

## *Executive Summary*

It is the AFN's position that a 100% investment ratio will enable *and* accelerate First Nations telemedicine services. This position is based on nation-wide consultations with First Nations, key informant interviews with provincial telemedicine principals and Canada Health Infoway Incorporated's (CHII's) investment record. The AFN asserts that CHII plays two complementary roles as an investor in First Nations Telehealth. The first role is enabler. CHII fulfills this role by investing in documentation, best practices, change management and management tools that reflect First Nations and Aboriginal circumstances, conditions and service models. The latter role is to "directly contribut[e] to increased utilization and expansion of telehealth services...in identified areas of need such as Aboriginal communities."

The latter role addresses the need to prioritize telehealth service development in rural and remote First Nations and to accelerate their participation in regional health authority, provincial and federal telehealth systems and networks. While CHII has achieved some success as an enabler, its catalytic capacity is less clear. Accordingly, the AFN is concerned that the CHII telehealth investment program and criteria are dis-incenting First Nations and provincial partners from collaborating on sustainable telehealth development projects and, as a result, that the \$17.5M First Nations investment envelope will be under-subscribed before the end of the program in December 2009.

While complementary issues – such as the absence of FNIH operational funding for First Nations services, lack of First Nations telehealth policy and program leadership by FNIH, significant and ongoing human and system telehealth capacity gaps in remote First Nations, the high cost of connectivity and the generally poor state of the telecommunications infrastructure in or near First Nations territories – continue to mitigate against successful diffusion of telehealth innovations among First Nations, it is the position of the AFN that changes to CHII's investment ratio for First Nations telehealth and amendments to its investment requirements and eligibility criteria will substantively accelerate First Nations telehealth participation and First Nations capacity to integrate their needs and resources with federal and provincial partners.

AFN support for First Nations telehealth services and systems is embedded in the *First Nations Action Plan*, the *Aboriginal Health Blueprint* and, recently, the *Wait Times Road Map*. Telehealth, in these contexts, provides an opportunity for First Nations to close long-time policy, program and health outcomes gaps by enabling strategic partnerships with F/P/T stakeholders, to increase First Nations health system influence and decision-making, to increase the level and quality of local health service delivery and to make more effective use of cross-jurisdictional health systems and scarce health human resources. Accordingly, the AFN views telehealth as a means for augmenting delivery of health services for achieving a more even distribution of health and wellness resources among First Nations and for supporting new health human resource opportunities in First Nations communities.

In Fall 2006, the AFN's Health and Social Services Secretariat initiated discussions with CHII with the aim of increasing First Nation participation in the CHII telehealth

investment program. AFN argued that the CHII 75% (Phase 0 & 1) and 50% (Phase 2) investment limits represented significant access barriers and that these barriers were correlated with minimal First Nations participation in national telehealth development. Further, the AFN proposed that CHII telehealth investment program criteria did not address basic infrastructural and operational requirements for successfully launching and sustaining telehealth services.

AFN proposed that an effective way of improving First Nations access to CHII investment was for CHII to create a First Nations investment policy similar to its existing Territorial telehealth policy. This policy provides 100% investment across all project phases for telehealth initiatives led by Territorial governments and in partnership with a provincial telehealth service or agency. CHII agreed that this type of instrument might be an effective means of expanding First Nation telehealth development and asked that AFN develop a rationale to be presented to their Board for review. Specifically, CHII asked AFN to develop two First Nations projects – in provinces or regions where there is little or no telehealth activity – that would demonstrate how 100% investment would make a difference. Mandatory CHII and Best Practice Telehealth Readiness criteria for selecting these sites are presented beginning on page 37 of this document.

#### *Addendum*

The Position Paper was completed in March 2007. The Canada Health Infoway Board endorsed a 100% funding ratio for First Nations initiatives later that same year – a policy change that directly benefited First Nations working in partnership with provincial Ministries of Health. Currently CHII has no funds available to invest in telehealth.

The original Position Paper was comprised of three sections. The first section described the vision for telehealth and its relevance for First Nations. This section reviews telehealth's perceived role as a First Nations access solution and its historical development and summarizes how telehealth is applied in different tele-learning, tele-care, tele-triage and telemedicine settings. The second section provided an environmental scan and a current state analysis of First Nations telehealth and addressed the potential impact that a 100% First Nations telehealth investment ratio might have. The environmental scan summarized main points made during the AFN-sponsored First Nations Telehealth consultations and the current state analysis presented updated information on First Nations telehealth development and assessed key factors provided by informants. The impact section reviewed CHII's track record with regard to the number of First Nations that would benefit from access to integrated and coordinated telehealth services.

A final section reviewed selection criteria and identified First Nations jurisdictions where potential 100% investment ratio projects are located. This version of the Position paper is focused on the first two sections. Section three and the Appendices have been removed.

*John Rowlandson, October, 2009*

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## ***Telehealth Vision & Relevance for First Nations***

*AFN supports telehealth in First Nations communities because it reinforces First Nations jurisdiction and expands health services into rural communities. (Yukon First Nations Telehealth Conference Report: 24 April 2006; p. 1)*

The Assembly of First Nations has noted that “pan-Canadian investments in...Telehealth have generally not reached First Nations, despite federal recognition of the need for an Aboriginal Health Infostructure.” (Health Action Plan, 4). The AFN supports increasing telehealth capacity to enhance and improve First Nations access to health and wellness services. It also sees telehealth as an important tool for ensuring that First Nations benefit fully from improvements to Canadian health systems. The November 2005 *Blueprint on Aboriginal Health* highlights telehealth capacity to address longstanding First Nations delivery and access issues in geographically isolated locations. “Canada,” the *Blueprint* reads, “will complement health services by investing in *telehealth* services in rural, remote and northern First Nations communities.” The *Blueprint* also challenges provincial/territorial governments to “accept the need to ensure linkages with First Nations' *telehealth services* within their own telehealth strategic plans.” ([http://www.hc-sc.gc.ca/hcs-sss/pubs/care-soins/2005-blueprint-plan-abor-auto/index\\_e.html](http://www.hc-sc.gc.ca/hcs-sss/pubs/care-soins/2005-blueprint-plan-abor-auto/index_e.html)).

The *Road Map to a Patient Wait Times Guarantee for First Nations* situates telehealth as part of a structural change required for achieving First Nations-specific health outcomes. The report identifies three key capacities for telehealth, “especially in rural, remote and northern First Nations” (2). First, telehealth is seen as a practical way to bridge First Nations patient information across all relevant jurisdictions (22); second, telehealth is seen as a way to directly contribute to lessened wait times through faster access to diagnostic and consultation services (24); and, thirdly, the authors of the *Roadmap* highlight the unique opportunity of First Nations telehealth to “create an inter-jurisdictional First Nations Patient Wait Times Prevention and Reduction Strategy so long as it is not utilized to displace the need for community-based human resources.” (25).

Telehealth, in these contexts, provides an opportunity for First Nations to close long-time policy, program and health outcomes gaps by enabling strategic partnerships with F/P/T stakeholders, to increase the level and quality of local health service delivery and to make more effective use of cross-jurisdictional health systems and scarce health human resources. Accordingly, the AFN views telehealth as a means for augmenting delivery of health services for achieving a more even distribution of health and wellness resources among First Nations and for supporting new health human resource opportunities in First Nations communities.

### ***Health Access and First Nations Health***

Access to health services for First Nations is a fiduciary responsibility of Canada and is embedded in federal legislative and policy domains. Health Canada's First Nations and Inuit Health (FNIH) Branch is the primary federal mechanism for meeting federal health service obligations for First Nation populations. Currently the federal government provides health services to First Nations living within their communities that include health promotion, disease prevention and primary care. Most health care services that are

accessed by First Nations in rural and remote communities are provided by FNIH. Health care is also provided to First Nations through provincial and territorial insured services and programming.

There are many difficulties in achieving the same level of services for First Nations people compared to those of other provincial and territorial residents. Timely First Nations access to health care is constrained by inconsistencies in the way that federal, provincial/territorial and First Nations jurisdiction is interpreted. Uncertainty over responsibility in the scope of health service delivery in First Nations communities and geographic location of these communities are exacerbated by urgent need for community-based care as evidenced by higher rates of illness, disease complexity, co-morbidity and limited access to experienced and culturally competent health care practitioners. These factors mitigate against First Nations receiving comprehensive access to required health and wellness services in their communities.

In addition to FNIH's policy and program mandate, First Nations health services are secured through contemporary legislative protocols. Specifically, the *Canada Health Act* (CHA) outlines principles, objectives and criteria that must be met to secure the transfer of financial resources to the provinces for the delivery of insured health services. Provincial requirements include five criteria – public administration, comprehensiveness, universality, portability and accessibility. The uneven application of these criteria in First Nations contexts has created demonstrable differences between First Nations and non-First Nations health status. From a health determinants perspective, First Nations have nominally benefited from increases in funding to provincial health services. Attributing benefits to First Nations through mainstream program investments has yet to demonstrate improved health status (Shah et al, 2003).

Health researchers today are finding a direct link between the accessibility of comprehensive health and wellness services and First Nations health status. For instance, Alaskan researchers documented in the mid 1990s the positive association between the geographic isolation of North American Indian populations and higher hospitalization rates and potentially higher avoidable admission rates (Cunningham).<sup>1</sup> In 2003, the *Institute for Clinical and Evaluative Sciences* extended the relationship between access to health services and First Nations health. Their analysis concluded that Ontario's northern, reservation-dwelling Aboriginal population had a higher hospitalization rate for ambulatory care sensitive conditions (ACS) and a lower utilization rate for referral care sensitive [specialist] procedures (RCS) than that of the general population (Shah et al, 2003).

These ACS/RCS indicators demonstrate inadequate primary care coverage on-reserve. They highlight longstanding physical and temporal access barriers to medical specialists and allied health professionals and underscore the need for culturally appropriate and

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<sup>1</sup> Cunningham's work is validated in a Canadian context by Closson (2005). *The Integrated Service Plan for Northwestern Ontario* identifies the isolated [First Nations] to the north of Sioux Lookout as having the "**highest rate of admission for potentially avoidable hospitalization conditions**" in the Local Health Integration Network (emphasis added). Closson concludes that the rate of avoidable hospitalizations for this population is "over 250% the rate for residents of the rest of the province."

context-sensitive preventative interventions closer to home. They also underline associated system-wide problems such as anticipated health professional shortages. First Nations dependence on a shrinking supply of general practitioners, medical consultants, nurses and allied health professionals anticipates the need to increase distributed access to health resources – an approach that enhances existing forms of health service access, increases retention and recruitment of health professionals on-reserve and enables new health career opportunities for First Nations living in their territories. Similarly, these data highlight the need to augment medical transportation with telemedical visits to address increasingly complex, chronic and co-morbid conditions on-reserve and to support upstream investments in patient learning and community capacity-building.

### ***The Telehealth Link to Improved First Nations Access to Health Services***

For more than 20 years, First Nations telehealth pilot projects have demonstrated local enthusiasm for telehealth and have highlighted unique service, support and sustainability requirements for the delivery of high quality, secure clinical videoconferencing in isolated and culturally distinct communities. Results of First Nations pilot studies and ongoing telehealth programs suggest that telelearning and telemedicine, while successful, are mostly inaccessible to First Nations living in their communities. The most successful projects are managed by mandated First Nations health bodies, have leveraged capital and operational commitments from FNIH regions and have negotiated seamless and/or specialized access agreements to health providers by engaging provincial telehealth principals, agencies and infrastructures.

During the past ten years, innovations in information and communications technologies (ICTs) have demonstrated new opportunities for reducing First Nation isolation from health service providers and for improving capacity to manage community-based population health and wellness. These innovations are variously labeled as health informatics (client information systems that support electronic health, medical and/or patient record-keeping) and telehealth. This *Position Paper* addresses the latter category of ICT development and its capacity to enable and accelerate the development of First Nations telehealth systems.

