



# SUMMARY OF NEEDS AND ISSUES RELATED TO TELEHEALTH PROJECTS Among First Nations in Quebec

**TELEHEALTH:**  
*it's more than an option,*  
IT'S A SOLUTION!



FIRST NATIONS OF QUEBEC  
AND LABRADOR HEALTH  
AND SOCIAL SERVICES  
COMMISSION

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# SUMMARY OF NEEDS AND ISSUES RELATED TO TELEHEALTH PROJECTS AMONG FIRST NATIONS IN QUEBEC<sup>1</sup>

## Introduction

Telehealth is an effective tool in meeting health needs. It differs from traditional medicine in two respects. First, the specialists providing health services do not need to be within geographic proximity to their patients. By removing this barrier, telehealth makes it possible to provide health services regardless of how geographically isolated a community is. Second, telehealth allows greater flexibility in how much time health specialists can allocate to a community. While specialists are traditionally attached to a health facility, telehealth allows them to offer a limited number of hours of service. In the context of care facilities in small- to medium-sized communities, sporadic care provision is not always possible or effective. Telehealth makes it possible to offer sporadic specialized care.

Telehealth is particularly useful for First Nations communities since many of them are isolated or semi-isolated, small, or medium-sized. In this context, the objective of this document will be to compile a portrait of the needs and issues related to First Nations telehealth projects.

Three sources were used for this purpose. The first is the FNQLHSSC's survey on First Nations telehealth needs conducted in 2021 among the health directors of health centres and nursing stations. This survey made it possible to target the communities' main telehealth needs. Eighteen people from 17 of the 24 communities surveyed responded; they came from seven health centres, nine nursing stations and one hospital; three are in an isolated region (medical services not accessible by road), four in a semi-isolated region (medical services accessible by road more than 90 km away) and ten in a non-isolated or urban region. Of these, eight are considered large communities (2,000 residents or more), six are medium-sized (500 to 1,999 residents) and three are small communities (fewer than 499 residents). The second source of information used to summarize the telehealth issues and needs consists of the reports on the various pilot projects carried out in recent years, as many telehealth projects have taken place within the First Nations communities in Quebec. A report was produced for each project. These reports make it possible to propose some avenues promoting the continuity of telehealth projects. Finally, a third source of information is the 2020 First Nations information technology needs survey report.

After presenting a brief summary of the care situation in the communities (section 2), the document will summarize certain telehealth issues in the First Nations context (section 3).

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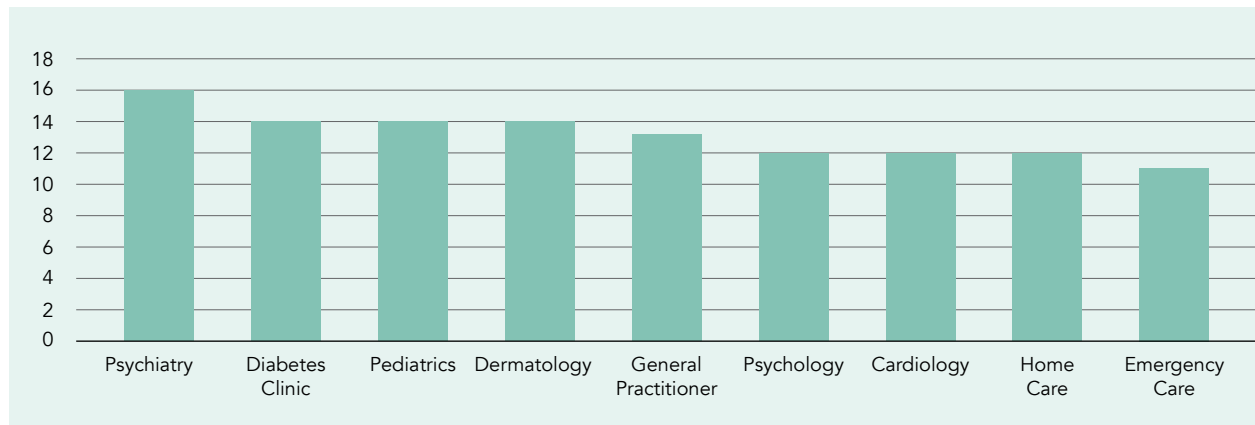
<sup>1</sup> First Nations in Quebec refers here to communities that have not signed an agreement and thereby excludes the Crees, Naskapis and Inuit.

