

Appendix 5-Focus Groups & Interviews

A: Focus Group Integration

B: Findings from FP/GP Focus Groups

C: Phone Interview Questions for Physician Specialists

D: Findings from Interviews with Physician Specialists

E: Consolidated Community Narratives

Appendices 5A and 5B summarize the findings from focus groups with Family Physicians (FPs) and General Practitioners (GPs) based in Red Lake and Sioux Lookout.

Appendices 5C and 5D summarize the findings from telephone interviews with Physician Specialists based mostly in Ontario.

Appendix 5E summarize the community narratives collected by Andres Ibanez (Masters candidate at the University of Guelph) in several First Nation communities and through workshops in Balmertown and Sioux Lookout with Community Telehealth Coordinators and other community stakeholders.

Appendix 5-Focus Groups & Interviews

A: Focus Group Integration

APPENDIX 5A-FOCUS GROUP INTEGRATION

1. Opening question:

Can each of you please tell me/us how long you have been involved with Telehealth technology?

- About 3 years ago in a preliminary way. 1-2 years in the last phase. The training was about 1.5 years back.
- Clinical for about 3 years, for meetings earlier.
- Approximately 2 years for most doctors.
- KO had the technology before the hospital.

Between 1 and 3 years

EXPOSURE – The least experienced voiced the most doubts about the technology.

2. Key questions:

[Access]

i) Can you share with us examples of your use of Telehealth services?

ii) How has this changed the way you deliver healthcare to First Nations?

- Hard to say it has changed.
- Have used to look at a child with a burn in Red Lake, avoided transport, we wanted to get a consultant to see her quickly on TH to make decision on the need for grafting.
- I do part-time work, at one time the nursing station could not accommodate a visiting physician and TH was used instead. It monopolized site at hospital for 2 days. Feedback: better than no visit but limited in comparison to visit by physician. Have not used for follow-up, but used for family follow-up, such as discussing no-resuscitate orders; getting family together is helpful for that.
- Used it twice in emergency, In once case with a patient in a community with no nurse, gave a picture of the situation on the ground.
- I have been less involved because community I visit I is not yet connected, and I primarily work there. Referral pattern change is intriguing: so far, patients still have to travel to access TH, they could just as easy to travel to TB but it has been easier to get TH appointments in SLK.
- For meetings via TH when you need visual contact beyond a phone call.
- Referring patients to specialists (in Thunder Bay or Winnipeg) and to non clinical services (counselling).
- Referral typically happens during face-to-face visits with patients in the community (examples: for mental health and speech therapy – though the latter did not materialize).
- One physician does a monthly primary care clinic from Red Lake for one of the communities; this provides continuity of care for patients seen during community visits.
- A case was reported where the physician was able to observe a patient that was having seizures. This was an emergency situation where the telemedicine session was set up within 30 minutes and it avoided a medical evacuation.
- The technology is under-utilized, in its infancy. In some cases specialists may see a patient sooner –relative to normal waiting times- due to the novelty of telemedicine but this will likely wear out.
- Referrals to specialists via telemedicine will face the same type of challenges as normal referrals: the limited availability of specialists.
- Two physicians reported that patients in the communities will more readily accept a referral if they do not have to leave the community, while another physician observed that others still want to travel.
- The case of the Red Lake care home was mentioned, where patients cannot travel to see a geriatric specialist, whereas telehealth has allowed them to access one from Thunder Bay.

Emergency use. Referrals: counselling, mental health, limited by # of specialists Patients more willing Follow-up, continuity Infancy

ACCESS - Analysis/Significance: Referrals remain a key tool for GPs/FPs during face-to-face, and this confirms what we have heard about patients wanting the face-to-face with doctors. GPs appreciate the counselling and follow-up potential. Four examples were given where TH was used in an emergency situation effectively. Those least exposed to TH were the most doubtful – which is consistent with the literature on ICT adoption (eg van Dijk's recursive model).

iii) What components of Telehealth are you most comfortable using?

- I am not using it much, **have someone else set up**, make the booking, get the nurse station on line. I was taught but have not done a hands-on.
- Emergency case: I looked at the eye, as long as the CTC sets up the call, it is just easy like that. **Someone sets up the call at other end**.
- I was trained once, but it won't stick. Anna and I talked about **idiot-proof instructions** at TH station. Anne had a case where she could not use it and had to call for instructions. She learned, need simple instructions, I have not used gadgets, though was trained.

- The technology (the mike).
- Letting a **technician do the follow-up** (after a referral).
- Having **others set up** the technology.

Delegation to technician; like that others deal with technical issues, need simple instructions.

ACCESS- Analysis/Significance

The emphasis on delegation emphasizes the importance of CTCs becoming reliable.

vi) *What is needed to make it more appealing to FP/GPs?*

- The rollout, have not seen it (in the community I work in), so I have to see the technology first.
- Struggling whether the access issue is simple enough: try to **get unit in our clinic**, se we do not have to go use the room, just walk to the clinic, spontaneous. No need to book an appointment.
- Huge concern is physician funding for TH, we need a strategy to address it. This thing will take off like wildfire and there will not be many doctors willing to do it for nothing. From an administrative position, were to get resources to provide TH. The pilot for Cat Lake is fine, but if we are looking at implications, at end of the day, we will find that we can see patients, do follow-ups, do urgencies, but it will mushroom, and **how will be pay for doctors' time?**
- Currently there is **no incentive to explore**, you could argue that we could bill North network for the service, but those billings would go to HC. It does not affect us. Not inspired.

- Better **trained CTCs**: cases were reported where the CTCs were unable to respond to a session, or where nurses had to step in to help with the technology.

Convenience of access matters.
Payment scheme for TH sessions highlighted.
Trained CTCc

ACCESS- Analysis/Significance
Convenient access is improving and KOTH/Knet have made an effort in this area (eg Diabetes Office in SLK).
The fee for TH service issue was also raised by specialists.
The CTC reliability issue has been noted in item V.