### ***Canada Health Infoway's Capacity to Enable and Accelerate First Nations Telehealth Development***

Canada Health Infoway Incorporated (CHII) is the primary entry-point for telehealth development in Canada. CHII has made formative and iterative telemedicine investments in provincial and territorial jurisdictions. It is governed by a Board of Directors that includes Canada's 14 F/P/T Deputy Ministers of Health as well as clinical and private sector representatives. Accordingly, CHII is a vehicle for strategically shaping the telehealth access landscape in Canada. CHII makes project-based investments in telehealth pre-feasibility (Phase 0), pre-implementation (Phase 1) and implementation (Phase 2) projects. Past investments include strategic plans, clinical acceptance/adoption, management models, technology standards and system interoperability. Notional telehealth investments by jurisdiction are described in *Exhibit 1* (below).

The CHII investment ratio is variable by project phase and jurisdiction. Telehealth initiatives in the Yukon Territory, Northwest Territories and Nunavut are supported by 100 percent investments. Elsewhere CHII supports 75 percent of phase 0 and phase 1 projects and 50 percent for Phase 2 – implementation – projects. Among its stated objectives, CHII has targeted the development of telehealth in rural, remote, northern, Aboriginal and official language minority communities. Specifically, CHII aims to “directly contribut[e] to increased utilization and expansion of telehealth services...in identified areas of need such as Aboriginal communities.” CHII defines Aboriginal as First Nation, Inuit and Métis and has made notional allocations of \$17.5 million (First Nations) and \$1.1 million (Inuit) to support its Aboriginal commitment.

Forecasted Distribution	FN	NFLD	PEI	NS	NB	QC	ON	MN	SK	AB	BC	YK	NWT	NT
	17.5	7.0	0	1.75	1.5	27.0	24.0	1.5	1.0	17.5	14.0	3.0	1.0	.75

### **Defining First Nations Telehealth**

Many definitions of telehealth exist. *Tele-* means far away or distant. When it is joined with health it refers to treating and supporting people and communities that are physically distant from care providers. The *Canadian Society of Telehealth* (<http://www.cst-sct.org>) adopts a definition that highlights both the ways telehealth is used and its capacities to address longstanding gaps in health service access. For the *CST*, telehealth is the “use of information and communication technology (ICT) to deliver health services, expertise and information over distance, geographic, time, social and cultural barriers” (Reid, 1996). The *CST* definition also anticipates the important concept of interoperability in telehealth. Originally, a term developed in the computing industry, it is a central feature of telehealth development in Canada and encompasses “the exchange of information in order to deliver health services and business transactions, without loss of meaning, through a common core of understanding of working processes, policies and regulation, use of the electronic tools, and human skills required” (Canada, 2003).

*Interoperability* is usually categorized within three dimensions: technical systems need to share standards so that they can talk to each other, clinical services have to be managed and delivered within common protocols and practices, and organizational structures have to be aligned and compatible. First Nations Telehealth – borrowing from established notions of cultural competence and safety – has introduced a cultural dimension of telehealth interoperability: “culturally sensitive health care, such as context appropriate preventative interventions, development and use of tools to accurately elicit patient preferences and required resource allocation to facilitate access to desired services (e.g., language, community capacity development)” (Inter Tribal, 2005).

Telehealth is commonly categorized by its main service areas. Clinical telehealth or telemedicine supports medical uses to enhance clinical encounters and provide medical and health professional education and training. *Telemedicine* uses dedicated and secure network services and usually requires high bandwidth ICTs – video-conferencing – and trained local staff to support direct delivery of community based healthcare, patient

diagnoses and treatment decisions.<sup>2</sup> *Tele-learning* uses high or low bandwidth ICTs to provide access to interactive and often customized courses (eg. First Nations personal care support worker or NNDAAP training) and facilitates health administrative meetings.<sup>3</sup> *Telecare* is also called home telehealth. *Telecare* generally uses low bandwidth ICTs designed to monitor the state of health of a patient from his/her home including the exchange of related medical information (e.g. glucose levels, pulse, O<sup>2</sup> saturation, blood pressure). *Tele-triage* is the provision of health information and advice to patients over the telephone about preferred courses of action related to the level and urgency of care needed. Providers use computerized protocols developed by clinical experts to guide and record the advice provided.

### ***Development of First Nations Telehealth and Telemedicine Services***

Information and communications technologies have been used to address health service access needs of First Nations communities since the 1930s. The Hudson's Bay Radio Network regularly used wireless short wave technology installed in company stores and ships to call for emergency medical advice and transport support. In the early 1970s the Department of Communications introduced high frequency trail or bush radios to link trappers with nursing stations in their home communities and to staff at regional hospitals. The introduction of telephony in many remote First Nations communities between 1975 and 1985 extended the reliability and capacity of telecommunications to support clinical decision-making. Nurses used telephones to confirm treatment and transport decisions with distant physicians. Telephony also enabled transmission of ECGs and slo-scan medical imaging (x-rays) between remote nursing stations and secondary and tertiary health facilities (Carey et al, 1979; Dunn et al, 1980). The application of the latter technologies provided a key evolutionary step towards the current use and understanding of telehealth. Specifically, these early projects contributed to the development of clinical protocols, standards and applications that are the exclusive domain of telemedicine.

In the 1990s, federal investments in First Nations telemedicine were accelerated. This led to the development of a number of pilot projects being implemented. For example, the MERLIN project (**M**edical **R**emote **L**ink **I**ndian-health **N**etwork) used real-time broadband satellite connections to connect the Sioux Lookout Zone hospital to Health Canada's Ottawa offices and Nursing Stations in the Kitchenuhmaykoosib Inninuwug and Webequie First Nations. MERLIN bypassed telecommunications infrastructure problems through the use of satellites and introduced an early prototype of today's integrated telemedicine workstation. The workstation accommodated medical peripherals – such as stethoscope – enabled nurse/physician video consultations and facilitated x-ray and ECG transmission between sites (HC Data). The cancellation of the MERLIN model demonstrated how a technologically advanced telemedicine system ultimately relies on integration with nursing station and regional hospital work flow and requires community,

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<sup>2</sup> Telemedicine increasingly is being augmented by asynchronous store-forward and portal-based systems. Unlike real-time videoconferencing, these systems do not require high bandwidth but do have similarly high network security, reliability and interoperability requirements. Canada Health Infoway Incorporated describes these tools as 2<sup>nd</sup> and 3<sup>rd</sup> generation telehealth systems.

<sup>3</sup> 70 percent of First Nations telehealth projects provide access to health administrative, education and training services only (see *Exhibit 2*, below)



physician and nursing buy-in. It also highlighted how the cost of high quality symmetrical broadband services has a negative impact on the sustainability of remote and northern First Nations telemedicine services.

In 1998, Health Canada secured commitments from the *Health Transition Fund* to launch a national First Nations Telehealth pilot project that included sites in Quebec, Manitoba, Saskatchewan, Alberta and British Columbia. Generally, these five projects demonstrated the full scope of barriers that limit implementation, acceptance, use and sustainability of telehealth in remote First Nations settings. Evaluation of the five First Nation telehealth pilot projects that ran from 1998 - 2001 revealed that the key to successful telehealth implementation in Aboriginal communities is primarily dependent upon human factors. For example, telehealth acceptance by patients, providers and families was dependent upon the commitment and capacity of individuals involved in the projects, and the presence of stable and committed staff throughout the implementation period. Health Canada also noted the enabling role of telecommunications infrastructure and the potential importance of establishing regional First Nations systems that could generate volumes sufficient to demonstrate community-based benefits and facilitate physician and nursing acceptance of telehealth.

In January 2000, Health Canada announced funding to support a regional telehealth consultation in northwestern Ontario. The high cost of medical transportation in northwestern Ontario's Sioux Lookout Health Zone highlighted the value of First Nations telehealth. Keewaytinook Okimakanak's *Kuh-ke-nah Network* (an Oji-Cree phrase meaning everyone, everywhere) had a pre-existing broadband network to its five communities and was asked to participate in the consultation and the regional development of telehealth services. Dr. Edward Brown – then Program Director of the legacy *NORTH Network* and currently CEO of the *Ontario Telemedicine Network* - was selected as the lead consultant to oversee the consultation. The consultation engaged regional and community-based health workers and professionals and reflected local needs and priorities across the region and specifically in the Deer Lake, Fort Severn, Keewaywin, North Spirit Lake and Poplar Hill First Nations.

The final report of the regional consultation supported implementation of telehealth in the KO First Nations and became the basis for a working partnership between *Keewaytinook Okimakanak* and the *NORTH Network*. In April 2001, *Keewaytinook Okimakanak* (Northern Chiefs Council) entered into a services partnership with *NORTH Network*. *Keewaytinook Okimakanak* (KO) was tasked with developing, documenting and managing a comprehensive clinical telehealth service model that addressed the requirements of rural and remote First Nations. Health Canada funded the partnership for two years as part of its Canada Health Infostructure Partnership Program (CHIPP).

Subsequent project funding has supported the expansion of the project to an additional 19 First Nations sites within the Sioux Lookout Health Zone, the Beausoleil First Nation on Christian Island in north-central Ontario and the Weenusk First Nation on the eastern shore of James Bay. KO Telehealth is now the most successful and longest running First Nation telemedicine pilot project in Canada and the only one to offer comprehensive

access to medical specialists, primary care and allied health professional services to on-reserve First Nations populations. Parallel to the development of the KO model in Ontario, Alberta's First Nations and Inuit Health Branch was directed by its First Nations leadership to capture provincial investments in the SuperNet infrastructure and implement health information and communications technologies. With the assistance of FNIH project funding and a federal government-on-line project an Alberta First Nations Telehealth Project was implemented – providing access to health administrative and training services in 21 First Nations in Alberta.

### **Service Model Dimensions**

Since the development of the KO Telehealth and the Alberta First Nations Telehealth projects, the First Nation and Inuit Health Branch has increased and broadened its investments in First Nations telehealth (see *Exhibit 2* for a summary of service model distribution and *Appendix 1* for a detailed description of Service Model Requirements and capacities). These investments are largely characterized by two distinct, yet complementary tele-learning and telemedicine service models. FNIHB and the Alberta First Nations Health Information Management Committee have adopted a tele-learning service model and have developed services – such as web portals and educational videoconferencing – that require less bandwidth, fewer security provisions, less complex community capacity requirements and fewer points of integration with provincial service providers.

As a result, telehealth in Alberta First Nations has focused on services that address issues such as nursing recruitment and retention and the need for community-based educational support. This service model places less emphasis on clinical service delivery.<sup>4</sup> First Nations in northern Ontario have adopted a collaborative hybrid model of telehealth development. This model addresses community-defined health and wellness needs, is fully integrated with the provincial telemedicine system and provides comprehensive local access to telehealth.<sup>5</sup>

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<sup>4</sup> For example, in 2004-05 about one percent of telehealth sessions (24/1775) performed by the Alberta First Nations Telehealth Program was classified as a “client-centred” clinical session” (Cristescu, 8).

<sup>5</sup> For example, of the nearly 7,000 sessions that KO Telehealth has coordinated between March 2002 and November 2006, slightly more than 50% are client-centred clinical services, 18 percent are health professional educational events, 17 percent are training sessions for community health staff, 13 percent supported administrative meetings and two percent of all telehealth activity facilitated family visits with persons under care at provincial health facilities. (Williams, 2006)

Exhibit 2: Health Videoconferencing Coverage by Type of Service Model and Community-based Access to Clinical Services			
Provincial Jurisdiction	Health Education/Training & Administrative Videoconferencing Service Model	Comprehensive Medical Service Model	Clinical Service Sites
Alberta	27	0	10
British Columbia	27	0	0
Manitoba	10	0	0
New Brunswick	6	0	5
Newfoundland	2	0	0
Nova Scotia	3	0	1
Ontario	25	25	25
PEI	0	0	0
Saskatchewan	20	0	1
Quebec	7	0	2
<b>TOTAL</b>	128	25	39

### **First Nations Telehealth Benefits**

Although published and grey literature have yet to define a business case for comprehensive access to telemedicine services (Roine, 2001), there is substantial documentation of a *value case* for the service, particularly in rural and remote First Nations settings. The *value case* captures quantitative indicators such as First Nations disease-burden, existing level of health and wellness service access and potential upstream benefits flowing from early intervention and team-based care and addresses qualitative markers such as improved community well-being, community capacity-building and cultural interoperability and appropriateness of the service. These factors along with community buy-in, community capacity to influence telehealth service development and integrated and tripartite partnerships have been shown to contribute to a sustainable telehealth program.