# 1 SUMMARY OF THE CARE SITUATION

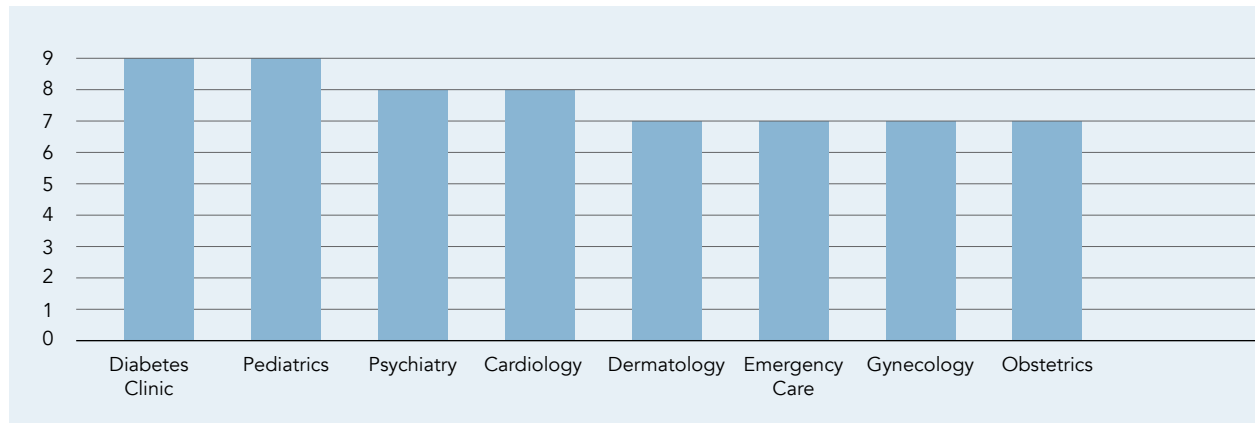
## 1.1 Telehealth needs

The 2021 survey of telehealth needs made it possible to target the communities' main needs. One of the questions asked was "Which specialized telehealth services would meet the needs of your population?" To this question, respondents could indicate needs either in teleconsultation with the patient, or in mentoring with professionals. The results obtained are as follows:

### Patient Consultation Needs



### Mentoring Needs



Despite the slight differences between mentoring needs and teleconsultation needs, they are essentially the same: psychiatry, pediatrics and the diabetes clinic are the three main needs brought up during the survey. We also note that the services most in demand for both categories are those offered by the professionals least present in the communities: only two communities had access to a pediatrician, and only one to a psychiatrist.

Lastly, thirteen of the respondents expressed an interest in implementing a telehealth solution in the near future.

## 1.2 Profile of health professionals in the communities

First Nations communities have access to a limited number of health professionals. Moreover, the professionals to whom the communities have access are often only on site as visitors, that is to say that they do not practice in these communities permanently, but only visit to offer health services a few days per week, or per month. The nursing staff is the only stable and regular resource present at all times. Table 1 summarizes the situation for the 17 communities surveyed.

This context affects the quality of care in the communities. Medical follow-ups can be much more difficult to carry out when you have to wait for a visit from a doctor or professional. Moreover, there is often only one doctor or professional who serves a community, which hinders follow-up when this person retires or goes to practice elsewhere. The scarcity of doctors and health professionals also causes administrative difficulties, such as access to the Québec Vaccination Registry, since the laws are designed according to the provincial medical system where doctors are permanently present. Access to doctors and professionals is thus more difficult than it appears in the survey, since they only provide care as occasional visitors.