[Integration]

v) *How do Telehealth services work side by side with other health related services/programs?*

- Crux of the problem, it should be an add-on to existing services, (a natural complement to community visits, phone coverage, emails, electronic record sharing in future) TH should be a natural add-on. The funding part is the question. **It is not a replacement for community visits, it is an add-on.**
- Before TH, we functioned via **phone consults**, we filled sheets, we did this during our emergency shifts, you do lots of phone consults. We are attuned to that, **I rarely in a phone consult feel I need to go to the TH suite**, our nurses are very skilled at (helping at the other end). There are a few decision-making points: whether to medevac, and what treatment to apply in interim). One of the big things, rarely will it make a difference in decision points. In my training that was suggested, but I can get enough history from the nurses, plus TH would take more time. I see patients **(by phone)** while in emerge, in-between. Time issue is huge. For specialist follow-up it is ok, but **in our practice it seems limited right now.**
- It confirms a report on services in NW Ontario, a couple of recommendations suggested we will reduce emergency transfers, I also believe that as much as it will mushroom, **I too rarely feel it will change my decision whether to medevac a patient. The expectations may have been high.**
- In other areas, (anecdote): a patient showed up who would not see the mental health worker, I was dealing with this on **the phone**, with TH it would have been worth setting up an appointment, I could have dealt with it that way, there are areas, but not on emergency.
- **Not the role in emergency that people expected**, the way those decisions go, **phone is effective.** No time. Unrealistic.
- It is just **another tool**
- It is under-utilized, partly because physicians are not used to it
- It needs to fit with the **standard referral pattern**. One physician reported that he had a preferred paediatrician that he liked referring patients to, and if that specialist is not on the telehealth list, it was not as likely he would refer patients to those on the list that he does not know.
- One physician reported that the technology **helps GPs/FPs learn when they are present during a session with a specialist.**

An add-on, not a replacement, with added advantages. Several reference to phones as an effective tool. Less than enthusiastic about the technology, including doubts about TH reducing medevacs.

INTEGRATION- Analysis/Significance

The emphasis on TH being an add-on, and not a replacement echoes patients' views that this is about better service, more options.

The hesitations hinted at the expectation that TH would reduce medevacs.

The reference to phones as 'not so different' and 'more convenient' may be an indication of the growing pains of a new technology.

[Quality]

vi) How does Telehealth improve the quality of health care that FP/GPs deliver?

- In 2 ways: I have sat in on **consults with specialists**. The GP, the patient and consultant; the GP can contribute, that is the care that never happens, this is outstanding. Requires a lot of coordination. The other is the **family conference**: example of the no- resuscitation orders, it reduces the burden on decision-making. A level of confort that would not be possible otherwise.
- Potential to improve quality via more amount of service: **potential of more doctor time with patients. More amount, more frequency, more direct care.**
- Isolated case of patient who cannot get out. I look forward to being able to do **geriatric referrals**, for small group of patients you cannot send out. Opportunity cost: reduce 90K patient trips and reallocate funds to programmes that would make a difference, it would do a lot for health of people.
- As time goes by and physicians will become more familiar, they will have a better sense of where/when telehealth is appropriate; i.e. the cases where averted travel makes sense.

Statements about the quality potential.

QUALITY- Analysis/Significance
Family connections, integration of GPs with patients and specialists, more direct care, emphasis on the elderly who otherwise would not travel – these are important confirmations about how quality is perceived.

vii) *What is the most significant impact telehealth has had on health outcomes?*

- Too early to tell.
- Not single case yet.
- In orthopaedics, if the right equipment were there, we could save 50% of travel in that most of the information needed is just an opinion; it is cut and dry.
- In dermatology is another area where reduced travel could easily be accomplished.

Too early to tell

Reduced travel expected in areas such as orthopaedics and dermatology.

QUALITY- Analysis/Significance

For those newer to TH, there was little to report. For the more experienced, an awareness of its potential in specific specialty areas.

viii) *Has Telehealth lived up to your expectations?*

- Too early, not rolled out enough.
- I thought I would be using it a lot more, magic would happen, everyone would be presenting patients on TH. I realize it has to be physician-driven for us to use it. **No one is pushing it.**
- Hands down that it helps improve quality because of **improved access.**
- One physician reported that there has **not been a single case where telehealth session has been a failure.**
- The **lack of specialists** remains a barrier, with waiting times (for face-to-face and for telehealth sessions) remaining a concern.
- The need for **dedicated people 'at the other end'** was mentioned again.

The expectations remain positive in terms of improved access and thus far a good track record.

To live to GPs expectations, TH needs a champion doctor, dedicated people at the other end and more specialists.

QUALITY - Analysis/Significance

The emphasis on field level support (CTCs) is balanced with the need for more specialists to be referred to. The overall expectation is positive.

3. Ending questions:

[‘All things considered’ question]

What would you say is the main contribution of Telehealth to the quality of health care delivery in the Sioux Lookout District?

- Access, speed of care.
- It brings us closer to the communities, it creates more relationships.

ALL THINGS CONSIDERED - Analysis/Significance

Off the main themes (Access; speed, bringing doctors ‘closer’ to communities, creating more relationships) the latter stands out as more significant.

4. Is there anything specific you wish to add or emphasize before we end?

- It has been unfortunate. If you look at adoption of innovation theory, you need a champion, an early adopter, an innovator, in our zone it has not worked in that way. The CTC has so many other things on the go. We have not found the physician champion, maybe via Anne? The question is patients giving up- it takes time for innovations to catch on. Too premature to give up on it.
- Example: the most skilled CTC on site is in North Spirit Lake, yet they have not had a routine physician. In my community they are on their second on-site coordinator and things don't happen. They have TH psychiatry with Winnipeg but patients ask for more referrals because they are not seeing one, the follow-up is not happening. The nurse in charge should be facilitating but is not interested, took medical leave and no one was trained in the community, no CTC, so this all goes to ground. In my community I don't know how much it is used for specialist follow-up, but the wheels are falling off.
- Champions at all levels. Many people think need to think of it as a potential resource many times a day. With the nurse I have to book it, I don't have access in the hospital.
- Urgent referrals can take 2-3 hours of my time, I need to find which specialists do TH, I cannot book it with the coordinator, I need to find a specialist willing to make the trip to the TH site. For urgent referrals, it is such a hazel that I book patient to go for an appointment anyway.
- A glitch: if you want to find out what is going on with an appointment, that is separately done, so to find out when it may happen, it is a glitch. The TH coordinator here should not have to do it, we need easy way to track appointments.
- Communities' resistance to telehealth has to do with their fear of losing face-to-face visits by physicians, and they come to appreciate that this is not necessarily the case. A concern is that the system not be under-funded as telehealth is about augmenting health care.
- The physicians contract spells out the number of hours they must spend in the community. The contract was developed 4 years ago, before telehealth was introduced, so there is not explicit reference to it. Whether a telehealth session counts as being with a patient would be a matter open to interpretation, and the physicians assumed it would not be seen as equivalent.

