provincial and territorial telehealth networks. FNIHB needs to plan strategically and work

## TELEHEALTH STRATEGIC PLANNING OVERVIEW

collaboratively with provincial telehealth partners, exploring ways to connect First Nations and Inuit communities to the broad range of healthcare services that might be offered through this technology.

The information provided in this background paper has been identified through various internet searches and data from past reports, and is meant to promote on-line discussions. The document includes a selective sampling of the wealth of information available on the subject of telehealth, at a level intended to be sufficient to allow the reader to gain a good understanding of the telehealth topic and related activities.

## 2. TELEHEALTH OVERVIEW

### *Definition*

There are many variations in the meaning of the term telehealth. A standard or consistent definition becomes more challenging when terms such as telemedicine and e-health are introduced.

The Telemedicine Research Center in Portland, Oregon, defines telemedicine “as the use of telecommunications to provide medical information and services.”<sup>4</sup> The Health Telematic Unit, University of Calgary, provides a definition for telehealth, telemedicine and e-health as “the use of information and communication technology (ICT) to deliver health services, expertise and information over distance, geographic, time, social and cultural barriers”.<sup>5</sup> The New South Wales (NSW) Health Department of Australia defines telehealth as “the transmission of images, voice and data between two or more health units via Telecommunications channels, to provide clinical advice, consultation, education and training services”. This definition goes on to state that “telemedicine connects patients and health care providers, improving access to quality public health care, particularly in rural and remote parts of NSW. Telemedicine is about utilizing telecommunications in image transfer and videoconferencing to improve access to quality health care”.<sup>6</sup>

There are several **key elements** that can be extracted from each of these definitions of telehealth:

- provision of: information, services, expertise, advice, consultation, education, training, images, voice and data;
- to: patients and health care providers,
- using: ICTs;
- to address: social and cultural barriers,
- in: rural and remote areas.

---

<sup>4</sup> About Telemedicine, What is Telemedicine?, Telemedicine Research Center web Site:  
<http://trc.telemed.org/telemedicine/primer.asp>

<sup>5</sup> Socio-Economic Impact of Telehealth: Evidence Now For Health Care in the Future, Volume One: State of the Science Report, January 17, 2003, page 7

<sup>6</sup> NSW Telehealth, <http://www.health.nsw.gov.au/pmd/telehealth/>

## TELEHEALTH STRATEGIC PLANNING OVERVIEW

Telehealth is only one aspect of a broader e-health context for health program and service delivery. e-Health policy is “a set of statements, directives, regulations, laws, and judicial interpretations that direct and manage the life cycle of e-health.”<sup>7</sup>

### **Benefits**

The following table summarizes the benefits to health system stakeholders.<sup>8</sup> The data was extracted from a study conducted by the Health Telematic Unit at the University of Calgary.

Table 1: Summary of Telehealth Benefits for Stakeholder Groups

<p style="text-align: center;"><b><u>Patients and Families</u></b></p> <ul style="list-style-type: none"> <li>▪ Increased access to service</li> <li>▪ Personal cost savings (i.e., time and travel expense through substitution of telehealth for face-to-face treatment)</li> <li>▪ Improved or equivalent clinical and/or functional health outcomes and quality of care</li> <li>▪ Increased empowerment, patient involvement and participation in care, positive perception, satisfaction</li> <li>▪ Enhanced self-care skills and potential for patients to live independently in their own homes, particularly the elderly and disabled persons</li> <li>▪ Quality of life benefits, including reduced life stress, improved access to information, social and emotional support, and reduced social isolation</li> <li>▪ education</li> </ul>	<p style="text-align: center;"><b><u>Providers</u></b></p> <ul style="list-style-type: none"> <li>▪ improved efficiency in work               <ul style="list-style-type: none"> <li>- if provider travels: telehealth results in travel time savings and ability to see more patients</li> <li>- if patient travels: telehealth results in increased convenience for patient and reduction in no-shows</li> </ul> </li> <li>▪ improved access to professional/specialty support, particularly for rural/remote providers, and associated with this: reduced social isolation and enhanced skills</li> <li>▪ increased access to educational opportunities and skills development</li> </ul>
<p style="text-align: center;"><b><u>Programs</u></b></p> <ul style="list-style-type: none"> <li>▪ improved cost effectiveness of health programs delivered to specific populations</li> <li>▪ reduced costs of direct care, medication costs, etc</li> </ul>	<p style="text-align: center;"><b><u>Regional Health Authorities / Health Organizations</u></b></p> <ul style="list-style-type: none"> <li>▪ cost-effectiveness through, for example:               <ul style="list-style-type: none"> <li>- reduced utilization of health services (i.e., reduced hospitalization rates, reduced utilization of outpatient services, emergency services)</li> <li>- reduced costs of patient transport from remote locations</li> <li>- reduced costs of service delivery</li> </ul> </li> <li>▪ alignment with strategic policy; for example: in accordance with patients’ preferences, enhancing their ability to live independently and stay in their homes as long as possible</li> </ul>