**Table 1: NUMBER OF RESPONDING COMMUNITIES USING THE SERVICES OF THESE PROFESSIONALS ON A PERMANENT OR VISITING BASIS**

Professional	Number of communities
Nurse	17
General practitioner	13
Ophthalmologist	3
Optometrist	3
Respiratory therapist	2
Physiotherapist	2
Occupational therapist	7
Psychologist	11
Psychiatrist	1
Nutritionist	12
Pharmacist	1
Dentist	9
Dental hygienist	14
Gynecologist	1
Obstetrician	1
Pediatrician	2
Kinesiologist	3

### 1.3 Portrait of past telehealth projects

Several telehealth projects have been carried out in the past. Some were carried out solely by communities and their partners, while the Commission was more involved in other projects. Past projects are listed in Table 2.

**Table 2: LIST OF MAIN PAST TELEHEALTH PROJECTS IN WHICH THE FNQLHSSC WAS ACTIVELY INVOLVED OR INVOLVED AS AN OBSERVER**

Project No.	Year	Partners		Target	Community Size	Community Status
		1	2			
1	2006	FNQLHSSC		Pregnancy follow-up	Large	Semi-isolated
2	2008	RUISSS McGill	Health Canada	Ophthalmology	Small	Semi-isolated
3	2010	McGill University		Unknown	Medium	Isolated
4	2012	CHAU of the Hôtel-Dieu of Lévis		Wound care	N/A	N/A
5	2013	CH de Roberval		Urgent Care	Large	Semi-isolated
6	2014	Health Canada	Telus	Diabetes monitoring at home	Large	Not isolated
7	2016	Health Canada		Mental Health	Small	Semi-isolated
8	2016	Private psychology practice		Mental Health	Medium	Semi-isolated
9	2020	CHUM	CISSS	Substance addiction	Large	Semi-isolated
10	2020	Telus		Diabetes	Small	Isolated

The table shows telehealth projects were carried out in communities that varied in size and status and that the care offered also varied. Other telehealth projects that took place entirely independently of the FNQLHSSC are not included in the table.

However, not all of these projects have resulted in continuity or the widespread deployment of telehealth. Some of them stopped even before being deployed within a first community. Others were deployed within a single community but did not last. Some led to large, sustained deployment – this is the case of project 2 in teleophthalmology relating to screening for diabetic retinopathy and project 1 in obstetrics. However, not all telehealth projects have been equally successful, as shown in Table 3.

Table 3: ILLUSTRATION OF THE MAIN PHASES REACHED DURING PAST TELEHEALTH PROJECTS

Project No.	Phases reached during the project		
	Startup	Deployment in a community	Continuity or deployment in multiple communities
1	Green	Green	Green
2	Green	Green	Green
3	Blue	Gray	Gray
4	Gray	Gray	Gray
5	Blue	Gray	Gray
6	Green	Green	Gray
7	Blue	Blue	Blue
8	Gray	Gray	Gray
9	Green	Green	Gray
10	Gray	Gray	Gray

**Legend**

- Green:** The project phase was reached.
- Gray:** The project phase was not reached.
- Blue:** The information recorded in the project report does not make it possible to determine whether the phase was reached or not.

## 1.4 Digitization of health

The last two years have been an opportunity to digitize some of the care work. While in 2020 only four communities used an electronic medical record, a large majority now have access to it. Currently, more than 20 communities have access to an electronic medical record.

The communities also have access to a license allowing them to use the telehealth module integrated into the electronic medical record. The module allows health professionals – psychologist, doctor, etc. – with access to the electronic medical record to hold a video call with patients who have received an Internet link by email. This function remains scarcely used and the module's design is not entirely adapted to the First Nations context. Nevertheless, it is reasonable to believe that access to an electronic medical record and a telehealth module could contribute to the success of future telehealth initiatives.



# 2 TELEHEALTH ISSUES

Several issues specific to the First Nations healthcare context have hampered past telehealth projects. Most of these issues can be grouped under three categories: resources, social acceptance, and support from partners.