Indication of 'growing pains' associated with the introduction of a new technology in the context of a complex medical system.
 The observation about TH not replacing face-to-face echoes what communities feared.
 The funding issue was flagged again.

ADDITIONAL COMMENTS -Analysis/Significance
 The overall comments address the challenges associated with adoption of technology from the provider side, the patient acceptance side and the policy side.
 The statement about TH not replacing face-to-face merits attention as a confirmation from the medical practitioners side that community's concerns were noted.

Appendix 5-Focus Groups & Interviews

B: Findings from FP/GP Focus Groups

APPENDIX 5B- FINDINGS FP/GP FOCUS GROUPS

Findings from focus groups with general practitioners and family physicians

Red Lake (4)
Sioux Lookout (2)

ACCESS - Analysis/Significance:

- Referrals remain a key tool for GPs/FPs during face-to-face, and this confirms what we have heard about patients wanting the face-to-face with doctors.
- GPs appreciate the counselling and follow-up potential.
- Four examples were given where TH was used in an emergency situation effectively.
- Those least exposed to TH were the most doubtful – which is consistent with the literature on ICT adoption (eg van Dijk’s recursive model).
- The emphasis on delegation emphasizes the importance of CTCs becoming reliable.
- Convenient access is improving and KOTH/Knet have made an effort in this area (eg Diabetes Office in SLK).
- The fee for TH service issue was also raised by specialists.
- The CTC reliability issue has been noted.

INTEGRATION- Analysis/Significance

- The emphasis on TH being an add-on, and not a replacement, echoes patients’ views that this is about better service, more options.
- The hesitations hinted at the expectation that TH would reduce medevacs.
- The reference to phones as ‘not so different’ and ‘more convenient’ may be an indication of the growing pains of a new technology.

QUALITY- Analysis/Significance

- Family connections, integration of GPs with patients and specialists, more direct care, emphasis on the elderly who otherwise would not travel – these are important confirmations about how quality is perceived.
- For those newer to TH, there was little to report. For the more experienced, an awareness of its potential in specific specialty areas.
- The emphasis on field level support (CTCs) is balanced with the need for more specialists to be referred to.
- The overall expectation is positive.

ALL THINGS CONSIDERED - Analysis/Significance

- Among the main themes (access; speed, bringing doctors ‘closer’ to communities, creating more relationships) the latter stands out as most significant.

ADDITIONAL COMMENTS -Analysis/Significance

- The overall comments address the challenges associated with adoption of technology from the provider side, the patient acceptance side and the policy side.
- The statement about TH not replacing face-to-face merits attention as a confirmation from the medical practitioners side that community’s concerns were noted.

APPENDIX 5B- FINDINGS FP/GP FOCUS GROUPS

Appendix 5-Focus Groups & Interviews

C: Phone Interview Questions for Physician Specialists

APPENDIX 5C-PHONE INTERVIEW QUESTIONS FOR SPECIALISTS

Phone Interview Questions for Specialists

Specialists – medical doctors	Specialists – educators, therapists
Dermatology (2)	Dietitian, Diabetes education (3)
Oncology (1)	Occupational therapy (1)
Psychiatry (1)	
Hematology (1)	
This sample of 9 represents 20% of the specialists involved with the project.	

a) How long you have been providing consults using Telehealth technology?

- Almost 3 years.
- About 2 years.
- I probably am the first physician in Canada who did a telehealth fellowship down in London Ontario where you are calling from with Robin Campbell and Project Outreach, and that was when I started my fellowship, that was now 5 years ago. So I have been providing telehealth for over five years as a fellow and pioneered Project Outreach and then early on with Ed Brown and Rob Williams in NORTH Network.
- For probably a year and a half.
- Since January 2005.
- Since April 2003 (over 2 years)
- One year.
- Six months.
- Since October (10 months) when I came in with the program. Previously as a hospital nurse there was the option to use it for family communication.

EXPOSURE –
Ranging from 6 months to 5 years.

b) What clinical applications of Telehealth are you involved with?

- Dermatology consults. Patient education.
- What do you mean by clinical applications? I am a medical oncologist, I see patients in clinic, I deal with anti-cancer therapies, medications, chemotherapy, mainly.
- I don't do anything by telehealth that I don't do in clinic. So I use the telehealth for follow-up appointments, and sometimes, occasionally for new patient consults.
- At this time I do, I think I do almost 100% of all the telepsychiatry in Northwestern Ontario. So I deliver, from Thunder Bay to virtually every community that is with NORTH Network, out of the TB Regional Health Sciences Centre, I used to do that from the Lakehead Pyschiatric Hospital as well but I don't work there any longer. So it is all done out of the TBRHSC and I do almost all of it interestingly enough out of the cancer studio, cancer clinic studio. So I provide initial consults, and my specialty is psychiatry, my sub-specialty areas are addiction, anxiety disorders and pain management, chronic pain management and the issues related to mental health and addictions with that. So I provide specialty consults as well as sub-specialty consults in all of those areas to virtually anyone that is referred to me. I also provide follow-up care in not all patients, but in patients that require adequate support in their communities, and that is fairly frequent. I try to, wherever possible, work with the team that is involved, I rarely if ever see a family doctor at an appointment, I will often communicate with them either phone, by letter, or occasionally I have asked a family doctor to come to an appointment and they have generally, and in one occasion that I am aware of one family doctor wanted to be there, and he is not practicing any longer, he is with the medical school and also with another education branch. So that is sort of the only thing, there isn't a lot of family physician involvement that I am aware of unless it is requested. And I don't think that a lot of them are aware that they can be paid for their work. I have been the one telling them that... and then they come no problem.
- I would find it extremely helpful if on an initial consult, even for fifteen minutes at the beginning, and they are welcome to stay for the whole thing, and usually when they first come they do, and they end up learning a lot about the interaction and I give them a lot of advice, so it becomes more of a case management, educational thing, as well as an assessment. Sometimes it is better, when I do the first consult, that is a very long process, depending..I'll see, I am a quaternary level, I am not just terciary, so I see people who are for instance opiate dependent, cannabis abusing, have depression or schizophrenia, plus by the way they have seven herniated disks. That kind of thing, those assessments take an extremely long time, and it is not good for the family doctor to be there initially, just because they usually send in information, I acquire that information, and then I will meet with them on a follow-up, fill in the gaps if any, and have the opportunity to talk – now here is what I think.