Provincial telehealth strategic plans list a wide range of benefits that are expected to flow from their service investments. Typical of these documents is the British Columbia Telehealth Plan's assertion that "[c]reating a comprehensive, integrated provincial telehealth system is envisioned as a means of realizing three key benefits: improving **access** to needed health and health care services; enhancing **quality** of health services and improving **productivity** (Babiuk, p 11). In a First Nations context, these benefits are grounded in community expectations to contribute to community wellness and concrete requirements to build capacity and enhance existing levels of health service delivery. Observed benefits of First Nations telemedicine and telehealth services are listed below:

- Community economic development resulting from a healthy and more informed workforce
- Reduced patient travel burden (reduced family disruption, discomfort and financial impact as a result of being able to attend appointments from the community)
- Improved system effectiveness – community-based access reduces the number of 'no-shows' at medical specialist appointments
- Development of community-based technical (connectivity) capacities, knowledge and skills

- Entry point for new health careers, e.g. certified Community Telehealth Coordinators facilitate community-based access to comprehensive medical, wellness, health administrative, education and training programming
- New working relationships and partnerships between First Nations and First Nations enabling organizations (regional health authorities and services, provincial agencies and Ministries)
- Capability for full integration with provincial telemedicine networks
- Access to clinical and educational sessions benefiting both individuals and community health workers
- Improved community-based health service training and education capacity;
- Enhanced capacity to support community and regional health professional retention and recruitment strategies
- Reduced impact of longstanding geographical barriers to access by connecting First Nations to health resources available to most Canadians;
- Directly supports technological advancements in health (i.e. Teleradiology—electronic transmission of x-rays, client information systems);
- Full integration with nursing and medical programs that increase First Nations opportunity to choose health careers and increase familiarity of First Nations for nurses and physicians as part of their educations

### **Summary**

The AFN views telehealth as a means for augmenting federal commitments to deliver and support health services in rural and remote First Nations communities and an opportunity for First Nations to improve their capacity to influence and direct health service development and delivery in their communities. Similarly, telehealth is seen as a tool for both improving the effectiveness of First Nations health programming and as a way to maximize First Nations health career choices and chances. More than 20 years of pilot projects have demonstrated the value of telehealth in First Nations settings. In that time, two pre-dominant service models have emerged. The tele-learning model is focused on the use of videoconferencing to facilitate health administrative communication and knowledge and skills transfer. The telemedicine model includes the aforementioned elements and supports community-based access to medical, allied health professional and wellness services.

Benefits of implementing both service models have been documented. Quantitative and qualitative indicators have demonstrated a value proposition for federal and provincial health systems. In addition to human factors (staffing, training, organizational integration and coordination), technical factors – specifically the scalability of existing telecommunications infrastructures, connectivity costs and service quality – continue to limit First Nations participation in telehealth service development. While Health Canada investments in telehealth have been scattered over many years and have never benefited from a sustained commitment, CHII telehealth investment is targeted to enable and accelerate services in First Nations. The CHII investment ratio and eligibility criteria, however, reflect provincial – and not federal – health infrastructures, requirements and capacities. Changes to investment ratios and criteria are necessary to establish the material conditions for successful First Nations telehealth development and partnerships.

Specifically, the AFN views existing caps on First Nations telehealth investment and CHII restrictions on telehealth eligible investments to be key levers for improving First Nations access to tele-learning and telemedicine services. In the following section, the First Nations telehealth development vision and context is situated in an environmental scan. AFN sponsored telehealth consultations that were supported by Canada Health Infoway are reviewed and key themes identified. The thematic review is complemented and updated by information provided by key informants.

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## ***Environmental Scan & Current State Analysis***

The acknowledged complexity and diversity of First Nations health and wellness service needs, expectations and capacities animated the development of a telehealth consultation process. This process was animated by the AFN and supported by regional and local organizations. Participants learned about how telehealth is being used by provincial and First Nations organizations and contributed to our understanding of the community-based needs, conditions and challenges that telehealth must address in order to be successful. Primarily, participants expressed that telehealth should contribute to improved health outcomes and to close the gap between First Nations and non-First Nations health status. They also described key barriers such as poor telecommunications infrastructure, high connectivity costs, untrained staff and the joint challenges of sustainability and establishing favourable working relationships with provincial partners.

Key informant interviews conducted with provincial and federal telemedicine principals in February and March 2007, validated these concerns and highlighted the generally slow pace of First Nations telehealth development within provincial and territorial jurisdictions. With few exceptions, informants supported the notion of 100 percent CHII investment in First Nations telehealth projects and confirmed the role of CHII eligibility criteria in dis-incenting project development. The first part of this section summarizes the AFN-sponsored consultations and a latter section reflects on responses from key informant interviews and the potential impact of CHII 100% investment in First Nations telehealth.

### ***AFN Sponsored Consultations***

In Spring 2005, the AFN, secured resources from Canada Health Infoway and the First Nations and Inuit Health Branch to enable strategic planning for First Nations Telehealth. In the Fall of 2005, AFN launched a Canada-wide initiative to build community telehealth capacity and to animate regional discussion and development of strategic telehealth priorities by First Nations. The launch event for this nation-wide initiative was the September *First Nations and Inuit Telehealth Summit* (FNITS), supported through the Primary Health Care Transition Fund (PHCTF), and co-ordinated with the *Canadian Society of Telehealth's* annual conference.

Following the summary of the FNITS are eight focused synopses of the reports from AFN-sponsored First Nations telehealth consultations carried out regionally from late 2005 to late 2006. The reports summarized originated from these fora/processes:

- Telehealth in BC: From Vision to Action Plan
- Yukon First Nation Telehealth Conference
- FSIN Regional Telehealth Workshops
- Manitoba First Nations Telehealth Workshops
- Sustaining First Nations Telehealth through Change Management (N. Ontario)
- “Gii Kaan Daan” Ontario First Nations Telehealth Conference
- Quebec First Nations and Inuit Telehealth Regional Forum
- Atlantic Canada Telehealth Strategic Plan.

The summaries highlight key findings from the consultations in the following areas: perceived benefits of telehealth, the challenges and barriers faced in developing and sustaining telehealth services and the factors deemed necessary for successful telehealth service delivery in First Nations communities. *Exhibit 3* further groups these findings thematically and ranks them in relative order of importance. The data presented reflects highly differentiated engagement processes and subject orients. The reader will note that in some instances items identified as benefits – e.g. human resources (meaning human resource development capacity – are identified by others as barriers (i.e. scarce human resources). These *oppositions* have been clarified wherever possible while remaining true to the text produced by the regional consultation.

<b>Exhibit 3: Key Findings AFN First Nations Telehealth Consultations</b>			
<b>Key Benefits</b>	<b>Critical Barriers</b>	<b>Success Factors</b>	<b>Future Requirements</b>
<p><b>1. Improvement in Health Services</b></p> <ul style="list-style-type: none"> <li>. Essential to delivery of health services in remote and isolated communities</li> <li>. Improved access and enhanced quality of service (culturally appropriate)</li> <li>. older and mental health clients highest priority</li> </ul>	<p><b>1. Cursory Community Consultation</b></p> <ul style="list-style-type: none"> <li>. Insufficient consultation with community regarding needs, resources, support and engagement</li> <li>. Lack of consultation and engagement resources</li> <li>. Lack of communication to staff, leadership, elders</li> <li>. Wariness of technology</li> <li>. Concern for removal of health care choices</li> <li>. Change management process inadequate</li> </ul>	<p><b>1. Community Control</b></p> <ul style="list-style-type: none"> <li>. Must be First Nations-driven</li> <li>. Community-based processes</li> <li>. Services provided are identified as needed</li> <li>. Engagement of First Nations to identify priority health care needs</li> <li>. Needs assessment by community prior to implementation</li> </ul>	<p><b>1. Sustainability</b></p> <ul style="list-style-type: none"> <li>. Partnerships essential for sustainability – funding, service provision,</li> <li>. Federal/provincial policy framework in place</li> <li>. Interoperability of policies, service standards and networks</li> <li>. Telehealth-enabled Aboriginal health programs (federal and provincial)</li> </ul>
<p><b>2. Enhanced Human Resource Capacity</b></p> <ul style="list-style-type: none"> <li>. Professional development for remote staff</li> <li>. Reduces feeling of isolation</li> <li>. Improves recruitment, retention and productivity</li> <li>. Increased capacity and employment within community</li> </ul>	<p><b>2. Lack of Connectivity</b></p> <ul style="list-style-type: none"> <li>. Insufficient access to and quality of broadband services</li> <li>. High costs to implement and sustain</li> <li>. Many communities without access</li> <li>. Limited or inadequate space, resources to build</li> </ul>	<p><b>2. Available Connectivity and Capitalization</b></p> <ul style="list-style-type: none"> <li>. Provide and sustain sufficient bandwidth</li> <li>. Acquire easy to use equipment and create/renovate space</li> <li>. Broadband should be considered community infrastructure</li> <li>. Equipment and network maintained (training and technical support)</li> <li>. Common support toolkits and services</li> </ul>	<p><b>2. Telehealth Strategy</b></p> <ul style="list-style-type: none"> <li>. Develop a formal telehealth strategy fully engaging First Nations</li> <li>. A plan of action required</li> <li>. Unified approach and strategy by region/province</li> <li>. Overall control and direction of First Nations</li> </ul>
<p><b>3. Patient Comfort</b></p> <ul style="list-style-type: none"> <li>. Reduced travel time and dislocation</li> <li>. Less time away from work and family</li> <li>. Visits at a distance</li> <li>. Elders are better served (clinical and with gatherings)</li> </ul>	<p><b>3. Sustainability</b></p> <ul style="list-style-type: none"> <li>. Absence of policy framework and funding mechanism</li> <li>. Isolated uncoordinated projects</li> <li>. Inadequate financial resources for operations and connectivity</li> <li>. Poor or non-existent relationship with provincial/regional service provider</li> <li>. Inadequate legislative framework</li> </ul>	<p><b>3. Dedicated Human Resources</b></p> <ul style="list-style-type: none"> <li>. Success depends of commitment and capacity of individuals involved</li> <li>. Community capacity required to optimize clinical use, animate engagement of community, coordinate training</li> <li>. Designated First Nations staff deliver the service</li> </ul>	<p><b>3. Videoconferencing</b></p> <p>Focus on videoconferencing as the backbone of all telehealth services</p>

**Exhibit 3: Key Findings AFN First Nations Telehealth Consultations**

Key Benefits	Critical Barriers	Success Factors	Future Requirements
	<p><b>4. Scarce Human Resources</b></p> <ul style="list-style-type: none"> <li>.Capacity of all kinds lacking</li> <li>. Need for initial and ongoing training and support for staff</li> <li>. High staff turnover</li> <li>. Where no designated staff to work on telehealth, service inadequate, burden on existing staff</li> </ul>	<p><b>4. Sustainability Measures</b></p> <ul style="list-style-type: none"> <li>. Ongoing funding required for network, staffing, training and technical support (policy framework in place)</li> <li>. Requirement for partnership with provincial service providers/ stakeholders</li> <li>. Need to seamlessly mesh with one another (networks)</li> <li>. Close and supportive relationship between First Nations health and service provider</li> <li>. Technical, clinical organizational and cultural integration</li> </ul>	
	<p><b>5. Unacknowledged Patient Concerns</b></p> <ul style="list-style-type: none"> <li>. Privacy/confidentiality</li> <li>. Protection of personal information</li> <li>. Limited or inadequate space</li> <li>. Inadequate policies and training</li> <li>. wariness of technology: implications of telehealth (reduce ftf service)</li> </ul>	<p><b>5. Change Management</b></p> <ul style="list-style-type: none"> <li>. Multi-level communication strategy</li> <li>. Ongoing flow of information between communities and all stakeholders</li> <li>. Procure support of community leadership</li> <li>. Community engagement for awareness and ownership</li> <li>. Manage expectations</li> </ul>	
		<p><b>6. Policies</b></p> <ul style="list-style-type: none"> <li>. Operational guidelines in place</li> <li>. Developed at community level, regionally endorsed and meshing with provincial partners</li> <li>. Agreed-to standards and regulations</li> <li>. Central coordination of scheduling, booking and event coordination</li> <li>. Appropriate legal and policy framework, e.g. patient privacy</li> <li>. Ongoing training on and updating of policies</li> </ul>	
		<p><b>7. Research and Evaluation</b></p> <ul style="list-style-type: none"> <li>. Continuous improvement protocols</li> <li>. Demonstrate success</li> <li>. Measure performance and progress</li> <li>. Ongoing research and evaluation for expanded access and ease of use</li> <li>. Support continuation by finding better programs/alternatives</li> </ul>	



## **1. National First Nations and Inuit Telehealth Summit 2005**

The AFN and Inuit Tapiriit Kanatami (ITK) coordinated the National First Nations and Inuit Telehealth Summit on September 23 and 24, 2005, in Winnipeg, Manitoba. Approximately 260 representatives from First Nation/Inuit community organizations, Tribal Councils, PTO's and National Organizations as well as from the federal and provincial governments attended the conference whose purpose was to build partnerships among federal, provincial and community telehealth stakeholders; to build a Telehealth Toolkit to develop and support the growth of telehealth technologies and resources in First Nations and Inuit communities and to provide an opportunity to launch the development of regional telehealth plans. This summary provides a focused synopsis of feedback provided by key conference presenters and participants solely on those topics also covered in the summaries of the regional consultations in this document, namely, *Benefits of Telehealth, Challenges, and Critical Success Factors and Future Requirements*.