## 2.1 Lack of resources

Two types of resources are necessary for the proper functioning of telehealth projects: human resources and technological resources. Without them, telehealth projects are not feasible. However, these two types of resources have in the past been mentioned as challenges to project execution.

### 2.1.1 Human resources

Past telehealth project leadership often rested on the shoulders of a single motivated person handling multiple projects at once. The work overload not only affected the project's potential continuity, but also made it difficult to follow up. For this reason, it is difficult to know the precise reasons why the projects were discontinued – following up on the main issues becomes challenging when the person who was in charge burned out, resigned, or changed jobs.

Many communities resort to hiring agency staff to provide nursing care due to the lack of human resources. Despite their hard work, agency staff cannot guarantee the same stability and the same follow-up quality as regular staff. Similarly, nursing managers must spend time coordinating agency staff, which takes time away from telehealth projects. The more time they spend coordinating agency staff, the less time they can spend on telehealth projects.

In terms of human resources, the current situation is no more favourable than it was during past telehealth projects. The labour shortage, which is not limited to First Nations in Quebec, must be taken into account when proposing telehealth projects to First Nations communities.

### 2.1.2 Technological resources

Until now, the IT situation among the First Nations in Quebec has not been well documented. A survey carried out by the FNQLHSSC in 2020 nevertheless made it possible to paint a representative portrait of the situation. We have, over the years, noticed a sizable delay in the integration of new technologies, sometimes because of bandwidth limitations, sometimes because of the lack of specialized human resources which are scarce in remote areas, sometimes because of a lack of IT funding and sometimes because of a lack of IT knowledge.

One factor behind the lagging technology situation is that several communities we serve have only recently gotten access to a fast and reliable Internet connection, i.e. more than 100 Mbps for all public services (band councils, schools, health and others). It was not until July 2020, for example, that the last community served by the FNQLHSSC, the Atikamekw community of Wemotaci, had fiber optics installed. It is therefore understandable that cloud computing services such as Microsoft 365, the widespread use of tablets in schools, telehealth, as well as all activities requiring fast bandwidth were established only very recently. These services are new to many First Nations territories.

As for computers, several observations were made during the 2020 survey: lack of computer equipment standardization in equipment purchase and maintenance; antivirus often absent or not adequately monitored; lack of automation for the installation of software and operating system security patches; presence of end-of-life operating systems (Windows XP, Windows 7, Windows 8); presence of residential operating systems (Windows, Windows 7 or 10 Home Edition). It remains difficult to define a comprehensive state of the situation given the absence of any computer equipment inventory.

We also noticed an absence of policies to regulate the use of social networks, determine the average life cycle of a computer, limit the use of professional computer equipment for personal purposes, and regulate access to bandwidth. The absence of such policies can lead to IT security risks and seriously limit equipment performance.

As for servers, we noticed their absence for file sharing, centrally managed printer networks, and automated management rules. Otherwise, generally, the situation goes in the same direction as the IT park: the equipment which is in use is not under warranty; antiviruses are installed irregularly or manually and are often not monitored; virtual server backups are not tested and there is often a lack of monitoring; backup repositories are not encrypted, are often local (not in a cloud infrastructure); server security patches, version migrations and microcode patches are applied on a manual and irregular basis; end-of-life server operating systems (MS Windows server 2003, 2008, 2008R2, 2012, 2012R2, 2016, VmWare 5.5, 6.0) or improper licenses are common.

In terms of network links between buildings, the findings are more difficult to demonstrate. We noted the presence of fiber optics, underground or aerial network cables and radio antennas. The challenge lies in obtaining the expertise and permits needed to carry out the fiber optic installation work. First is the engineering work, then applications are sent to Bell or Hydro-Quebec for permits to use their poles, then linemen and specialized fiber optic fusion resources start their work. Therefore, even if all communities are connected to fiber optics (i.e., have a central building connected to fiber optics, such as the band council or the health centre), this does not mean that the whole community is connected; in fact, many homes are not.