<sup>7</sup> Socio-Economic Impact of Telehealth: Evidence Now For Health Care in the Future, Volume Two: Policy Report, January 17, 2003, page 15

<sup>8</sup> Socio-Economic Impact of Telehealth: Evidence Now For Health Care in the Future, Volume Two: Policy Report, January 17, 2003, page 21

## TELEHEALTH STRATEGIC PLANNING OVERVIEW

<u>The Public</u>	<u>At the provincial and National Levels</u>
<ul style="list-style-type: none"> <li>▪ retention of health services professionals; sustainability of health services in smaller, rural/remote communities, economic viability</li> <li>▪ increased choice / more options in health care</li> <li>▪ enhanced prevention and health promotion initiatives which can be offered via telehealth feasibly and cost-effectively</li> </ul>	<ul style="list-style-type: none"> <li>▪ positive impact on health human resources recruitment and retention</li> <li>▪ alignment with current policy and strategic initiatives, including                             <ul style="list-style-type: none"> <li>- support for primary care</li> <li>- new, innovative ways of delivering health services</li> <li>- prevention / health promotion</li> <li>- complementary to electronic health record (EHR) development and implementation</li> </ul> </li> </ul>

### Canadian Overview

The Canadian e-Health Initiatives Database <sup>9</sup>, a collaboration between the Office of Health and the Information Highway (OHIH), Health Canada and the Canadian Society of Telehealth, provides profiles on Canadian initiatives in categories such as telehealth, electronic health records, education and training, health information, health infrastructure, and standards. As of April 26, 2004, It contained 134 telehealth related programs and projects across Canada. These numbers, and Table 2 below, clearly demonstrate the **wide diversity of telehealth applications** and programs across Canada and all health care sectors.

Table 2: Summary of Canadian Telehealth Related Initiatives

<b>BY FOCUS/INTERESTS</b>		<b>BY DISCIPLINE</b>	
<b>PROGRAM/PROJECT</b>	<b>NUMBER</b>	<b>PROGRAM/PROJECT</b>	<b>NUMBER</b>
Applied Research	41	Addictions (Substance-Related Disorders)	6
Continuing Medical Education	12	Allergy and Immunology	2
Electronic Prescribing	5	Anesthesiology	2
Health Informatics	21	Cardiology	29
Health Information for Providers	122	Community Medicine	10
Health Information for Public/Patients	55	Dentistry	3
Health Information Management	41	Dermatology	10
Health Technology	34	Diabetes Services	13
Standards	26	Ear, Nose, Throat	2
Tele-Administration	2	Emergency Medicine	11
Telecare / Telerriage	24	Endocrinology	3
Teleconsultation / Telemedicine	59	Epidemiology	8
Telehomecare / Telemonitoring	18	Family Medicine	14
Telelearning / Telertraining / Telermentoring	54	Gastroenterology	7
Telenursing	3	Genetics, Medical	2
		Geriatrics	9
		Health Education	2

<sup>9</sup> E-Health Resource Centre, Office of Health and the Information Highway, Health Canada - [http://www.hc-sc.gc.ca/ohih-bsi/res/init\\_e.html](http://www.hc-sc.gc.ca/ohih-bsi/res/init_e.html)