APPENDIX 5C-PHONE INTERVIEW QUESTIONS FOR SPECIALISTS

- The initial is done by telehealth? Yes, all the time. No problem. And of course I also have my face-to-face practice.
- Do you still travel to the communities at all? I don't, I did that when I was in London, but I don't do that here. No.
- **Dermatology** consults and follow-ups, it is a whole of range of things, it can be chronic conditions, acne, exaema, birth marks, acute rashers, eruptions, virtually anything that I would get referred in my community office or in my hospital-based practice comes through telehealth as well.
- I do it in two locations: I do it her through Sick Kids Hospital and I also do it through Sunnybrook Hospital, so I am not sure if you are addressing both places, or just generally.
- I am a **hematologist**, so I see patients who have anemia, or who have abnormalities of the blood, so a whole spectrum of people with malignant and non malignant disease, and I also have patient that I may see here once to make the diagnosis and then they return back their community and are able to receive their treatment there, and I see them for follow-up by TH.
- Dietician. **Diabetes education**. Presentations on nutrition with Cheryl Klassen. One-on-one and group training.
- **Diabetes education**.
- **Occupational therapy**: mostly being doing it for hand or wrist injuries, mostly a follow-up from face-to-face consults.
- **Diabetes education**.

Dermatology, psychiatry and hematology specialists are able to do almost all their consults via TH, where as oncologists use it as a follow-up. Diabetes educators are strong champions. Several emphasized the importance of the initial diagnosis being done face-to-face.

APPLICATIONS –

The degree of early 'adoption' and appreciation of potential depends on specialty and well as the stage of consult (initial vs follow-up) – this suggests that talking about telehealth in general terms is not appropriate when it comes to valuing or tracking performance. Telehealth provides an unprecedented opportunity for preventive/early attention to diabetes education.

c) Can you recall a significant Telehealth session that illustrates the role and contribution of the technology and service?

- Patient education sessions most common. A diagnosis may not be in doubt, but the nuances of treating a chronic disease require a lot of education. This means having contact. Much easier via TH than having them coming to TB. Before this contact for follow-up would have been face to face, especially for severe cases.
- OK, so, for example, if I have patient with cancer that I have been following, who lives far away from TB, the main centre, I will book him for a telehealth session so I can talk with him and ask him how he is doing, how he is tolerating his treatment, etc. how his symptoms are, and he tells me what problems he is having, and occasionally I may ask the telehealth nurse who is there in the periphery, to do some examinations things, like I ask her to listen to the chest or examine the abdomen and then she will tell me what is it, and sometimes she will fax me some blood results, occasionally you can do some examination things like if the patient has a rash we can get the camera to zoom in on that area and take a look at it, and occasionally also we use it for auscultation, I've used it to listen to the heard with the stethoscope device that sometimes works.
- OK. I can think of two really good examples. The first one is a patient I will just say on the western border of NW Ontario with Manitoba, who has schizophrenia, alcohol abuse, nicotine dependent, and recently diagnosed depressive episode with that. And his family is a farming family, French Canadian, they don't speak any English, I had to get a translator the first time did not know they were French Canadian and there was no translator, though with my bad French we stumbled through, and realized we needed a translator and that got set up, the nursing station was involved, a physician in a different community got involved remotely – not over teleconferencing but through communications- and we were able –once the translator got there- communicate with the family. It turns out that this patient's brother also has schizophrenia, and he, and variously they have been admitted to the local hospital and then transferred to the Kenora center when necessary, but it's been inadequate service and the family is essentially burdened with two young men with schizophrenia on a farm with very rudimentary knowledge, very unsophisticated knowledge of that kind of illness, but doing immensely, you know, as well as they can all things considered. So with telehealth I was able to, and they'd had I should say, they'd had a number of fly-in physicians see this man, occasionally, say 2-3 times a year, as the family doc was able to see them in, the family doc is in another community by the way, so by doing telehealth I was able to be consistent in the care. I was able to do an initial assessment and realize that this man had to come off first generation anti-psychotics and go onto second generation anti-psychotics in order to improve cognition, negative symptoms, and continue to provide adequate control of the positive symptoms. And he is a young man, so in fact you want to do this as early as possible into the illness. He was a chain smoker and that is very typical with schizophrenia and so one of the goals eventually is to try and reduce that as much as possible, and he was alcohol abusing and not

APPENDIX 5C-PHONE INTERVIEW QUESTIONS FOR SPECIALISTS

sleeping, very psychotic and keeping his parents up at night, so they were not exhausted in addition to having another son who also has schizophrenia. So essentially, by doing that, by using telehealth, I was able to make the assessment, determine change, do continued follow-up as I am continuing to do now, and I am actually arranging admission to the hospital here in the fall to do a complete assessment and give the family respite care, where before it would have been very fragmented care and he probably would be on the old style anti-psychotics at this point, and we would not have recognized a depressive episode because I would not have been able to give continual, periodic follow-up.

- So this is a case where telehealth led to an admission, rather than the situation I have heard in many other cases where it is first that there is an appointment and then there is follow-up with telehealth? Exactly. Telehealth actually led to improved management, family support, I was able to have the full family communicating, at various points – a daughter came. I also supported and managed several nurses who were involved in the case so that they were familiar with what was going on. It was a large group of people over a fairly lengthy number of appointments. And then, by virtue of that I could actually follow the illness over time, watch its improvement and then see that where it wasn't improving required a reanalysis and that there was a depression there, that had not been treated, implement treatment and then watch that improve, and now begin to learn exactly the family status and understanding that they required respite care –which means a rest, it is a huge burden to have two children with schizophrenia out in a very remote place, so they are exhausted and they basically don't get to sleep and they can't work and it is a grueling kind of thing.
- I actually just came from my telehealth clinic. I saw a patient today from very far away with a lesion that was probably not diagnosed correctly, and they wanted a dermatology opinion on that and I was able to completely diagnose the problem with a history and with the camera being able to see the lesion, diagnose it and organize the follow-up without having to bring the patient down, so I mean, that probably represents most of the sessions that I run. That would be one example of really preventing a family from having to travel great distance for something that didn't need it, it was completely dealt with.
- I have seen some patients who have been referred from northern areas in my live clinics, very infrequently though, and for my telehealth clinics to my knowledge I've only actually arranged to have one of them seen in person because I couldn't quite see what I wanted to see via telehealth.
- I put patients on medication who are living out near Fort Francis and I am following their blood work weekly and I can contact them by telephone, but when I see them on TH for their follow-up, she was describing some swelling in her ankles and I was able to –because of the telehealth- zoom in on her ankles and see that she had an ulceration, that is a side effect that is reported with the drug that I was treating her with. So, you know, without seeing that I wouldn't know for sure that it was drug related, very useful.