With regard to network equipment, we can see that in the vast majority of cases, the equipment is commercial grade (many Fortinet firewalls, Cisco or Fortinet switches). The antennas to transmit the wireless signal are often made by Fortinet or Ubiquiti. On the other hand, when there were no computer technicians trained in their maintenance, we noted the use of low-quality Wi-Fi routers and switches.

Lastly, in terms of specialized human resources, there are major differences between the communities. Communities that are near major centres usually have more trained computer technicians than those that are farther away. From one community to another, salaries and benefits vary greatly. Sometimes it is a person who is more skilled, but not trained in computers, who becomes the computer technician for the entire community. There is often no ticketing service to facilitate the follow-up of requests. In addition, we noted the presence of consultants for more specialized work who offer their services by the hour and charge a steep fee for ongoing follow-up. This state of affairs, although very widespread, is reactive rather than proactive. The consultants are called in to fulfill a mandate, but they do not offer a permanent solution to automate or reduce the interventions (since they want to ensure that the community depends on them and, thus, increase their fees).

Other constraints may affect technological stability. All communities experience frequent electrical problems, which cause premature damage to computer and electronic equipment. Concomitantly, in the absence of redundancy, the network becomes unavailable in the event of a failure or breakdown.

All these factors directly undermine technological stability. On the one hand, it can be difficult to start a telehealth project if the prerequisites are not present, if there is no up-to-date computer with a network strong enough to support teleconsultations, or if a project prerequisite is high-speed home Internet, for example. On the other hand, it is difficult to sustain a telehealth project if it cannot be known whether the technological prerequisites for its success will be met for the entire duration of the project. Equipment and software may become obsolete or damaged and the expertise required to address these issues may not be available.

## 2.2 Social acceptance

For the population, there are two opposing visions of telehealth. On the one hand, there is fear of or indifference to telehealth. Telehealth does not provide some of the benefits of traditional medicine. For example, medical transportation offers free travel to a large centre, which makes it possible to break the isolation that can be experienced in small remote communities. This benefit is lost with telehealth and may hinder the population's adherence to telehealth projects. Moreover, there is a concern about the reliability and stability of the technology. The ever-present technological hurdles can erode the population's trust in technology. This makes it difficult to have them adopt telehealth projects knowing that the technological stability needed for their success will not be in place.

On the other hand, telehealth provides the advantage of accessibility to medical care by and for the community. As the [diabetic retinopathy screening video showed](#), care provided locally is culturally and linguistically appropriate, unlike care given in large cities. Among elders in particular, there is a (largely justified) fear of non-Indigenous medicine. Telehealth makes it possible to offer care adapted to the local population directly in the community. In addition, given the widely imposed accessibility wait times in the provincial health network, telehealth care offered in the communities is generally faster and more efficient than care requiring transportation.

For in-person care, as for telehealth, confidentiality issues should not be ignored. Often, especially in small communities, everyone knows each other, including health centre staff. Individuals may then be more reluctant to consult for certain types of care for reasons of confidentiality, for example for an STBBI or psychological follow-up. Specifically for telehealth, the population may be reluctant to do a teleconsultation at home, because homes are sometimes intergenerational, or go to the health centre for a teleconsultation, as the walls are not always soundproof. There is therefore not always, both in person and remotely, the possibility of consulting while preserving confidentiality, which can be an obstacle when implementing new care programs.

## 2.3 Lack of support

Though telehealth requires human and technological resources, sometimes telehealth project partners provide some of the resources necessary for the proper functioning of the projects. However, the projects are rarely turnkey, that is to say that the communities must release resources to set them up. The projects may include fixed costs, such as equipment to be purchased, or recurring costs, such as annual licenses or training for new workers. Other technological constraints that do not fall involve costs include the time needed to adapt a technological tool to the reality of First Nations – for example, to replace the names of structures (CIUSSS, etc.) used in a provincial health network application by their counterparts in the First Nations network. Moreover, certain technological constraints cannot always be overcome. For example, in the absence of an inventory system and qualified computer technicians, it is not guaranteed that computers sent at the beginning of a telehealth project will remain up to date for the entire duration of the project. Finally, the implementation of a telehealth program also imposes a demand on human resources that does not fall under the cost category. All the project coordination, adaptation management and staff training involve a human workload.