TELEHEALTH STRATEGIC PLANNING OVERVIEW

BY FOCUS/INTERESTS		BY DISCIPLINE	
PROGRAM/PROJECT	NUMBER	PROGRAM/PROJECT	NUMBER
		Hematology	4
		Internal Medicine	5
		Medical Oncology	30
		Mental Health Services	9
		Military Medicine	1
		Neonatology	2
		Nephrology	7
		Neurology	5
		Neurosurgery	2
		Nuclear Medicine	1
		Nursing	16
		Nutrition	8
		Obstetrics and Gynecology	11
		Occupational Medicine	1
		Occupational Therapy	4
		Ophthalmology	5
		Orthopedics	8
		Otolaryngology	4
		Pain Management	2
		Palliative Care	11
		Pathology	3
		Pediatrics	19
		Pharmacology	6
		Physiotherapy	6
		Prosthetics	3
		Psychiatry	15
		Psychology	11
		Public Health	16
		Radiation Oncology	5
		Radiology	18
		Rehabilitation Medicine	12
		Respiratory Medicine	5
		Rheumatology	5
		Self Care	1
		Speech-Language Pathology	8
		Surgery	13
		Surgery, Plastic	4
		Thoracic Surgery	4
		Urology	6

*First Nations & Inuit*

The Canadian e-Health Initiatives Database also identified the following telehealth related initiatives presently taking place in First Nations and Inuit communities. Although fewer in number, Table 3 offers excellent examples of how well telehealth can be incorporated into health program and service delivery for First Nation and Inuit communities.

Table 3: Summary of Canadian First Nations Telehealth Related Initiatives

Alberta First Nations TeleHealth Program (AFNTP)	Application en milieu rural de la télémédecine de première ligne au Témiscamingue
Health Infostructure Support Program (HISP)	Ikajuruti Inungnik Ungasiktumi (IIU) Network
Keewaytinook Okimakanak/NORTH Network Partnership Pilot	MBTelehealth Network
Minoyawin Distributed Homecare Resources (MDHR) Pilot Project	National First Nations Telehealth Research Project
National Pilot Project for Telemedecine in Nephrology	Project Outreach: Telepsychiatry Network
Screen for Limbs, I-Sight, Cardiovascular and Kidney (SLICK)	Telehealth to Improve Child Health in Central and Northern Alberta
Telehealth to Improve Renal Care in Central and Northern Alberta	

### 3. WHY INVEST IN FIRST NATIONS AND INUIT TELEHEALTH?

Discussions with and input from policy makers, health professionals, senior bureaucrats, and First Nation and Inuit partners, have identified numerous reasons for supporting the policy and financial investments that would be needed to initiate and sustain a telecommunications infrastructure and telehealth network for First Nation and Inuit communities. Key points in support of this investment include:

**A. *Equitable Access:*** The rural, remote, isolated First Nations and Inuit communities, often accessible only by plane, boat, or skidoo, are in need of better access to health and specialist services. According to the First Nations and Inuit Regional Health Survey Final Report (1999)<sup>10</sup>, 60% of respondents believe that health services available to First Nations and Inuit are substandard compared to those available to the general Canadian population. Survey respondents identified services in greatest need of improvement: pediatric, disease prevention, medication awareness, diabetes education, homes for the elderly, home care and mental health. Service inequality is also reflected dramatically in nursing and physician shortages in First Nations and Inuit communities.

**B. *Retention of Nurses and other community health providers:*** Using ICTs along with a comprehensive clinical and educational strategy to support nurses and other community health providers would decrease their isolation and allow them to deliver specialist care in remote First Nation and Inuit communities. Nursing retention in remote communities is extremely difficult and telehealth tools are currently being used by rural non-native communities to provide nurses with access to continuing education and peer support options. Support for the use of technology as a key component within a nursing recruitment and retention strategy has already been identified by the Office of Nursing Services, FNIHB.