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- [If you had not had the technology in that situation, what would have been the other alternative treatment?] Then I would have had to have her come and let me see her ankles to determine whether this was just swelling that can be caused by many other reasons, or if it was more likely the drug effect, which it turned out it was, so she would have had to travel to Thunder Bay to see me.
- None specific. Follow-up, care and client management: very significant. They travel up north, and may not see a patient for another year. VC has had a significant impact in terms of the patients being able to take care of their diabetes. Meeting in person helps but is not essential. Seeing them more often is useful. "Initials" are not covered, they have to await a visit or another appointment (eg for eyes, dentist or a medevac). NHB does not pay for diabetes education even after they are referred. Otherwise the wait can be 1 – 12 months. Therefore the impact is important: follow-up to referrals happens right away.
- All of them, our clientele is the North. Each session is pretty significant with being able to access each community. There not one that is more significant than another when it comes to what we do. Why so significant: We can't always get to the communities and the clients can't always get out of the communities to come to see us; so everything is done via videoconferencing, from follow-ups to initial education, and the fact that we can do them on the spot if we have to – this is really advantageous in trying to figure out how we are going to see somebody when they are not coming out and we are not going up. We may not necessarily be making that trip that month. How often do you go: we travel once a month to a different community; so each community will get 2-3 times / year, in total up to 4. Follow-ups in between via TH, we have started to build that rapport, and then following up via VC is what we would do next, within a couple of weeks.
- More of the benefits eh? I only used it a few times, I was not finding... you really need to have the right type of case for it... and so, and I suppose the right client too. I had clients not show up for that appointment and I think one of the main reasons is that they preferred the face-to-face, they felt a bit uncomfortable with the video. We had technical problems as well. An then there are some things that are too easy to miss if you are far away, if you do not have actually hands on. So the nurses are really good, most of the nurses I deal with will phone the day before and ask what type of information we wanted them to collect and what types of things they needed to prepare for. So the nursing staff is really good that way. But I found that for some things, physical, I prefer to see them face-to-face. On the promise: the most successful thing is how good the nursing station are about it, so if it something we were doing like a verbal follow-up then I think that it is appropriate. We also do mental health out of here as well, so we can be doing chronic pain or, we can do stress management skills and things like that, so I think it shows more promise that way. And it would also be good for educating care workers, we also do pediatrics, so it would also be good for little education sessions with special ed teachers. In occupational therapy, face-to-face vs VC big difference? For physical it does, because we do a lot of screening. The diagnostic that we get does

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not necessarily match with the client's symptoms. So we do want to do that physical assessment ourselves.

- Just off hand, I had one about a month ago where I had an individual who was diabetic, from many many years, who lived in the deep bush. So he did not even have great access to one of the nursing stations, but he was willing to come into the nursing station, mind you he did not speak English so we had to have someone to translate as well, and I think we were able to do quite a bit of good education with him. He was not taking care of his diabetes at all, and through the telehealth I feel we were able to really educate him and get him to take control over his own management, because he would not come into the community. It was just a grasp to get him to come into the nursing station. He had been referred, not sure if by the doctor, I don't think so, I think it was the telehealth coordinator who knew about him and she initiated it. I think many times the nurses had tried but he wouldn't, he rarely came even to see the doctor. He was an elder who lived in the bush. So that was definitely helpful. He did not want to come to the nursing station, let alone to come out of the community for the teaching. I think it was the telehealth coordinator who had a lot to do with that, I think she must have been a family member or somebody close to him, to be able to convince him.

Examples of education, especially in diabetes education and prevention, follow-up, trouble shooting problems during treatment, communicating with family.
Education examples in diabetes and psychiatry.

QUALITY AND ACCESS:

Excellent quotes about how TH provides opportunities to improve and follow-up care. In some cases, the specialists use it fully as an alternative to face-to-face.

d) What is needed to make Telehealth more appealing to Specialists?

- Some sites have well trained people, nurses or people who understand the technology and cameras and have an understanding of what has to be achieved. You have to have someone there, you cannot direct the patient via TH, there has to be someone taking an active role. You cannot have someone do it for a week or two, and then another one. I have had experience with very good people on the site and with some people who are brand new and don't understand the camera, it doesn't work, I am looking at the ceiling half the time. It just makes it all much more effective if everyone is on board. (He confirms:) the human component is the number one issue to make it more appealing. Efficiency means having someone at the other side who can make it efficient. Continuity of the person at the other end is what matters. In one site, for a TH consult they call the emergency nurse, which means she leaves the patient alone.
- I don't know specifically, I do use telehealth, I think it is better than nothing if the patient really cannot get to the centre, but it is definitely a distant second to having the patient in your office. Things I don't really like about it is the distance of it on the video, it is a bit impersonal, it is slightly better than a phone call in my opinion. I don't really know if there is anything that can really make it better, there is no substitute for having the patient in your office.
- One of the things, having done telehealth for a very long period of time, one of the things that is difficult is doing the session itself. It's not as easy or a quick as doing it face-to-face, and that is primarily and issue where people tend to have to stop, pause, listen and communicate better. So you have to be a better communicator; it is not one of these things that you can do instantaneously like you would in the office and then engage staff who are around you to take care of things. So, one thing is recognizing that it is longer and remuneration has to be succinct with that – I understand you know that it is an OHIP fee plus a few dollars extra, but you know, that would be an attractive thing to allow specialists to slow down and still not worry about who they are seeing, how many they are seeing.
- The other thing that comes up is that they don't have their team around them and so how could, one of my questions is how can we implement a team to team communication, so let's say I am a cardiologist and I have a team, how could telehealth facilitate that those telehealth communications go on even before the specialist gets on, so that all that team support is already been done, which would have been done in-office. And I don't think people realize how that could be done and that is one thing.
- If a doctor does a telehealth consult, is yet paid as a face-to-face consult yet, or not yet? No, as far as I know it is not, it is only NORTH Network that pays it as if it were an OHIP fee level, and then they pay a small small, small amount on top, about enough for three coffees.
- I guess for those who don't do it it is a new thing, so anytime you introduce something new, some people are resistant to that, but I think it is actually very enjoyable, it is a nice break from the routine of a busy clinical practice,

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you are sort of sitting in a quiet room, you are always given ample time to see the patient, whereas in real life is it often much more of a time crunch than that.