To facilitate the implementation of telehealth projects, the partners may assume part of the costs and technological and human responsibilities. However, during past telehealth projects, many of these responsibilities fell into the hands of the community and constituted a significant additional workload. Table 4 shows that the projects where these responsibilities were assumed by the partners are in the minority.

**Table 4: LEVEL AND AREAS OF TAKE-OVER OF RESPONSIBILITIES RELATED TO THE TELEHEALTH PROJECT BY COMMUNITY PARTNERS**

Project No.	Assumption of responsibilities by the partners (FNQLHSSC or others; excluded: the community)		
	Costs	Other technological factors	Other human factors
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

**Legend:**

**Green:** Responsibility was assumed by a project partner (FNQLHSSC or others).

**Gray:** Responsibility rested with the community in question.

**Blue:** The information recorded in the project report does not make it possible to determine who was responsible, or responsibility was shared between the community and its partners.

This portrait reminds us that, when planning, it is important to take into consideration the various technological and human constraints in addition to the costs. Projects are more likely to fail if these obstacles were not considered during planning.

## 2.4 Other legal and administrative issues and challenges

Other issues were mentioned during past telehealth projects or during the 2021 survey. In addition to the issues already mentioned, some challenges flow directly from the legal and administrative aspects. Sometimes, an exceptional grant may be granted to a particular project, for example an electronic medical record, and that the other projects must be set aside while the grant is being used.

Sometimes, the telehealth component of certain professional practices may not be recognized for reimbursement purposes. For example, the intervention of an optometrist is only a recognized professional act in a face-to-face context, which limits the possibility of teleoptometry. Indeed, unless you have access to an optometrist who works on a voluntary basis, if the professional act is not recognized, then it is impossible to create a telehealth system. At least three of the ten past projects noted this obstacle. Moreover, payment for clinical procedures and regulatory barriers are also issues for telehealth elsewhere in Canada and in the United States (University of Saskatchewan College of Nursing, 2017).

It should also be noted that access to certain provincial computer systems, although recommended or even mandatory for certain professionals, is not authorized on federal land, or is regulated in an increased manner, which does not encourage professionals or organizations to begin an acquisition process.

# CONCLUSION

Several lessons learned from past telehealth projects and surveys conducted in recent years could be useful for future projects. These lessons, which can be distinguished in terms of health, technological and human resources, are the following:

## Health

- Communities currently have no or only limited access to face-to-face health specialists.
- The concern for confidentiality modulates traditional care and telehealth practices.
- Telehealth projects that do not work and, more broadly, all technological obstacles, harm the social acceptance of telehealth.
- Certain legislative barriers can slow down or even completely halt telehealth projects.
- Telehealth enables care in the community that is culturally and linguistically appropriate; it is not just a second-best solution.

## Technological and human resources

- The Internet network is not always connected by fiber optics to the home, and it often does not have network redundancy in the event of a breakdown. The absence of residential Internet in a good number of communities limits the possibilities of telehealth in certain communities.
- IT equipment (network, computers, software) is not always fast, secure and up to date.
- Computer technicians, when there are any, are often overloaded and do not always have sufficient training to occupy this position.
- Human resources are already too overloaded to ensure effective coordination of telehealth projects.
- The instability of the nursing staff is detrimental to the follow-up of care and projects.
- Telehealth partners do not always provide support to overcome the lack of resources and not all problems can be solved by the support of project partners.

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## VISION

First Nations individuals, families and communities are healthy, have equitable access to quality care and services, and are self-determining and culturally empowered.

## MISSION

To accompany Quebec First Nations in achieving their health, wellness, culture and self-determination goals.

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*it's more than an option,*  
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