<sup>10</sup> [http://www.hc-sc.gc.ca/fnihb-dgspni/fnihb/aboriginalhealth/reports\\_summaries/regional\\_survey.htm](http://www.hc-sc.gc.ca/fnihb-dgspni/fnihb/aboriginalhealth/reports_summaries/regional_survey.htm)

**C. Primary Health Care Transition and Health System Renewal:** Provinces and territories are moving to facilitate health program and service access through new telehealth tools and technologies, most particularly in northern, less serviced parts of the country. FNIHB is also undergoing a health system renewal, with public health as a priority. The Branch is working closely with provinces and territories to better integrate physician and other services. Provincial governments are committed to cost containment via reduced hospital lengths of stay, re-admissions and number of beds, as well as greater service efficiency. As part of this partnership and cost-management, service improvement initiative, FNIHB has been requested to participate in linking First Nations and Inuit communities to provincial/territorial regional telehealth networks. It is anticipated that these linkages will help to manage pressures on the overall health care system.

**D. Incorporating telehealth applications into existing FNIHB programs:** Programs such as the Aboriginal Diabetes Initiative, Home and Community Care, Addictions Treatment, and Nutrition present real potential for service delivery via telehealth. This represents a new way of delivering FNIHB programs and services, more efficiently and with significant potential for an expanded scope. Telehealth technology and tools allow for training and capacity building to take place at a distance, keeping a wide range of health sector workers in their communities, while allowing access to the necessary skills upgrade learning to take place. This enables them to be trained in health professions while spending the majority of their studies surrounded by peer and family support.

**E. Rising medical transportation costs:** Transportation costs are currently the second largest driver of costs within the FNIHB Non-Insured Health Benefit (NIHB) program. Financial analysis and future projections suggest that transportation costs will only increase. While the short-term impact of telehealth on transportation costs will vary across communities depending on applications implemented, telehealth's long-term impact is expected to be demonstrated in moderate to significant decreases in transportation costs. These decreased costs could be reflected through the avoidance of unnecessary travel; the ability to perform more diagnostic tests on-site (e.g. ECG, ultrasound); a reduction in emergency situations and medivacs as a result of improved prevention and follow-up care/monitoring; the ability to conduct medical consultations on-site (e.g. dental care, ophthalmology, dermatology).

**F. Rapidly decreasing costs of video/Internet-conferencing technologies:** There has been a significant and steady increase in standards adoption and improved performance of telecommunications and telehealth technologies. These advances are creating an increased worldwide demand for telehealth services. This demand is reflected in initiatives undertaken by global health-related organizations (World Health Organization, G7, Pan-American Health Organization, Organization of American States) and industry (eg. transportation -- airline, cruise), and scientific/military bodies (e.g. NASA using telehealth on Space Station Alpha).

**G. Collaboration initiatives with multiple federal departments:** There have been a number of recent initiatives to enhance telecommunication access to Aboriginal remote communities (e.g. Connecting Aboriginal Canadians, Government Online, Broadband Strategy). These initiatives reflect the overall Government of Canada goal of becoming the most wired nation by 2005.

## TELEHEALTH STRATEGIC PLANNING OVERVIEW

FNIHB has been invited to participate in interdepartmental, infrastructure-sharing initiatives to benefit remote First Nations and Inuit communities, as well as FNIHB operations. Policy development is needed to determine how communities will get broadband access for health care service delivery.

***H. People want to stay in their own communities for treatment, education, prevention and healing:*** Local access to specialized health expertise, information and education through telehealth offers this option for people in all communities. Telehealth empowers consumers and communities, improves access to needed services and expert resources, maximizes opportunities for self-care and improved compliance to treatment plans, and mobilizes new opportunities for patients, families, and communities to prevent illness and promote wellness, independent of the geographic location of patients and providers. This is the strategic direction of primary health care reform in Canada.

As clients are becoming aware of telehealth and of all the opportunities it offers, the demand for this technology is growing. First Nation and Inuit clients who are sent to the city for health services are faced with an often unfamiliar and an occasionally hostile environment. Clients report that differences in language, food, custom and tradition can be overwhelming, and, in fact, have a negative impact on planned treatment with problems of comprehension, compliance and the separation of the treatment from the community context.

Telehealth could, however, potentially have a negative impact on the health of First Nation and Inuit people if it is not culturally appropriate and community focussed in its use and delivery. The technology must not get in the way of the true objective; to improve the health status of First Nation and Inuit individuals and communities.