- You are given more time with a telehealth session? Yeah, I find that the timing is adequate, the patients are asked to come beforehand so you are never waiting for a patient, they are always there. There is someone at the other end to help you, and its, I find it interesting as a different way of practicing medicine. I am not sure what specialists would need to be brought on board, I guess they would need to know what it is all about.
- At this location I am salaried so it is included in my salary, but at my other location where I received a fee for it I think that is reasonable, I think that would not be a deterrent.
- And then it would have to be, I think one of the biggest things is, it would have to be a specialty that was amenable to talking with the patient, looking at the patient but not necessarily being able to touch the patient, you know if you wanted to feel the abdomen it is not going to happen, so I think that the only barrier would be a specialist that didn't feel they could do a proper examination.
- I think just exposure. You know, I think that we're not... I just finished a training program in Ottawa where I understand they are starting to start and get up running some TH for patients who travel from all over, Eastern Ontario region to come to Ottawa for their well-patient follow-up, and could easily be done by TH. And, you know, in our training, we are not exposed to that as an integral part of the medical practice. So I think training, exposure I think that it would be very useful and change how people saw it... but for me, from the very first TH that I have done I loved it, I think it's amazing, and I have lived in the North and know what the distances are and what it is like to travel, so I have a real appreciation from the patients' perspective, on how much better it is for them not to have to travel 4.5 hours for a 5 minute consult.
- Awareness, other professionals are not aware of the VC access. We are the No. 1 user right now. We are aware. Even the other dieticians at the hospital are starting to use it more.
- Making them aware of the benefits of the education to a population that is not readily accessible; that would be the biggest. Other than that it is very appealing. How did you become aware? It is part of the job, it is already within the diabetes program, this is what we do. So this was going on before I started here.
- I think it would be good if there were some standards or guidelines of the process you would use. When I got calls from the nursing stations asking for the things that we wanted them to do, I did not know that they would be doing that, so to have that type of process... and what types of equipment are available in the northern communities would useful as well. Example: whether they have one of the little cameras that can zoom in on a smaller area, or even whether they have something to measure strength, or whether they have something to do range and motion, so I guess whether they have the equipment and the skills to do that type of thing. I work with Dr. [] (rheumatologist), and that is how we do it, because he is doing physical assessments, so he has an occupational therapist on one end, our

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physical therapist doing a physical assessment, and then giving him that information. So if its something physical then we do need the nurses to be able to provide some of that. Do you travel to the communities? We have one physician funded for that and now that we are fully staffed they will, but there is no funding for occupational therapy to do that. A patient who needs OT, would not be flown out? Technically we don't travel to, but people can fly here. Is a referral enough from a GP for somebody to get an appointment with you? I think there is some confusion in that area, cause I know that when I have told- are you familiar with NIHB- when we tell our NIKB that we need someone to come in for OT they will deny that, so we just say that they are coming in for rehabilitation, and it gets processed under physical therapy, but I did get a letter from the deputy Min of Health in Inuit Affairs saying that any service that is provided under a hospital should be covered, and we are in a hospital. So this not a battle. We don't have a speech therapist out of the hospital and there are none in the community, that can provide the services, and they are one that we would really like to see, first we would like to see one hired out of the hospital, but at the very least we would like to see some VC happening, because then it can happen anywhere, across Canada.

- I find that hard to answer because I find it very easy to use. Maybe people that don't like the technology may have a problem with it but I don't think that, even then, you can control it.

The human element (at the other end – nursing station) was noted: the human component is the number one issue to make it more appealing.

The importance of doctors being exposed to it in school; becoming aware.

Familiarity with the benefits of not having to travel in the North.

Among the challenges: some see it as distant second to face-to-face (though other specialists don't), some noted it is more demanding than a face-to-face, some noted the need to work at team to team communications; the need for equipment at the nursing clinics to allow the nurses to do diagnostic testing for the specialists.

Among the advantages: change of pace (novelty issue) and easy of access to patients (no waiting for patients)

The need to have a fee for Telehealth Consults was raised again, those in salaried positions face less pressure to see more and more patients.

FACTORS TO MAKE IT APPEALING

The human element was emphasized and we can share testimonials from the front-line workers.

The potential of telehealth is it is very specialty-dependent.

Empathy with the challenges of travel in the North.

The novelty side may wear out, but in some cases it has an advantage in terms of Access.

The fee for service issue is worth exploring further with NORTH network and with KOTH in terms of its impact on the sustainability plan.

Diabetes educators see great potential in that there was little prevention potential before the technology.

e) In your experience with Telehealth, what are the key factors required to make it work?

- Another element, very practical to make it appealing: if and when this will be via the ministry of health with a consult fee. Whoever directs this, will need to make it clear that it is not the same as an office consult, it is more complex, it is more time consuming, and so **the fee should be adjusted accordingly**, when they come to set a fee, if they have it as an office consult, you will have very few specialists being keen on doing it.
- Current situation: paid via the university, they pay the **consult fee plus an additional fee per patient**.
- I think that as long as you can make sure that **the audiovisual equipment working well**, so that the transmission is direct.
- **I think it is working. Key factors involved in that are what NORTH Network has done well: they paid as much attention to the human network as for the technological network. And by doing that they really created the opportunity for people, even non-physicians to say, we really need this, and therefore physicians found it easier to come on-board.** So, I don't know if that is one or two success factors, but that is there.
- I think that there **reliability of and quality of the technology has been extremely important, people had a lot of doubts, that is now passed effectively.**
- And then I think the **critical mass development**, I think we have a critical mass of users who can pass onto our colleagues and say, you know, it is not what you think, give it a shot it is going to work, and then there it is.
- The studio, this would be **equipment working and in good operation**. It is very important for my type of practice that I have some lab results, so if have ordered results for a patient it is very useful if they have been faxed back and are in the chart when I am seeing the patient in TH follow-up. So the same kinds of things that make my regular clinics run smoothly but sometimes it is a bit trickier to coordinate them when the labs are being done in a small laboratory and then having them fax [tape change], so that I think it is not as efficient as the regular clinic is in making sure that those things are available. So that kind of thing, for me, would make it more useful, and overall I think that you know, **I am becoming comfortable with the nurses who are at the other end, and they are more comfortable with me, with the kinds of things I order so we are actually developing a good rapport, and I feel that together there is a therapeutic alliance with the nurse at the other end and the patient and I know that the nurse will make sure that the things I am asking for and going to get done.**
- Have one in the office and they are getting one this week! Before, they had to go the hospital, arrange transportation, etc. For an initial education session, they may not have taken all their equipment (food models). They begged a lot for the unit! They asked last year and it was turned down (separate funding from hospital). KO has helped and the VP of the hospital. A willingness to learn, a willingness by the individuals that we are seeing to get past the cameras, like the fact that it is being done on TV, and it is a little more impersonal, to being able to grasp what is going on. When you are one-on-one