### **Benefits of Telehealth**

It was pointed by several presenters that telehealth can address distance issues and provide emergency qualified services critical to remote communities. In addition, doctors and specialists are more able to provide expertise in remote areas using telehealth, thus alleviating stress for families and medical staff, alike. One presenter noted the urgency of focusing telehealth services on mental health because the lack of timely diagnoses in this area could contribute to high suicide rates. The benefit of reduced delay for and better access to diagnostic information for patients was considered a prime benefit of telehealth, particularly for smaller, remote communities. This was joined with the benefit of the reduction of unnecessary travel.

Community capacity building was raised frequently during the conference as a significant benefit of telehealth. It was pointed out that the benefit of training local people and health professionals alone should be considered as sufficient rationale for a long-term commitment to telehealth. Telehealth provides community health workers with access to professional development services that have not been previously available and increases communications among health professionals.

Reduced jurisdictional barriers, support for individuals seeking diagnoses, partnerships in the implementation of effective strategies and ongoing linkages between federal and provincial systems were mentioned in a session as benefits of telehealth. The use of telehealth to diagnose new and emerging diseases was brought forward as well as was the overall benefit of enabling Inuit and First Nations communities to reach a standard of living and care equivalent to those of the rest of Canada.

### **Challenges**

The National Chief noted that although Canada has been a leader in telehealth for many years, First Nations and Inuit communities have not yet received the same opportunities to make use of the technology. Further, while the technology opens doors to new ways of health care and delivery of service, the critical challenges of financial and health human resources sustainability must be addressed. The need for adequate technological

infrastructure and the need to increase the level of broadband connectivity in remote areas, particularly in First Nations, was noted on several occasions

### **Critical Success Factors/Future Requirements**

A number of presenters felt that the most critical factors for a successful telehealth service are the need for appropriate broadband connectivity, state of the art equipment, qualified workers and technicians at the community level. According to the feedback from one session, community e-readiness is defined as not only the number of computer servers and the quality of broadband connectivity available but also as the community's ability to use technology skillfully, the extent to which ICT development is encouraged, the transparency of its administration and the basic IT literacy of community members.

Strong change management is necessary to enable an organization to change healthcare processes and delivery models. Further, telehealth must develop a delivery strategy that is integrated across federal, provincial and First Nations services. A key objective that the conference sessions explored was how to assess and identify regional needs, objectives, and a regional planning process. Related to this, some participants acknowledged the importance of pre-planning and engagement activities relative to telehealth, for example, establishing a regional coordination body to be responsible for overseeing the overall development, developing a mission statement and overall goal for the process and engaging communities from the ground up.

A key message to be conveyed to communities in the regional planning process is that telehealth is a tool to enhance (not replace) existing health or primary care services. The importance of initially engaging community health care leaders regarding the development of telehealth was also raised. It was also noted during sessions that it is vital to recognize the varying levels of knowledge at the community level. A regional coordinating body should identify community needs and fully understand the concerns and costs of telehealth development.

The following points were raised in one session as critical to the successful implementation of telehealth:

- Engagement of community and federal/provincial/territorial governments
- Taking advantage of 'what we know'
- Development process must be community friendly and in a language communities understand
- Most of the planning needs will be at the front end
- Recognize the varying degrees of engagement by communities
- Coordinating body needs to know the communities

Several sessions at the conference reinforced the role of a local champion to take on the responsibility for promoting telehealth at the community level. Ongoing linkages with youth and schools to promote the use of technology were also suggested. It was recognized that there is a need to develop the rationale for telehealth from different perspectives i.e. education, health services, governance, etc. The need for telehealth expertise in each community, infrastructure for privacy and shared technology were

brought forward as key components for a successful service. Knowledge and awareness by governments and telehealth partners of Inuit and First Nations reality, culture and geography are essential as is the buy-in from professional staff within and outside the community.

Pre-consultation research should be administered in a focused and strategic manner and should include the development of communications tools to support dialogue with community members. There is a strong requirement to pre-examine the communities, their translation needs, their leadership, adjacent communities and health representation.

It was pointed out that the Elders' support is critical and, therefore, they should be included in all consultation and engagement strategies. It is important address community needs and the needs of the leadership in the planning phases of the service. There is a need, as well, to consult all community-related health professionals.

During one session it was emphasized that telehealth will not be effective without adequate community interest and readiness and not all communities are moving toward integrated use of the technology at the same pace. Various ways of encouraging attendance at consultations sessions were suggested, for example, kitchen meetings, story-telling session, bingo nights, etc.

The following list of telehealth priorities were developed by one group:

- Define timelines
- Develop milestones to check progress
- Develop financial target and funding
- Conduct community research
- Consider RCAP priorities
- Address cultural components
- Establish a task group responsible for evaluation
- Recognize flexibility needed in tailoring a plan to meet community needs
- Design a communications plan from the ground up
- Use consistent language
- Pursue consistent and sustainable funding for telehealth
- Engage leadership, and
- Conduct a feasibility study.

The need for adequate and sustainable funding was recognized as a key requirement and it was further acknowledged that priorities need to be community-driven and 'buy-in' occur at all levels of the community. Important issues to be considered identified in one session included leadership support, community planning, and financial resources. There is also the requirement to develop an overall plan which addresses the needs of health care professionals and includes sustainable and long-term strategies.

## **2. Yukon: First Nations Telehealth Conference**

The Yukon First Nations Telehealth Conference was coordinated by the Council of Yukon First Nations and the AFN Yukon Regional Office on April 24, 2006. In April 2006, 10 of the 14 Yukon First Nations had access to telehealth services through a Government of the Yukon service that connected the Whitehorse General Hospital and rural community health centres. The service is supported by the Department of Health and Social Services and is largely educational.

### **Benefits of Telehealth**

Some First Nations communities receive excellent support for and involvement in the telehealth service. This depends in part on the relationship between the First Nation and the community health centre with which it is affiliated. As an example, if the community health centre has a close working relationship with the First Nations health department, First Nations health staff are regularly invited to participate in continuing education opportunities on the network.

### **Challenges**

Yukon First Nations have not been actively involved in the development and delivery of the Yukon government's telehealth program. To date they have not been involved in planning or needs assessment to determine locally what health needs - for education and training - could be addressed using telehealth.

Some First Nations do not make use of the telehealth services provided in their community health centre because of lack of support/connection to the community health centre in their area. Some participants were unaware of how to access the telehealth continuing education schedule and had never been invited by the local health centre to participate in a session. Four of the 14 Yukon First Nations have no access to telehealth services. It was pointed out that because of limited regional resources it will be a challenge to develop a strategic plan for telehealth.

### **Critical Success Factors/Future Requirements**

Conference participants were interested in accessing education sessions by telehealth about specific topics, i.e. pandemic flu planning and public health. For those First Nations whose health centres are connected, the challenge is to establish relationships with health centre staff. Regional linkages in the Yukon need to be strengthened and future telehealth activities should focus on assessing the communities' needs and capacity for telehealth activities. A key recommendation is for the development of a formal telehealth strategy engaging Yukon First Nations in its development and implementation.

## **3. British Columbia: "Telehealth in BC: From Vision to Action"**

The Provincial Telehealth Steering Committee of British Columbia carried out the first phase of the BC Telehealth Planning Project whose purpose was to set out a three to five year plan for the future of telehealth in the province. The project was initiated in November 2004 and concluded in March 2006 with the report, "Telehealth in BC: From

Vision to Action” Telehealth requirements of First Nations were integrated into this process. A First Nations Telehealth Planning Partnership (FNTPP) was formed to provide advice to the provincial team. FNTPP representatives were drawn from telehealth-ready mandated First Nations health organizations in each of the provinces geographic health regions. Two First Nations representatives were invited to participate on the provincial Telehealth Steering Committee

Activities in the project included a literature review and key informant interviews. The Project also included one-day telehealth engagement /pre-planning sessions hosted by each of six First Nations Telehealth Planning Partners in their regions. The six First Nations organizations are: Carrier-Sekani Family Services (Northern); Heiltsuk Health (Vancouver Coastal); Inter-Tribal Health Authority (Vancouver Island); Nisga’a Valley Health Board (Nisga’a); Sto-lo Health and Social Development (Fraser) and Three Corners Health Services Society (Interior).

A two-day Telehealth Development/Interoperability Workshop was held at the end of the regional engagement sessions. The Provincial Health Services Authority in partnership with the Inter Tribal Health Authority (ITHA) developed the workshop to jointly identify challenges and opportunities and to suggest actions related to the development of telehealth service in First Nations communities in British Columbia. At the time of the workshop, two First Nations telehealth networks (Inter Tribal Health Authority and FNIH) were providing health education and training services to 17 sites in British Columbia; however, there are no First Nations communities interconnected with any of the six provincial Health Authorities.

### **Benefits of Telehealth**

The project report indicated that creating a comprehensive, integrated provincial telehealth system is envisioned as a means of realizing three key benefits: improving access to needed health and health care services; enhancing quality of health services; and, improving productivity. Telehealth was described as having the greatest potential to improve access and choice for both patients and providers of health and health care services in rural and remote communities many of which are First Nations.

First Nations key informants readily recognized the capacity of videoconferencing services to improve existing forms of access to health programming and to enhance and augment community-based health and wellness services. During the First Nations Telehealth Partners regional engagement workshops the following health and wellness needs were felt to be able to be addressed by telehealth:

- Improved access and choice
- Improved quality
- Community building
- Access to specialist medical and allied health professionals
- Mental health and addictions
- Chronic disease education and management
- Elder care
- Family visitation

- Maternity care
- Care giver training
- Linkages for “low incidence” populations.

### **Challenges**

The report advised that the dispersed nature of mandates and funding related to health service delivery to First Nations communities in the province resulted in circumstances that make partnership essential. Communities expressed concern about the possibility for telehealth to compromise their personal privacy, replace existing services, or remove the choice of having a face-to face encounter with a health professional. Limiting factors cited as well were the availability of bandwidth, the federal/provincial partnership arrangements required to launch and sustain successful initiatives and Aboriginal leadership and system ownership in the telehealth system. The generally poor state of the physical plant was also seen as a significant barrier to expanding telehealth to Outpost and First Nations health facilities. Finally, human resources were cited as critical to success but no community has the full range of knowledge, skills, abilities and resources needed to mount and operate a full-spectrum telehealth program

### **Critical Success Factors/Future Requirements**

A key factor for telehealth to be successfully implemented in First Nations communities is the requirement that provincial health services and First Nations stakeholders foster understanding and working relationships. The fact-finding activity of the planning process summarized four strategic investments necessary to support a comprehensive, provincial telehealth system:

- Common Services
- Connectivity and Capitalization
- Capacity building, and
- Continuous Improvement.