Appropriately developed telehealth applications could revolutionize health service delivery in First Nations' communities. For example, telehealth applications that allow direct dialogue between the remote specialist and the client could also allow for the participation of the extended family. Many First Nation and Inuit communities identify the involvement of the extended family as an important determinant of wellness and healing.

Telehealth offers an opportunity for multi-jurisdictional partnerships and creativity in using new technologies for the delivery of health programs and services to First Nation and Inuit people. The most frequent use of telehealth is as a tool for expanding access to specialist physician services and these services remain within provincial and regional jurisdictions. The primary service providers at the community level will, however, be employed by the band or the federal government and will be outside the control of the province and regions. Gaining the cooperation and participation of all stakeholders will be required if the goal of developing community appropriate telehealth applications is to be achieved.

**4. LESSONS LEARNED**

The use of telehealth for a wide range of programs and services within health care systems throughout Canada, the United States, and numerous countries around the world, have provided a wealth of information. This information on telehealth comes in the form of strategies, guidelines, evaluation data, and lessons learned. All of these tools offer important direction and can greatly enhance capacity for the effective planning and implementation of new telehealth programs and services. This section provides a selected sample of findings and data available on these topics.

*Strategies and Guidelines*

*The National Initiative for Telehealth* developed a Framework of Guidelines in 2003 <sup>11</sup> to assist with the development of telehealth policy, procedures, guidelines and standards. Guidelines were developed for five main content areas.

Table 4: List of Telehealth Activity Guidelines

CONTENT AREA	TOPIC
clinical standards and outcomes	duty of care
	communications with patients/clients
	standards of practice/quality of clinical care
	clinical outcomes
	patient/client confidentiality
human resources	informed consent
	plans and policies
	roles and responsibilities
	licensure and related issues
	competency and qualifications
organizational readiness	education, orientation and training
	reimbursement
	planning readiness
	workplace environment readiness
	technical readiness
organizational leadership	health system readiness
	organizational leadership Overarching Issues
	organizational accountability
	- governance framework
	- privacy, confidentiality, security, ethics, informed consent
- documentation and storage of patient/client telehealth records	
- liability and risk management	
- cross-jurisdictional services within Canada	
- global and international telehealth	
	ensuring quality telehealth services
	continuity
Technology	procurement practices
	safety
	security

<sup>11</sup> <http://www.nifte.ca/pdfs/FrameworkofGunes2003eng.pdf>

## TELEHEALTH STRATEGIC PLANNING OVERVIEW

CONTENT AREA	TOPIC
	diagnostic quality
	reliability
	acceptability
	interoperability
	scalability
	maintenance
	current technology standards and guidelines

*The Health Telematic Unit, University of Calgary*<sup>12</sup> developed six main strategies for successful and sustainable implementation of telehealth.

1. integration
  - a. part of an organization's strategic plan
  - b. part of a larger e-health domain – use of telecommunication technologies with information technology
  - c. includes a communication plan containing national and provincial policy statements as well as research and evaluation findings
2. policy goal-setting
  - a. establish guiding principles in the planning of programs
  - b. guiding principles must consider all of the potential impacts of a telehealth program and must be clear on the perspective being adopted (i.e., patient, provider, health system, society)
3. recognition and resolution of policy barriers / challenges to telehealth
  - a. key issues that limit the success of telehealth programs include:
    - i. professional – credentialing, licensing and registration
    - ii. ethical issues of privacy and security
    - iii. ethical issues of confidentiality, consent and authorization (data access)
    - iv. reimbursement and other operational (funding)
    - v. accreditation
    - vi. commercial issues of intellectual property and copyright
    - vii. interoperability (technical, professional and organizational)
    - viii. communication issues – cross-border acceptance, use of common language
    - ix. human factor – patient/provider relationships
    - x. impact on health care provider resources
    - xi. readiness – both from a health organizations and patient perspectives
  - b. a final issue identified in the report is the notion of an organization being held liable for **NOT** offering telehealth
4. collaboration, partnership and sharing
  - a. inter-jurisdictional sharing of skills and services
  - b. collaboration between industry and health care organizations

<sup>12</sup> Socio-Economic Impact of Telehealth: Evidence Now For Health Care in the Future, Volume Two: Policy Report, January 17, 2003, pages 27-33