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with them you can keep their attention better, but when you are starting to, when they are sitting alone in a room looking at a TV it makes it a little more difficult. No CTC or nurse in room? No, if they do not require interpretation, it is a regular one-on-one visit. Willingness to learn, an age or gender issue? I think it is the whole concept of sitting in front of a TV, you really have to spend time building the rapport to get them to see past the TV, and that it is the same as if they were sitting face to face with us it is just being done on a TV instead. Meeting face to face makes a difference? Usually yes. Or if they have had multiple sessions with us, it get easier with the next session as they get comfortable with the environment that we are doing this in. They ask questions as we go, if there is anything following the VC, they always have our phone number and we will set up another appointment for the week later. If we are doing initial education, we will follow-up within a couple of weeks. It is almost treated the same as if they were here. Having our resources available helps; (the teaching tools).

- I guess preparation, you should know ahead of time what you need and exactly what questions you are asking.
- In our situation I think the key factor to make it work is the coordinator in the community. A couple of times I have come against a few walls with the coordinator, so I think a lot of the education needs to be placed on them, on the importance that I plays to getting those individuals that we otherwise would not see into it. I think it is a lot more accessible now, it is up in most of the communities, so I don't that that is a factor, it is already working in that way. The CTC is the key factor? Yeah, I guess so.

Can you provide examples?

- For example, in one telehealth room that we were using the camera position was kind of, was not appropriate because you'd have on the one TV that showed the patient, but then the camera that is recording you was on a second separate TV, but when you are talking to somebody you tend to look in their face, so I would be looking at one TV while the other camera off to the side was recording me, so that the image that they were getting is not of me looking straight at them but looking to the side, so that is not appropriate and I complained about that for a while and eventually they changed it.
- [When you say 'getting more comfortable with the nurses', is this a two-ways thing?] Absolutely, what is interesting is that there is a relationship that develops, in the same way as with the nurses who work in the clinic every day, and it is not just a two-dimensional thing, it is a vivid part of my practice.
- [Can you give me an example of how that works in hematology?] Well, for example in hematology some of the things that we order in terms of blood work, will be things that those laboratories in Hurst, for example, which is consult I did last week, they never even see someone ordering that blood work, so they are going to have to track down where to sent it to, how it has to be processed and sent, they have to ask me to spell what it is that I am wanting them to order. So, in a video communication, someone is having to, a nurse professional, is having to write down words that she has not heard before, so it is very important that she be comfortable with me, and not feel intimidated by me, and sort of be able to ask me questions and joke, and learn,

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right? So, is astonishing to me that there are personalities that can do that and that works really well and now over time they are learning and becoming more comfortable with the tools in my specialty.

- Different kinds of clients? I don't know too much about that, see I had one client, he came for the first appointment and it was not a problem, and we booked two more appointments after that and he did not show up for either, and finally one of the nurses phoned and said he preferred to come down in person. So that is all that I got from that one.
- She (or he) works with the referrals that we receive from the physicians and the nurses. Like, just for example, I had one coordinator who didn't do her homework and brought in all his family members, two of which did not have diabetes. But that only happened once and I think we addressed that.

The consult fee was raised again, with emphasis on the need to allocate more funds relative to a conventional face-to-face. Doctors on salary do not face this challenge.

Technical issues were raised, but the more experienced suggested the glitches had mostly been worked out, both in terms of hardware, well-trained CTCs, quality of image, and experience in using it.

NORTH Network was congratulated on its effort to highlight the importance of the human component.

The importance of new relationships with nurses.

The reference to having a critical mass of users as a factor in further adoption was mentioned.

EXPOSURE –

A combination of factors were listed including: funding (additional level for telehealth sessions), technical considerations (mostly solved), human considerations (emphasis is noteworthy- humour and trust), coordination, and critical mass (as a leverage for wider adoption).

f) As a specialist, are you happy with the continuity of care you are able to provide utilizing telehealth?

- **By and large, I am.** There are situations where it would be preferable to have face-to-face, but in NW Ontario with the large expanse, it is impractical to do it for every patient. Almost all the consults via TH are first encounters.
- **Yes.** It is a reasonable way to keep in touch with patients, and it is slightly better than a phone call, you can see the patient or they can see you, it is a bit limiting for transferring certain information of a delicate nature, such as discussing prognosis and things like that, sometimes it is inappropriate or not ideal.
- **I'd say yes.** Could it be improved? Yes, and that is primarily from I think, and it is very difficult to say cause I am not in those communities knowing what strains are on the resource there, but it goes back to it would be nice to have the family physician come to the second or third follow-up appointment, just to have a communication around what the issue were and then if is a patient that I am going to be following on an ongoing basis – and this happens frequently in some cases – I will actually have a psychologist or whoever the case manager is or a nurse, follow along in some of the appointments, but it would be nice if it was more frequent so that we could know what is going on in the community end. Otherwise I think it is good continuity because I can see them – I do telehealth either full day or half day once week. So I am probably one of you higher numbers in the whole network.
- **Definitely.** I am able to follow them up. I have worked across provinces where I have had family doctors locally do the testing that I cannot order because I don't practice in the other provinces, and there has been some excellent coordination of care, it has worked very well. I do get some no shows but that is no different that no shows in a live clinic.
- If I am working in Ontario I will often directly prescribe the medication and order my own tests and follow them up and then follow with the patient. I am following a patient now from Saskatchewan and because I don't have a license to practice in SK I involved the family doctor of the patient to do the particular blood tests and measurements that I need done, and it has worked very very well (through telehealth). This would be through the Sick Kids Network, though Sunnybrook will now refer paediatric cases to Sick Kids.
- **Very much.** As I said I am so respectful of the travel on the Hwy 17 and what that means, even in the summer with moose and all the hazards on the road, so I feel comfortable that I can get them here for the initial diagnosis, and even some of them I have never met in person, depending on whether they are malignant or non malignant cases, I have never seen them in my clinic I have only met them via TH, but **I feel I can arrange TH and actually lay eyes on them, and see them which is very different from just having a telephone follow-up when they are in active treatment.**
- **It has really helped the continuity of care for diabetes. If we are up north and do an "initial" and have a plan, then we can follow-up, there is a lot of information. Anybody at the start is in denial, but it takes a while, a couple of visits, to get a real grasp of diabetes and the implications. Helps us make plans and help the client follow those plans, and to adapt them as needed.**

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- **For follow-ups it is easier.** If we have been able to see them initially then we will have been able to give them resources (written materials in English) and do some hands-on stuff; when we get someone who is an initial diagnosis it makes it more difficult because they don't necessarily have the resources in front of them already that we use for teaching. That is because of location but we are working on developing packages that will be at each of the sites where we can get the coordinator to photocopy what the client would need and that would make it easier for the education.
- Oh definitely. A lot of the times I will see a client initially down here because they were admitted, then they will come see me, **so I find following up especially with the children, the pediatrics** which are hard to see, following up in a couple of months fairly easy done, through this.