Data presented in the report short listed the following success factors: a) listening to communities at the outset, 2) forming strategic partnerships to overcome infrastructure barriers such as the unavailability of adequate bandwidth resources, and 3) building in the capacity to respond to community-based technical, training and service needs. Lessons learned from First Nations Telehealth projects have showed that successful telehealth implementation is dependent on human factors – acceptance by patients, providers and families and this, in turn, dependent on the commitment and capacity of individuals involved in the projects and the presence of stable and committed staff throughout the implementation period.

Identified community capacities included in the report were:

- Growing technical capacity
- Community leadership and keen interest among community health providers
- Culture of community development
- Existing and emerging collaborations and linkages
- Interest and funding potential from a variety of sources.

Identified commitments, resources and activity needed to make telehealth a reality included:

- Stable, predictable and adequate funding
- Ability to communicate and demonstrate success at the local level
- Training and community capacity building
- User friendliness and customer support
- Demographic and utilization data for planning and evolution
- Detailed plans
- Support of the physician community
- Evergreen strategy, and
- Communications.

Important take-away messages from the Telehealth Development Workshops included:

- Each community is different and will have different priorities
- There are many major health and health care needs in First Nation communities so the benefits of telehealth need to be understood
- Community engagement is essential, and
- Telehealth cannot be treated as an add-on to existing full workloads.

Telehealth Development Workshop presenters observed that telehealth interoperability for Aboriginal wellness is dependent on:

- Recognition and valuing of Aboriginal individuals by professionals and systems;
- Community-based approaches that are of meaning to the health of the individual, family and community;
- Developing protocols for the professional use of telehealth at every level of service delivery;
- Moving forward on the basis of mutual education and trust; and
- An ongoing focus on potential of sustainability.

Supporting the development of technical capacity locally can reduce communities' reliance on centralized support, ensure the support is customized to local needs, avoid the need for technical travel from a central location to multiple distant sites, and ensure familiarity with the equipment and other features of the local site.

#### ***4. Saskatchewan: Workshops on Needs/Challenges in Telehealth for Saskatchewan First Nations***

Workshops were held in Regina, Saskatoon and Prince Albert in May 2006, coordinated by the Health and Social Development Secretariat of the Federation of Saskatchewan Indian Nations (FSIN). The purpose of the consultations was to ascertain the needs and challenges facing First Nations communities in Saskatchewan relating to Telehealth. Since November 2005, Telehealth services have been provided to First Nations in the Fort Qu'Appelle Valley as part of a provincial network. The primary service is educational services to health care staff, but a number of clinical consultations have taken place. In addition, Onion Lake First Nation has conducted a Telehealth Needs Assessment and pilot project (March 2006).

The Peter Ballantyne Cree Nation (Northern Inter Tribal Health Authority) has an operative telehealth program – four telehealth centres in their communities are connected with the control centre in Southend First Nation.

### **Benefits of Telehealth**

The overriding conclusion from the three workshops is that telehealth could play a major role in the provision of health services to First Nations in the province, particularly in more remote, isolated communities and with older patients. Telehealth is also viewed as an excellent tool for health education programs such as the treatment of diabetes, proper diets, and safe water usage, as well as for the recruitment of health professionals. It is seen as a useful means for securing the opinions of medical experts, and for the diagnosis and provision of mental health services, especially in the addictions field. Overall it was felt to be an innovative way of dealing with distance by bringing the expertise of the medical profession to the community.

In the Fort Qu'Appelle Valley project, cooperation within the region has been very positive, resulting in some telehealth initiatives on-reserve. The most effective interventions were with older patients who were unwilling or unable to leave their home community. Telehealth has also been used in the mental health field to solve the problem of limited access to specialists in the area. The Onion Lake First Nation assessment pinpointed the “drivers” for telehealth as travel savings, competency building for staff and staff recruitment and retention. Similarly, the Peter Ballantyne Cree Nation project has established overall satisfaction. The project has significantly reduced travel requirements, especially for older patients, and is used to help patients remain in contact with families back home.

### **Challenges**

Adequate financial resources are considered a primary barrier, especially given recent cuts by FNIHB to their eHealth Solutions budget. Technology (connectivity) is another major challenge. Access to Saskatchewan's Community Net is considered essential and most First Nations in Saskatchewan do not have access to the provincial network. Broadband services should be coming to 86% of Saskatchewan communities in 2007. There is a need for linkage to a provincial network without losing control by First Nations. Further, privacy measures must be taken prior to telehealth implementation to make certain that privacy and confidentiality are assured.

In the Fort Qu'Appelle Valley project the most important problem is funding for equipment and connectivity. Most communities in the Qu'Appelle Valley area do not have high speed and so cannot participate in the service. There are no community-based telehealth workers, leaving community health workers to organize and set up consultations thus severely limiting the widespread application of the service.

In Onion Lake First Nation lack of training and capacity to deliver telehealth services in the community resulted in part in the low utilization of the service. In the Peter Ballantyne Cree Nation project, the high cost of broadband was cited as a challenge although it was agreed that the resulting high speed connectivity was essential to the



success of the project. There was also concern expressed about possible negative effects by the project on existing medical taxi services provided by Non-Insured Health Benefits.

#### **Critical Success Factors/Future Requirements**

There is a requirement for overall coordination as evidenced in the areas where telehealth has been implemented. This is necessary if a First Nations-controlled system is to be designed and implemented as a part of a provincial network. Coordination should be at the provincial level using the Northern Inter-Tribal Health Authority model. Other requirements for success raised include: carrying out needs assessments in each First Nations prior to implementation; employing First Nations staff in the delivery of telehealth to enhance comfort and utilization by patients; and ensuring telehealth rooms are adequately sound-proofed.

#### **5. Manitoba: Telehealth Workshop**

The Assembly of Manitoba Chiefs (AMC) hosted a Telehealth Workshop on March 15 and 16, 2006, to begin developing a Regional Telehealth Plan. Eleven northern Manitoba First Nations are currently proposed to be connected via satellite to the Manitoba Telehealth network. These are in addition to the 11 First Nations who have had telehealth services in their communities since June 2006.

#### **Benefits of Telehealth**

Participants agreed that Telehealth is now essential to the delivery of health services to rural and remote communities and is necessary for health information management and stewardship.

#### **Challenges**

The issue of sustainability remains the most critical challenge for a successful service.

#### **Critical Success Factors/Future Requirements**

In order to address shared concerns regarding sustainability, it was agreed there is a need to identify and develop long-term relationships with partners. Education (immediate information campaign) should take place in First Nations regarding ICTS, broadband connectivity and telehealth including required community capacity and the essential need to build partnerships for sustainability. First Nations leadership should be specifically targeted for information in this area. Needs assessments should be conducted in remaining First Nations to understand their requirement and readiness for telehealth services.

#### **6. Ontario: “Gii-Kaan-Daan” Ontario First Nations Telehealth Conference**

The “Gii Kaan Daan” First Nations Telehealth Conference was held on June 14-15, 2006, in Toronto and online. It was coordinated by the Chiefs of Ontario in partnership with the AFN, Health Canada and Keewatinook Okimakanak. The Conference explored the challenges and opportunities of telehealth as a tool to improve the quality of health and wellness of First Nations in Ontario and gathered feedback from participants about the roles that telehealth could play in their communities. Very little telehealth services are available outside of the Sioux Lookout Health Zone. Funding for pilot projects with

Akwesasne and Chippewas of the Thames First Nations has expired. Under an agreement with FNIHB until March 31, 2008, KO Telehealth delivers clinical consults and health care staff training in 25 remote First Nations in the Sioux Lookout District – and on Christian Island – in partnership with the *Ontario Telemedicine Network* (OTN).

### **Benefits of Telehealth**

Key benefits cited included broader access to health care and an improvement in access, retention of health professionals in remote communities and allowing more inclusion of the family in health care provision. The Ontario Telemedicine Network (OTN) presenter outlined the number of kilometres of travel avoided in the past year with the resultant reduction in provincial travel grant costs. Community staff indicated telehealth has decreased the cost of travel, allows for pre- and post-operative care and diabetes clinics, and has been particularly useful for patients who are not able to leave their families. Also mentioned was the use of the technology to organize Elders gatherings. Researchers indicated that if value were assigned to the new services provided by telehealth the cost savings afforded by telehealth would increase. Health care professionals indicated that they are able to build connections with their professional community via videoconferencing and that this is a good strategy for reducing the high rate of staff turnover in remote communities.

### **Challenges**

The KNET Manager highlighted the challenge their network has faced in developing a community network for multiple applications which has good enough quality to encourage and sustain use. Another challenge raised was the difficulty in getting all relevant stakeholders to the table to discuss how to develop partnerships between Aboriginal communities and telehealth.

### **Critical Success Factors/Future Requirements**

A key recommendation from the Conference was that First Nations telehealth should be funded as a fully operational program within Health Canada making this program available to all First Nations. Other federal and provincial government services should be encouraged to make use of the service in order to sustain broadband infrastructure development in First Nations.

It was also raised that community champions are the most important factor to the sustainability of the network and service. The KO Telehealth model has demonstrated that local control is critical for the successful adoption of telehealth at the community level. Training and capacity building are essential ingredients for developing and sustaining local applications. Community Telehealth Coordinators provide a critical support service for the effective delivery and ongoing operation of local telehealth applications.

Community readiness was frequently cited as the critical first step in the development of telehealth. Participants emphasized the necessity for the community to be adequately prepared for the implementation of the service so it is fully aware of its role and responsibilities. Emphasis should be placed on promoting the use of telehealth to support

mental health at the community level, including professional development and training opportunities as well as mental health promotion and clinical sessions. Mental health was cited as an ideal pilot project to introduce telehealth. Evidence has strongly shown that initial mental health consults should be in person and that some specialists need to have face to face contact with patients.

The Aboriginal Telehealth Knowledge Circle (ATKC), whose mission it is to expand the use of telehealth to support indigenous health, identified four routes to accomplish their goal:

1. information and knowledge transfer and sharing
2. promotion and professional development
3. change management and implementation tools
4. advocacy and strategic alliances.

### **7. Northern Ontario: KO Telehealth Stakeholder Workshop**

The “Sustaining First Nations Telehealth Through Change Management” Workshop took place in Balmertown, Northern Ontario, on September 12 and 13, 2006. The purpose of the workshop, organized by KO Telehealth, was to seek direction from community, regional, provincial and federal stakeholders to identify and address change management issues and opportunities in the KO Telehealth network. Under an agreement with FNIHB until March 31, 2008, KO Telehealth delivers clinical consults and health care staff training in 25 remote First Nations in the Sioux Lookout District – and on Christian Island – in partnership with the Ontario Telemedicine Network (OTN).

#### **Benefits of Telehealth**

Key strengths of the KO Telehealth service as identified in the workshop:

- Improved patient access (comprehensive service)
- Community-driven /wholistic model
- Builds local capacity (CTCs)
- Multiple partnerships

An evaluation conducted by the *Centre for Rural and Northern Health Research* at Laurentian University showed that the KO Telehealth expansion project (from 5 to 25 sites) successfully improved access to services (health care, education and information) and that the program had the potential to reach operational capacity and become a financial success in the near future. The evaluation estimated KO Telehealth to be at or near the “break-even” point based solely on averted travel.

#### **Challenges**

The absence of a policy framework/funding mechanism for First Nations telehealth is an ongoing concern of KO Telehealth placing their service in a complicated project-based funding environment. In the communities there continues to be a pressing need for more capacity building and training and an ongoing concern about adequate and secure space to house the service. Community leadership expressed the wish that the communications infrastructure be a community resource with community access. The availability and quality of local, regional and province-wide technical support remains an ongoing issue.