## TELEHEALTH STRATEGIC PLANNING OVERVIEW

- c. inclusion of the public in decision making regarding telehealth options
5. identification of high-impact areas for telehealth
  - a. needs assessments
  - b. risk assessment
6. evaluation and research
  - a. program evaluation must include financial, specialist clinical interests and proof of technology aspects, and should be expanded to include:
    - i. measurement of the impact of telehealth on the social determinants of health (poverty, social isolation, education, life stress, early life, access to transportation and nutrition)
    - ii. patients' views and interest
    - iii. needs of special populations
    - iv. organizational readiness
  - b. these considerations will require a longer time span in order to produce sound and quality evidence
  - c. research is critical to assess return on investment and to provide needed evidence and guidelines for decision makers

The strategy also proposed a potential solution to address some of the issues identified. It suggested the use of clear user-provider contracts that would minimize these issues by identifying:

- i. minimum standards of training
- ii. medical qualification
- iii. liability, insurance and negligence
- iv. total quality management standards
- v. clear and binding financial arrangements
- vi. standards for data protection and patient confidentiality
- vii. regular technical assessment, including economic evaluation

### **Evaluation**

*Health Canada's* Federal Health Transition Funds Project (1998-2001) identified the following evaluation outcomes for First Nation and Inuit initiatives:<sup>13</sup>

- Response to community health needs,
- Acceptability of telehealth by patients and families, and satisfaction with quality of care,
- Improved access to needed, quality care,
- Development of professional skills and competencies of local staff through telehealth training, improved access to outside expertise and associated increased confidence in care and skills,

---

<sup>13</sup> Socio-Economic Impact of Telehealth: Evidence Now For Health Care in the Future, Volume One: State of the Science Report, January 17, 2003, page 41-42

## TELEHEALTH STRATEGIC PLANNING OVERVIEW

- Indications of decreased efficiency (e.g., related to increased appointment length in telehealth consultations and no-shows),
- Increase in cost of care due to improved access to care, but cost savings associated with patient transfers avoided,
- High level of integration and sustainability evidenced in some applications (real-time technologies are advantaged over store-and-forward systems),
- Linkage to other provincial telehealth systems,
- Increased awareness and knowledge of local conditions/resources among health service providers.

### ***Critical success factors***

*The Health Telematic Unit, University of Calgary* identified the following critical success factors for telehealth implementation in First Nation and Inuit communities: community, funding, management, health care/education practice, technology and policy.<sup>14</sup>

In the report, “E-health For Europe: The possible and the practical”, by Paul P. Freddolino, Professor of Social Work, Michigan State University,<sup>15</sup> the following criteria for evaluating an e-health initiative were identified:

- 1) Identification of priority health needs requiring new resources and identification of the remaining needs that will not be addressed in the project.
- 2) Readiness of staff, patients, and organizations to handle a technology-based project.
- 3) Stability and ease-of-use of the technology.
- 4) Level of training and availability of support resources committed to the project.
- 5) Identification of medical staff and patients who actually used the system. Ensure that they were the “right” (intended) patients and staff to use the system.
- 6) Measure project effectiveness in addressing the specific prioritised health needs.
- 7) Identification of technology options and establish criteria for selection.
- 8) Identification of project barriers.
- 9) Obtain patients and other key stakeholders feedback on system functionality and recommendations for improvement.
- 10) Identification of unintended consequences, both positive and negative.
- 11) Identification of suggested requirements for the replication of the project in other settings.

*Health Canada’s FNIHB report Community Services in the 21<sup>st</sup> Century: First Nations and Inuit Telehealth Services* identified the following critical success factors.<sup>16</sup>

---

<sup>14</sup> Socio-Economic Impact of Telehealth: Evidence Now For Health Care in the Future, Volume One: State of the Science Report, January 17, 2003, page 42

<sup>15</sup> “E-health For Europe: The possible and the practical”, eurhealth, Spring 2002, [http://www.euro.who.int/Document/Obs/Eurohealth8\\_2.pdf](http://www.euro.who.int/Document/Obs/Eurohealth8_2.pdf)