### **Critical Success Factors/Future Requirements**

The following strategies for future development emerged from the workshop:

- Expansion of the service to more communities
- Increased demand for and use of the service by community users and service providers
- Enabling the flow of patient information across facilities, jurisdictions and the continuum of care moving from proprietary to standards-based solutions
- Defining and enhancing the “value proposition” of telehealth to ensure sustainability and continued use and development (e.g. lower cost technology solutions and alternate delivery models)

Recommendations from Workshop:

1. Need to develop a multi-level communications strategy
2. Identify gaps in federal/provincial policy and recommend interoperability
3. Ensure KOTH requirements are aligned with federal and provincial policies and standards and vice versa
4. Develop policies and standards with the communities and have them endorsed by organizations representing the First Nations of the area
5. Develop a plan of action to fund Aboriginal telehealth services in the province
6. Telehealth-enables high priority Aboriginal health programs (federal and provincial)
7. Demonstrate success to all stakeholders and develop a clear plan for sustaining telehealth

### **8. Quebec: Connecting Communities Regional Forum 2005**

“Connecting Communities Telehealth Regional Forum” was organized by the First Nations of Quebec and Labrador Health and Social Services Commission (FNQLHSC) and FNHIB E-Health Solutions Unit. Approximately 80 participants from First Nations communities and organizations and federal and provincial agencies attended the forum in December 2005. The forum’s objectives were to inform decision-makers and health care professionals about the opportunities available through telehealth, identify key factors in the success of a telehealth project and make recommendations for the development of a Regional Telehealth Strategy.

At the time the Forum was held, two pilot projects had been initiated in Quebec. The Winneway Telehealth Project connects the health centre in Winneway with the Sainte-Famille Health Centre in Ville Marie. Agreements are now in place with Ste-Justine hospital for psychiatric consultations and for teletraining for psychosocial counsellors, nurses and doctors. The project is developing a contract for cardiology and pneumology services with Val d’Or.

The second pilot project began in 2002 and is based in Manawan. This service was funded by the Primary Health Care Transition Fund. Multiple partners became involved and service provision began in 2005. CHII provided project funding in that year. Mental health, gynecological-obstetrics and ENT services are provided with nurses doing follow-

ups of pregnancies via telehealth. The project is estimated to require \$150,000 a year to operate for two days a week.

### ***Benefits of Telehealth***

According to the Ministry of Health and Social Services, the primary benefits of telehealth are: improved access to medical services, reduced travel, increased retention of health professionals, and creating links between health professionals and various institutions.

### **Challenges**

The following barriers were raised:

- insufficient staff to provide telehealth services along with other duties
- foreign software and insufficient technical support
- fear of the unknown
- limited medical staff involvement
- no fee recognized for certain kinds of telehealth consults which decreases motivation for physicians
- cost of connectivity is prohibitively high.

The Ministry of Health and Social Services identified three main problems: inadequate legislative framework, bandwidth problems and too many isolated initiatives.

### **Critical Success Factors/Future Requirements**

It was generally agreed that the next step is the development of a First Nations Telehealth Strategic Plan for the province. Key elements of the strategy should include a telehealth needs assessment by communities, high speed connectivity and a unified approach. It was agreed that the process must be First Nations-driven.

Other key factors for success include:

- the system has to be simple and easy to use
- service requires a recognized community champion (who should be paid)
- partnerships are necessary to ensure quality of service and sustainability
- integrated approach to community needs
- ongoing financial support
- good quality technical team
- cooperation of the staff at the nursing station

The Ministry of Health and Social Services suggested the following steps:

1. Identify service needed by organization/community.
2. Begin discussions with an institution or network available in your region.
3. Assess the possibility of using telehealth to support activity.
4. Prepare the telehealth project in collaboration with the “RUIS” (Réseau Universitaire Intégré de Santé) telehealth team.
5. Promote partnerships among First Nations, the provincial Ministry of Health and Health Canada.

## **9. Atlantic Canada: Stakeholder Engagement Process**

A stakeholder engagement process was conducted from March to August 2005 with Atlantic First Nations and Inuit health service providers, Aboriginal leadership, Provincial Telehealth Networks, SchoolNet Atlantic and FNIHB. The purpose of the engagement, carried out by FNHIB and the Union of New Brunswick Indians, was to facilitate the development of a Strategic Plan for Telehealth in Atlantic Canada. The process included four workshops, and ten community focus groups as well as a survey of the Aboriginal Leadership. In total, 159 stakeholders participated in the community engagement process.

At the time that the engagement process took place, the Eskasoni First Nation in Nova Scotia had been a part of the Nova Scotia Telehealth Network for more than five years. In New Brunswick, there has been a pilot project in Elsipogtog with the Dr Georges L Dumont Regional Hospital. This service is rarely used. SMART Labrador demonstrated telehealth and the River Valley Health Authority established a Telehealth program with Tobique First Nation, providing addictions and mental health services.

### **Benefits of Telehealth**

The following benefits emerged (with the proviso that certain key challenges must be overcome first):

- staff and clients stay in community resulting in reduced travel time and costs, less time away from work and family, and less travel in inclement weather
- families are able to visit at a distance
- greater compliance with referrals
- improved access to regional and provincial health care services, specialists and other health care providers
- improved integration between First Nations and Inuit health care services and provincial/regional health services
- increased access to culturally appropriate health care services
- improved services for mental health clients
- improved opportunities for education sessions and support for staff, reducing the feeling of isolation and having an impact on staff retention and recruitment
- improved follow-up care and discharge planning
- reduction in wait times

### **Challenges**

The following are some of the lessons learned from Telehealth pilots/programs:

- need for training or support after training
- technical training needs to address the integration of the technology into the operations of the network and health centres
- insufficient consultation with community regarding needs, resources, support, and engagement
- change management process inadequate and lack of communication to front-line staff
- low utilization because of restricted use of equipment and services offered
- high network costs and low quality of service

- wariness of technology and its value based on previous projects
- lack of trust (provincially and federally)
- service provided not following existing referral patterns
- lack of human resources capacity at community level including high staff turnover, limited computer skills, high workload, etc
- limited or inadequate space which may not answer need for client privacy and confidentiality.

### **Critical Success Factors/Future Requirements**

A number of components were identified as critical to the successful planning and implementation of telehealth programs. The following factors should be considered:

#### **Planning**

- services provided by telehealth are identified as needed by the community
- strong partnerships are formed with specialists and service providers
- funding required for infrastructure – room preparation, network, equipment, training and implementation
- ensure high speed network with quality of service in place
- sustainable funding

#### **Change Management**

- procure band leadership support and manage expectations
- champion for telehealth identified in the community
- community engagement process leads to awareness and buy-in
- partnership with provincial/regional health authority
- operational guidelines and policies in place
- proper staff training

#### **Implementation**

- central coordination of scheduling
- policies, procedures and training on privacy and confidentiality
- no overloading of existing staff
- dedicated project manager (implementation and ongoing)

#### **Operational**

- High-speed data network with guaranteed quality of service
- Telehealth equipment installed and maintained (user support, training and technical support)
- success is dependent on the assignment of appropriate human resources
- space requirements include location, privacy, security, configuration, lighting and wiring
- sustainability with ongoing funding, training, technical support, maintenance, network costs and staffing

## Key Informant Interviews

Reports resulting from AFN-sponsored regional Telehealth consultations have been updated through a series of key informant interviews (KIIs). Interviews took place during February and March of 2007. Selection of subjects was guided by criteria that highlighted informant capacity to provide current information into regional growth of First Nations telehealth, operational insight, information about existing and emergent partnerships, and ability to identify potential 100% investment projects. Additional interviews followed from recommendations of those originally contacted or referenced during the interviews. KII selection criteria are attached as Appendix 2. At least one key informant interview was conducted with a telehealth or telemedicine principal in each provincial jurisdiction with the exception of Prince Edward Island where no telehealth program currently exists. Most interviews followed a questionnaire format (attached as Appendix 3). Others were iterative and less formal. In addition to the KIIs, a briefing and feedback session was held with regional e-Health Coordinators and First Nations telehealth principals where participants were asked to validate information presented and make suggestions going forward (Agenda and Minutes of the 14 March 2007 meeting is attached as Appendix 4).

Interviews confirmed the uneven state of First Nations telehealth development across provincial jurisdictions. However, it is apparent that the AFN sponsored First Nations telehealth consultations have animated interest in telehealth and supported development projects in most provincial jurisdictions. *Exhibit 4*, below, identifies all of the First Nations telehealth projects supported by CHII. This table both highlights CHII's strategic role in supporting management models for implementing successful telehealth programs and applications and demonstrates limited First Nations uptake of the telemedicine investment program. *Exhibit 5* provides a summary of the current status of First Nations telehealth development by provincial jurisdiction.

<b>Exhibit 4: CHII First Nations Investment to 31 March 2007</b>			
Jurisdiction	FN Organization	Category	Phase
AB	Alberta First Nations Telehealth Project	Telemedicine/VC	0/1
MB	Winnipeg Regional Health Authority	Telemedicine/VC	Complete
NB	Union of New Brunswick Indians	Telemedicine/VC	1
NL	Miawpukek First Nation	Telemedicine/VC	1
NS	Wagmatcook First Nation	Telemedicine/VC	1
QC	FNQLHSSC	Telemedicine/VC	0
QC	Communauté Atikamekw de Manawan	Telemedicine/VC	2
ON	Keewaytinook Okimakanak Telemedicine Network (KOTN) <a href="http://research.knet.ca/pdf/KOTH-CHI_FINAL[1].pdf">http://research.knet.ca/pdf/KOTH-CHI_FINAL[1].pdf</a>	Management Models (FN documentation project)	Complete
ON	Keewaytinook Okimakanak Telemedicine Network (KOTN)	Change Management	2
PC	Assembly of First Nations (regional FN telehealth consultations)	Management Models	Complete
PC	National Aboriginal Health Organization	TeleLearning/VC	1
PC	Aboriginal Telehealth Knowledge Circle	Management Models	2



<b>Exhibit 5: Current Status of First Nations Telehealth Development by Province</b>	
<b>Province</b>	<b>Current Status</b>
British Columbia	A <i>First Nations Telehealth Planning Partnership</i> advises the Ministry of Health on telehealth development. The <b>Tri-partite Health Plan</b> signed by the First Nations Leadership Council, British Columbia and Health Canada identifies a comprehensive clinical telehealth network for First Nations as a deliverable. The Ministry of Health is in the process of preparing a Charter for developing 18 First Nations sites, identifying provincial clinical applications and determining a governance structure. The First Nations Charter is scheduled for completion July 2007. Inter Tribal Health Authority (ITHA) has developed a partnership with their regional health authority for the phased integration of First Nations chronic disease management telehealth programming. ITHA is working with community, regional and provincial partners to develop a common services (scheduling, help desk, bridging, training) function and develop a link to clinical information and store/forward solutions. Telehealth operational funding currently is the focus of tri-partite negotiations associated with the <i>First Nations Health Plan</i> .
Alberta	Treaty 8 has submitted a CHI Phase 0/1 proposal on behalf of the FNIHB HIM Committee. The proposal would see the expansion of telehealth services to an additional 22 First Nations sites. The proposal also includes a tele-primary care component. FNIHB is targeted as the sustaining funder of this service. Cross-jurisdictional questions about the delivery of medical consultant services on reserve are outstanding and clinical activity will be limited until this issue is resolved.
Saskatchewan	Onion Lake and the Northern Intertribal Health Authority (NITHA) are engaged in separate telehealth projects. Onion Lake First Nation has undergone a telehealth readiness assessment. NITHA – working from its long-time base in the Peter Ballantyne First Nation – has made significant progress in aligning its technical and service level capacities and requirements with provincial standards. NITHA aims to add more than 20 First Nations sites and is currently engaged in partnership discussions with the Aboriginal Directorate of Saskatchewan Health (additional partner information is included in Appendix 5). Saskatchewan Telehealth is initiating a refresh strategy. Operational funding to support First Nations telehealth and use of common services is a key concern for First Nations and provincial telehealth champions. Cross-jurisdictional questions about the delivery of medical consultant services on reserve are outstanding and clinical activity will be limited until this issue is resolved.
Manitoba	MBTelehealth and FNIHB have completed the expansion of telehealth services to 10 remote (C-Band satellite served) First Nations. FNIH supports operational costs of these sites through yearly contribution agreements. Year over year funding is a sustainability concern for the provincial telehealth service provider. Cross-jurisdictional questions about the delivery of medical consultant services on reserve are outstanding and clinical activity will be limited until this issue is resolved. The Assembly of Manitoba Chiefs has developed a proposal to expand provincial telehealth network access up to 12 new sites. The proposal requires a commitment by FNIH to support the operational costs of the network.
Ontario	KO Telehealth is delivering comprehensive clinical telemedicine services to 25 First Nations sites. All sites have access to a common services hub and help desk and use trained community site coordinators to manage local service delivery. The KO Telehealth service is fully integrated with the Ontario Telemedicine Network. KO Telehealth pays no service or membership fees to OTN or to the province of Ontario. The Smart Systems for Health Agency has contracted K-Net services to deploy secure broadband connections to up to 30 First Nations sites in the 2007-08 fiscal year to support telemedicine, EMR, and secure e-mail services on-reserve. KO Telehealth is implementing a change management project to improve service effectiveness and align their business model with federal/provincial policy and program indicators. The Chiefs of Ontario is in discussions with FNIH Ontario Region about potential telehealth service opportunities. Weeneebayko Health Ahtuskaywin (western James Bay Cree) is developing a plan to expand access to telehealth to their four coastal communities (Peawanuck, Attawapiskat, Fort Albany and Kashechewan).
Quebec	Currently there are three First Nations communities included in the Quebec RTSS (Health and Social Services Communications Network,) namely the Winneway First Nation that is utilizing telehealth, the Mohawks of Kahnawake through the Kateri Memorial Health Centre (KMHC) and the Manawan First Nation. The KMHC will be launching its health administrative and training

<b>Exhibit 5: Current Status of First Nations Telehealth Development by Province</b>	
<b>Province</b>	<b>Current Status</b>
	videoconferencing service at the end of April. The Winneway and Manawan sites currently provide clinical service delivery capacity. The First Nations of Quebec and Labrador Health and Social Services Commission have submitted a Phase 0 proposal to Canada Health Infoway to implement a broadly-based First Nations Telehealth service covering eight cultural groups (Naskapis, Innus, Micmacs, Wendat, Atikamekw, Abénaquis, Mohawks, Algonquins) in up to 29 communities. FNQLHSSC workshops in March 2007 were attended by representatives from 20 of the 29 First Nations.
New Brunswick	Two of five Tobique First Nations have access to telehealth services through a service level agreement with Region 3 – River Valley Health. Clinical services include diabetes management, mental health and addictions. Technology was acquired this year to support an additional 3 sites in the Region 3 area. The Union of New Brunswick Indians is completing a Charter for introducing telehealth services to an additional 4 communities in northeast New Brunswick (Miramichi Regional Health Authority). Mental health, First Nations addictions after care, FASD and peer support have been identified as potential priority programs by regional First Nations. Cross-jurisdictional questions about the delivery of medical consultant services on reserve are outstanding and clinical activity will be limited until this issue is resolved.
Nova Scotia	Eskasoni Telehealth is the longest running telehealth program in Nova Scotia. A CHII proposal by the Wagmatcook First Nation proposes to add an additional four sites (Wagmatcook First Nation, We'koqma'q First Nation, Membertou First Nation and Potlotek First Nation) in the Cape Breton area to the Nova Scotia Telehealth Network (NSTN). Current telehealth programming to Eskasoni includes dermatology, mental health and some discharge planning. Initial consultation with the Cape Breton First Nations communities has identified Diabetes and Mental Health as two priority areas for telehealth.
Newfoundland	The Miawpukek First Nation (Conne River) is developing a CHII Charter to implement on-reserve tele-primary care services in partnership with their Health Region, the St. Albans clinic and the Newfoundland/Labrador Centre for Health Information (NLCHI). The community will also have access to other core provincial telehealth services such as tele-oncology. A train-the-trainer model will be introduced and event coordination will be supported by multiple care givers. Miawpukek will have access to NLCHI common services. Operational funding will be supported through a regional <i>Aboriginal Health Transition Fund</i> project.

A primary consideration in key informant interviews was to determine the role of the CHII telehealth investment in “directly contributing to increased utilization and expansion of telehealth services...in identified areas of need such as Aboriginal communities” (CHII, 2005). Generally, key informants agreed that a 100% investment ratio in First Nations telehealth would accelerate First Nations access to provincial telehealth services (see *Exhibit 6* for a summary of responses categorized by access, integration and change management themes). Often these responses were qualified by other factors embedded in the CHII telehealth investment program. One informant proposed that securing co-investors could be a positive requirement – securing co-investors was equivalent to securing partners and long-term sustainability.

### ***First Nations Telehealth Development Issues***

All respondents agreed that First Nations propose unique developmental environments for telehealth service delivery and management and all agreed that First Nations telehealth development was proceeding slower than anticipated in their provincial jurisdiction. Observed barriers to telehealth development included a lack of telehealth and health service capacity on-reserve and a lack of people with knowledge and skills to manage these projects. Others described poor or non-existent relationships between First

Nations and provincial health organizations and competing community health priorities that mitigate against growth of First Nations telehealth. Still others highlighted technical issues such as infrastructural challenges of integrating First Nations networks with provincial health networks, poor telecommunications infrastructure on-reserve and high connectivity costs. Nearly all informants also identified cross-jurisdictional issues and sustainability barriers as key telehealth service disablers.

Many forms of cross-jurisdictional uncertainty were discussed. Some respondents expressed frustration that “no rules” existed to guide the integration and coordination of provincial, federal and First Nations telehealth developments. This barrier manifested as a macro issue – creating uncertainty about which level of government should pay for what aspect of which service – and it also highlighted specific on-reserve issues like remuneration of physicians – that practically limit the range of community-based services. Jurisdiction was also linked to sustainability. All respondents were concerned with enabling First Nations operations. First Nations that have secured multi-year project-based funding from FNIHB (notably Ontario and Alberta) have developed customized service models and have open and stable relationships with provincial counterparts. For most First Nations, year-to-year operating and long-term sustainability continue to stall provincial relationship building. Most jurisdictions positively described FNIH’s animation and capitalization role of First Nations telehealth projects. However, respondents saw the reduction of eHealth Solutions Unit funding and the absence of a FNIH telehealth policy or program as a threat to continued telehealth service partnerships and service development.

Still many First Nations have developed service relationships with provincial telehealth regions and networks. These relationships are governed by various bodies and mechanisms<sup>6</sup> and are often supported by service level agreements with regional health authorities and provincial networks. Service level agreements determine the type and scope of tele-learning and telemedicine applications received by First Nations and outline provision of or access to specific common services such as help desk, videobridging, scheduling, clinical protocol development and warranty management.

### ***CHII Specific Barriers to First Nations Telehealth Development***

Most respondents highlighted structural barriers that restricted capacity to develop and implement successful projects. Some, for instance, highlighted the difficulty that the PMBOK nomenclature created for community-based First Nations telehealth champions. The idiosyncratic language used by CHII and its specialized investment programs added an additional level of complexity to most projects. Others emphasized CHII’s requirements and eligibility criteria as problematic. Key requirement and criteria-based barriers identified are:

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<sup>6</sup> Telehealth governance is highly differentiated. For example, while telehealth issues are covered by the Health Committee of Nova Scotia’s *Tri-Partite Forum*, First Nations telehealth in northwestern Ontario is supported by an Advisory Committee of regional First Nations Health Directors.

**Exhibit 6: Summary of Key Informant Interview Responses by Access, Integration and Change Management Themes**

FN Access to On-Reserve Telehealth Services	Integration of FN with F/P Telehealth Organizations	Change Management Issues and Solutions
<ul style="list-style-type: none"> <li>▪ Historically, FN telehealth has developed in isolation from provincial or regional telehealth programs</li> <li>▪ Approximately 128 First Nations Health Centres and First Nations Regional health organizations have installed videoconferencing services</li> <li>▪ First Nations videoconferencing is primarily used for delivery of training, education and health administrative purposes</li> <li>▪ Few First Nations telehealth training or education events are accredited or lead to a health or administrative credential</li> <li>▪ Financial, technical and staffing requirements and F/P jurisdictional uncertainty have constrained adoption of comprehensive First Nations telemedicine service delivery</li> <li>▪ On-reserve access to clinical telehealth applications is limited. With the exception of the 25 remote Ontario First Nations, on-reserve delivery of clinical programming is highly uneven. Most community programs only address very specific needs: e.g. Ob/Gyn; ENT; Mental Health; (see Exhibit 5, above)</li> <li>▪ The lack of comprehensive service models limits the volumes necessary to run successful clinical telehealth programs in First Nations with small populations</li> <li>▪ Store-forward telehealth is an area of interest for First Nations in several jurisdictions</li> <li>▪ Most new on-reserve clinical telehealth development is focused on Tele-primary care. Tele-primary care typically is delivered in a family medicine clinic format with community health nurses presenting patients to distal community physicians.</li> <li>▪ Successful service model development for on-reserve telehealth requires wideranging partnerships and support structures.</li> </ul>	<ul style="list-style-type: none"> <li>▪ The First Nations and Inuit Health Branch has been and continues to be the primary funding source for First Nations telehealth start-up</li> <li>▪ First Nations and Inuit Health Branch assumes a fundamental role in sustaining telehealth projects in Atlantic Canada, Quebec, Ontario, Manitoba, Alberta and British Columbia and manages telehealth programs in Alberta and Manitoba</li> <li>▪ All provincial telehealth strategic plans identify First Nations, Aboriginal or underserved populations as priority areas for telehealth service development</li> <li>▪ First Nations telehealth projects only have limited access to provincial common services such as videoconference-scheduling and –bridging, procurement, warranty management, technical help desk</li> <li>▪ Few First Nations telehealth projects have access to provincial or regional health authority telemedicine networks</li> <li>▪ All First Nations that are engaged in provincial partnerships have entered into (service, service level, affiliation or MOU-type) agreements that stipulate roles, responsibilities and expectations. No common agreement template or format has been developed</li> <li>▪ Some First Nations pay provincial and/or regional health authority partners for access to network programming and/or services</li> <li>▪ Several provinces provide a range of common services (help desk, warranty management, procurement, etc) to First Nations partners</li> <li>▪ Governance of First Nations telehealth assumes many forms: provincial boards, community/regional health authority committees, tri-partite partnerships, etc.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Telecommunications infrastructure in proximity to First Nations is generally poor and requires upgrading.</li> <li>▪ Monthly connectivity costs for broadband services are high in relation to the potential volume of telehealth services</li> <li>▪ There is a general space shortage in First Nations Nursing/health stations and the requirement for a separate and bookable telehealth room creates new pressures on high demand health spaces</li> <li>▪ Canada Health Infoway does not support investments in infrastructure such as upgrading telecommunications plant, building last mile from POPs, upgrading health facilities to be telehealth ready (renovation of telehealth rooms in Nursing stations) or on-going operational costs such as connectivity.</li> <li>▪ Remote communities are difficult to get into and to support – difficult for engagement &amp; communication particularly in early stages because of distance</li> <li>▪ Shortage of local skilled and trained staff to develop, implement, project manage, staff and champion community-based telehealth projects</li> <li>▪ Access to provincial telehealth networks requires a high degree of technical and security interoperability</li> <li>▪ Canada Health Infoway does not support investments</li> <li>▪ Multi-jurisdictional uncertainty re: remuneration of medical services on-reserve, historical FN/F/P relationships, lack of rules for FN/P/F engagement</li> <li>▪ Uncertainty connected to year-to-year FNIHB funding approach</li> <li>▪ Most believe the pace of First Nation telehealth development is slower than anticipated</li> <li>▪ Most believe that 100% CHI funding would have a net positive effect – but sustainability is still the key factor</li> </ul>

- *Requirement* – complementary investments. Most respondents highlighted the difficulty First Nations have making complementary investments based on CHII’s existing 75/75/50% - Phase 0/1/2 investment ratios. Some informants discussed the limitations of First Nations making ‘in-kind’ investments to leverage maximum CHII investment. They indicated that the specialized nature of telehealth and telemedicine required building new organizational capacities and making intensive capital investments.
- *Requirement* – investment on deliverable. As noted above, capital intensive telehealth projects place an immediate strain on cash flow for First Nations. The requirement that payment follow deliverables is a longstanding barrier to First Nations participation.
- *Criteria* – ineligibility of infrastructure investments (*see Exhibit 7*). Most First Nations require infrastructural improvements to meaningfully participate in telemedicine programs. Two main areas of investment are for building last mile connections between a point-of-presence and the community health facility and renovations to the Nursing station to ensure sufficient capacity or patient privacy.
- *Criteria* – ineligibility of connectivity investments. Connectivity in First Nations communities is a premium service and is generally the largest single service cost. Unlike provincial governments, First Nations are unable to leverage pan-provincial business volumes against telco pricing. Quality of Service requirements of telemedicine further escalate costs.