<sup>16</sup> The National First Nations Telehealth Research Project Final Report, [http://www.hc-sc.gc.ca/fnihb/phcph/telehealth/publications/final\\_report.pdf](http://www.hc-sc.gc.ca/fnihb/phcph/telehealth/publications/final_report.pdf)

TELEHEALTH STRATEGIC PLANNING OVERVIEW

Table 5: List of Telehealth Activity Critical Success Factors

Project Area	Critical Success Factors	
Community	- attainable expectations	
	- informed	
	- readiness	
	- stable governance and nursing services	
Funding	- comprehensive	
	- sustained	
Management	- decentralized	
	- needs-based	
	- local champion	
	- evaluation criteria considered at outset	
	- targeted performance goals (preferably quantified)	
	- effective change management	
	- effective time management	
	- effective project management at the community level	
	- communications strategy	
	- access to technical expertise	
	- training/capacity building	
	Health Care / Educational Practice	- comprehensive provincial reimbursement of telehealth services provided by fee-for-service practitioners
		- formal agreements (MOU) with referral and educational centers
- resolution of liability, licensing, accountability and insurance issues		
- standardized practice protocols and clinical guidelines		
- compliance with academic standards/curricula and accreditation		
- interprovincial licensing agreements		
- evaluations of clinical and educational efficacy		
- legal and technical provisions for privacy and confidentiality		
- ethics review		
- periodical training and 24/7 technical support for telehealth users		
Technology	- user-friendliness	
	- ongoing technical support	
	- security mechanisms	
	- interoperable, plug-and-play solutions	

## TELEHEALTH STRATEGIC PLANNING OVERVIEW

Project Area	Critical Success Factors
	- access to the required bandwidth
	- telecommunications planning at the outset
	- sufficient testing and demonstration period
Policy	- flexibility/choice in referral patterns
	- harmonization of F/P/T initiatives
	- positive evaluations of telehealth
	- federal coordination of non-insured health benefits/telehealth policies

### 5. CONCLUSIONS/NEXT STEPS

Health Canada's final report on the National First Nations Telehealth Research Project <sup>17</sup> provided evaluation data to demonstrate that telehealth can be successfully implemented in isolated First Nations communities. This research clearly illustrated that telehealth provides access to needed, quality care; builds stronger relationships with external health providers; and enhances community capacity to better undertake major health initiatives. Successful implementation of telehealth, however, is contingent on several important factors at the community level: nursing station staff stability; community mobilization; strong relationships with remote providers and provincial telehealth systems; and, effective technology and supports.

In late 2004, FNIHB expects to have completed work on a Branch wide e-Health Strategic Framework, identifying potential policies that could guide the selection and deployment of electronic tools (including telehealth) in an effort to modernize the delivery of health services in First Nation and Inuit communities. A telehealth business case/strategic plan will form part of the electronic tools selection process and FNIHB has commenced work on this document. The plan is meant to be a comprehensive analysis of the full potential of what can be achieved by telehealth. It is a means of addressing the main concerns of decision-makers and funders, and encouraging them to ultimately support an ideal scenario for First Nation and Inuit telehealth implementation. The Plan determines who, when, where and how telehealth could potentially be implemented in First Nations and Inuit communities. This is critical to determining a costing model for potential future telehealth communities (i.e. how many sites). The Plan anticipates what would occur *if* funding is granted for large-scale implementation. The scope of this possible funding is not known and, therefore, the Plan explores, and remains flexible to deal with, various funding options.

Any plan to enhance and modernize through technology the delivery of health programs and services to First Nation and Inuit communities can only be successful if First Nation and Inuit leadership participate in the process and decision-making. First Nation and Inuit leadership, on behalf of their communities, are key participants in framing a plan for health modernization and

<sup>17</sup> The National First Nations Telehealth Research Project Final Report, [http://www.hc-sc.gc.ca/fnihb/phcph/telehealth/publications/final\\_report.htm](http://www.hc-sc.gc.ca/fnihb/phcph/telehealth/publications/final_report.htm)

## TELEHEALTH STRATEGIC PLANNING OVERVIEW

the use of electronic and communications technologies, including telehealth. Feedback obtained through the Crossing Boundaries on-line feedback process will assist in accumulating citizen feedback and help guide decisions with this initiative.