<b>Exhibit 7: Eligible and Ineligible Canada Health Infoway Telehealth Costs</b>	
<b>Examples of Eligible Costs</b>	<b>Examples of Ineligible Costs</b>
Servers to enable telehealth services	Desktop hardware & software
Workstations to access a telehealth service	IT/IS Infrastructure (generic servers)
Medical peripheral devices	Network & telecommunications
Security hardware, gateways, gatekeepers, routers	Operation and Maintenance Costs
Videoconferencing equipment	Adoption Incentives
Telehealth Team Training	Financial expenses
Telehealth Team Travel	Custom procurement
Internal & external resource costs for project related activities such as analysis, change management, project management, configuration & installation, implementation, training, integration, joint procurement, testing, planning, recruiting.	Senior Management compensation: e.g. Executive Director, ADM, DM

### ***Impact of 100% Investment in First Nations Telehealth***

It is the AFN's position that a 100% investment ratio will enable *and* accelerate First Nations telemedicine services. This position is based on nation-wide consultations with First Nations, key informant interviews with provincial telemedicine principals and CHII's investment record. The AFN asserts that CHII plays two complementary roles as an investor in First Nations Telehealth. The first role is enabler. CHII fulfills this role by investing in documentation, best practices, change management tools and management models that reflect First Nations and Aboriginal circumstances, conditions and service models. The latter role is to "contribut[e] to increased utilization and expansion of telehealth services...in identified areas of need such as Aboriginal communities." This role both addresses the need to prioritize rural and remote First Nations and to accelerate their participation in regional health authority, provincial and federal telehealth systems and networks. While CHII has achieved some success as an enabler, its catalytic capacity has been muted. The AFN is concerned that CHII telehealth investment program and criteria are dis-incenting First Nations and provincial partners from participating in telehealth development and, as a result, the \$17.5M First Nations investment envelope will be undersubscribed before the program's end in December 2009.

### ***The Evolving CHII Aboriginal Telehealth Mandate***

CHII received a mandate and resources for telehealth in February 2003. Their 2003/2004 *Building Momentum* Business plan identified the need for developing a telehealth strategy and highlighted two benefits of the strategy. The first was to incent telehealth-eHR linkages and the second to "support remote and rural care, delivery/access" (2003, 15). In September 2004, CHI announced its strategy and identified four objectives ([http://www.infoway-inforoute.ca/pdf/CST\\_TelehealthV8\\_E.pdf](http://www.infoway-inforoute.ca/pdf/CST_TelehealthV8_E.pdf)):

- a. Increase the coverage of Telehealth in Aboriginal, Official Language Minority, northern, remote and rural communities
- b. Increase the clinical utilization and sustainability of existing Telehealth networks
- c. Increase the integration of Telemedicine activities into mainstream healthcare service delivery
- d. Increase the crucial Telehealth link to EHR

Since then, First Nations participation in the CHII Telehealth Investment Program has been limited. Despite CHII's commitment in its 2005-06 Business Plan to implement telehealth solutions that "facilitate the delivery of health information and services between patients and providers over distance, with a focus on the *Aboriginal, official language minority, northern and remote communities*," (emphasis added) the Telehealth investment program has enabled few First Nations solutions.

### ***CHII Capacity to Enable and Accelerate***

Since receiving its telehealth mandate, CHII has enabled only 10 First Nations endpoints (Manitoba). Completion of Phase 1 and Phase 2 projects in Quebec (1) and Atlantic Canada (10) will add an additional 11 First Nations endpoints for a total of 22. If new First Nations initiatives submitted by proponents in Alberta (22), Quebec (24) and British Columbia (18) for Phase 0/1 investment are wholly successful, then CHII will have enabled a total of 85 of a potential 625 First Nations endpoints, about 14 percent of all First Nations reserves in Canada, and an investment of about \$200,000 per endpoint.

An increase in the investment ratio to 100% will have a positive impact on the CHII telehealth investment program. Based on CHII's historical investment record, it is unlikely that they will be able to invest the remaining \$12.5M before program's end in December 2009 using the existing 75%/75%/50% - Phase0/1/2 ratio. On the other hand, a 100% investment ratio likely will animate project development among First Nation, federal and provincial stakeholders and increase participation of First Nations in the telehealth investment program.. It will also eliminate the requirement to secure matching funds, a problem identified as a financial capacity barrier in the nationwide consultations and key informant interviews.

A 100% investment approach will also incent shared and collaborative solutions among First Nations and provincial partners. Like the northern program, a 100% First Nation investment ratio will be based on a partnership model that captures economies of scale within the network and common service environment. CHII amendment of its investment requirements and eligibility criteria to reflect First Nations opportunities, conditions and challenges, will further animate project development and support a broader base of potential FN/F/P partnerships.

## ***Proposed Go Forward Strategy***

Discussions between AFN and CHII have resulted in a project-based approach to demonstrating how a 100% investment ratio will accelerate development and adoption of First Nations telehealth. CHII has asked AFN to identify two new telehealth opportunities in two distinct geographic areas. Projects also reflect First Nations telehealth readiness and some degree of provincial integration (see proposed criteria, below). The aim of the 100% investment ratio is to enable new First Nations projects and accelerate First Nations/Provincial/Federal partnerships, capture economies of scale, make more effective use of scarce health human resources and increase health provider acceptance and First Nations uptake of telemedicine or telehealth services. These projects must be phased with deliverables to enable reimbursement of expenses in a reasonable manner so that cash management is possible among proponent communities.

The two successful demonstration project proponents will receive 100% Phase 0-2 investment commitments and be provided with specialized resources to work with them and their provincial partner to develop a Project Charter (Phase 1). The two Phase 1 documents will be reviewed by CHII's Operations and Management Committee (OMC) and subsequently will be forwarded to the CHII Board for approval. Approval of the demonstration projects will coincide with announcement of a CHII 100% investment ratio policy for all First Nations telehealth projects. The policy will be similar in nature to the 100% policy now in place for northern jurisdictions.

Once approved, CHII will enter into a contractual agreement with the First Nation proponent. This agreement will commit the proponent to meet implementation and adoption targets identified in their Project Charter. A separate and complementary agreement will bind the project partners to service levels, standards and service targets. Further these targets will be directly linked to CHII investment and reimbursement of expenses. It will be the responsibility of the proponent to enter into separate and complementary bilateral (FN/P) or trilateral (FN/P/F) agreements with provincial and other partners. Payment to partner organizations, external resources and vendors will be the responsibility of the First Nations proponent.

### ***Selection Criteria – based on best practices, lessons learned***

The Position Paper process set out to identify First Nations projects that are potentially eligible for 100% Canada Health Infoway investment. CHII investment includes support for pre-feasibility analysis, completion of a privacy impact and security assessment and development of an Implementation plan (Phase 1); and, implementation of the Telehealth plan (Phase 2). Canada Health Infoway does not provide on-going or operational funding. Criteria have been developed as a two-step process. The first set of criteria address high level requirements for inclusion. The second set of criteria focus on four aspects of service readiness.

#### ***Step One (Mandatory Criteria)***

1. The project is deemed by CHII as a new opportunity – proponents have not filed an investment proposal for a phase of service development



2. The First Nation project has established a partnership with a provincial health service or service provider and the First Nations and Inuit Health Branch
3. The First Nations project will expand community-based access to health services and will include a First Nations governance component
4. The First Nation project includes or is focused on delivery of a telehealth or telemedicine service with its provincial partner. Examples of such projects are:
  - implementing a clinical telemedicine service; and/or
  - collaborating on the delivery of community-based Nursing and health worker tele-education and training services
  - launching a home telehealth or telemetry initiative
  - integrating service desk functionality by sharing help desk, warranty management, procurement and videoconference scheduling and or bridging services.
5. The First Nations project is located in a geographic area where there is little or no pre-existing joint FN/F/P telehealth activity.

***Step Two (Best Practices Telehealth Readiness Criteria)***

Projects that are identified in the first stage of the selection process will be reviewed against criteria which reflect physical, technical, health administrative and clinical readiness to enter into a collaborative relationship with provincial and other health service partners. These criteria are listed below:

*A) Demonstrate physical capacity to participate*

- Proponent communities have access to a reliable power supply
- A primary health care facility is located in each of the Proponent communities
- Primary health care facilities will provide access to a room that can be used for scheduled telehealth sessions

*B) Demonstrate technical readiness*

- a wireline high speed internet connection rated (at a minimum of 750 kilobits per second down and 300 kilobits per second up) is available in each of the Proponent communities
- a local area network has been installed within all primary health care facilities
- technical support is available in-house to address day-to-day technical trouble shooting issues

*C) Demonstrate health administrative readiness*

- The senior health administrator in each of the Proponent communities agrees to act as the project champion
- Political leadership supports participation in the demonstration project

*D) Demonstrate clinical readiness*

- Nursing staff are resident in the community during regular business hours, Monday through Friday
- There is a demonstrable gap between local access to health and wellness services and demand for such services
- The collection, storage and retrieval of health information in each of the community health facilities is governed by in-house privacy and confidentiality policies

**Exclusion Criteria**

A community will not be considered as a potential 100% CHII investment demonstration site if...

- a) One or more of the communities is located in the Yukon, Northwest Territories or Nunavut

**Potentially Eligible Projects**

A total of four potential 100% investment ratio projects have been identified during the current state analysis. The projects all nominally meet Step One criteria. The projects are:

*British Columbia* – Inter Tribal Health Authority. Inter Tribal Health Authority is one of six First Nations Telehealth Planning Partners (FNTPP) in British Columbia. ITHA provides a coordinating role for FNTPP members to interface with federal, provincial and regional health and health education principals. ITHA currently operates a multi-site health videoconference network that supports health administrative, training and credit-based educational services and is implementing an EMR in 25 First Nations communities. ITHA is developing a Telehealth Common Services project. The project aims to leverage its existing telehealth partnership with the Vancouver Island Health Authority to develop an interoperable suite of service solutions for First Nations endpoints and staff (videobridging, scheduling, Help Desk, Service and Application Development) that will produce a managed solution interface and enable the technical alignment of First Nations endpoints with regional health authority networks.

*Saskatchewan* – The Northern Intertribal Health Authority’s Telehealth Working Group has formed a Steering Committee with the Aboriginal Directorate of the provincial Ministry of Health in order to progress towards integration with the provincial network. NITHA has focused on aligning its network infrastructure with standards used by Saskatchewan Telehealth to service interoperability. NITHA is also working to align its policy environment with the provincial system. They anticipate that their policies on privacy and security will be ready to share with their provincial counterparts by the end of March. NITHA has engaged its community members and has noted significant “buy-in” from the communities. It currently has five sites operational and aims to expand and substantially increase the scope of the service. Funding to sustain telehealth remains the key implementation barrier.

*Manitoba* – the Assembly of Manitoba Chiefs has developed a proposal to add up to 12

new First Nations sites in partnership with Manitoba Telehealth. The proposal follows the successful implementation of a CHI project to link 10 satellite-based First Nations with the provincial video network. Currently, the project is awaiting operational commitments from federal stakeholders.

Ontario – Weeneebayko Health Ahtuskaywin (WHA) is a First Nations Health Authority based in Moose Factory on the western shore of James Bay. WHA engaged in a coordinated implementation of telemedicine at its main hospital facility on Moose Factory Island and at the James Bay General Hospital in Moosonee in 2005. At that time, WHA senior management indicated that they would expand the telehealth service when connectivity was available in coastal communities (Peawanuck, Fort Albany, Attawapiskat, and Kashechwan). Commitments to underwrite the operating costs of satellite-based and wireline connectivity in these communities were made by Smart Systems for Health Agency in FY 2006-07. WHA is developing an expansion project for its Health Region. A beta site has been established in Peawanuck from which the coastal service model will be shaped.

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