Can you provide examples?

- I will tell you another example of continuity at the other site, often if I want something biopsied, the local doctor will biopsy it and send it to the pathologist of my choice, and I consider that the best case scenario so I think that is also an example where the continuity of care **has worked very very well for me.** It is like the right people looking at the right thing but I do not need to bring the patient in necessarily. And then I follow them up and I get the results and we discuss it.
- **There are clients you may only see once every two years, if they are not there when we go. Beside education, in the north there are so many factors, so the effectiveness can be the result of so many other issues (work, cost and availability of fresh food).** They are looking at research ideas on impact: knowledge base, vs applying it.
- I guess it adds one more route. Yea, I don't see it as the primary way that I would use it, **but it gives me another option.**
- **The kids have school all year round, they go –especially diabetic children- they go to a lot of specialists, just trying to fit them in, to see us at the same time is challenging. Especially with other things going on in their lives, diabetes is not a priority. And a lot of times this gets them to miss school which they don't mind. I am finding that we are pretty successful so that is good.**

Overwhelmingly positive with examples ranging from: patients for whom a trip is impractical; staying in touch with exceptions on delicate matters; follow-ups; an option especially with children; and coordination of care across provinces and with GPs

CONTINUITY

A key contribution to continuity, and this applies across a number of medical specializations.

g) Do you feel you can provide the same level of care via telehealth as compared to face-to-face consults?

- **Yes**, see above.
- No. I would say no because if the answer to that was yes then I guess you would say that you can do everything by telehealth which I would say, no you can't. There is no substitute to being able to lay your hands on a patient to examine them personally.
- **I do**. And I think that the determining factor again is how the team issues are managed. I think that as a specialist I can provide that care but remember I am a psychiatrist, so yes I think I can make an adequate assessment – I have been doing it long enough to develop an understanding of the different nuances than if seen face-to-face. I don't know if that would be true for some of the physical assessments.
- You teach this too? I do in the sense that I have a lot of medical students and residents come through and I will often take them and we will go do a clinic in telehealth and I will teach them all about how to do it properly.
- As long as, **if I make the decision** that I need to see the patient in person, as long as that is easy to facilitate, then the answer is yes. And it has only happened once that I wanted that.
- So it is equivalent to face-to-face with the only caveat **that if I decide somebody needs to come down as long as the patient and the family are able to arrange it**, then I think it is equivalent to face-to-face consult.
- **I think that the only limitation would be the resources in the community that they are in**. So sometimes when I have a patient, who is Hurst for example, well if I want a CT scan they have to travel to Timmins. So, I think that the only limitations are the resources in the community, and the accessibility to some of the things that I might, mostly they are investigations, but what I found is that most of them are close enough to a centre that's much closer than Thunder Bay, that they can get the imaging done, and that the imaging is sometimes done faster than it would have been done here because it's being requested from a specialist from outside. So, I am just adjusting, so I can't really say...so far I haven't run into a real limitation, but I am aware that I am adapting my strategies to the resources that are available.
- **It can almost replace it**. We have had initials and follow-ups that never had a face to face. Though face to face does help rapport, more personal, but in terms of major difference, it is not.
- **I think that with face-to-face you always get that little bit of extra, because it is more personal. But for what we do, and the number of communities we reach, I think that we do a pretty good job**. Initial education is more difficult because of the location, and follow-ups are usually a little bit easier. Does the VC option increase your workload? Only been doing this for a year, so I don't have the background, cannot answer.
- Depending on what it is, on what we are treating the person for. **Equivalent would be: if it is really just a verbal follow-up** "are you feeling this is working for you?" Where as if it something where I need some measurable outcomes, then it is not necessarily the best.

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- It depends on the situation; if I were to do an initial insulin start, to show someone how to actually give themselves insulin, I wouldn't think that would be nearly as good as fact to face. But generally, routine follow-ups, definitely, as just as if not better because it makes the individual a lot more comfortable when they can stay in their community. I find that it does provide the same level of care for routine follow-ups, definitely, there is no difference, in fact I believe telehealth may even be better especially for those individuals who do not want to come out of the north. But for doing initial teaching of insulin, yes, using the technology, very difficult to show over a TV, especially if communication, you know you need a translator as well, it makes it all the more difficult. Those how don't wish to leave are mostly elders? Elders are least likely to want to leave the community, a lot of the young women who have children, they may not trust the people that they are leaving the children with, so that can be an issue as well.

Close to full equivalence to face-to-face for some, qualified by others on the issue of having the choice; limited medical technology at the other end is a limitation, TH or not...

EQUIVALENCE

Favourable answers with emphasis placed on having the power to make the choice between face-to-face and telemedicine. Very much specialty-dependent and age-dependent.

i) What are some of the limitations of the technology and how do you deal with these limits?

- There are certain situations where TH is not appropriate: **specialized diagnostics** where the camera cannot do it justice. In those cases, the referral means a face to face is needed. The image the specialist gets is dependent on the operators, some are very good at focusing and freezing the image, and giving a good view. I don't understand the technology enough, but someone has to – this is the main point. I know it is doable because I get good images in some sites and not so good in others.
- The equipment is pretty good. For patient education, how to use a medicine, it is just as easy via TH. **Diagnosis for specialized cases**, likely less than 5% end up having to travel.
- No, nothing more than what I have already mentioned.
- **I think that telehealth is useful and should continue. It has got limitations but it is a useful tool. Is it a substitute for having patients in your clinic? No, but it is a reasonable option for patients who have a difficult time traveling.**
- From my practice perspective the limitation would be not being able to **observe every physical nuance** that I might read into in an assessment of the condition. And therefore, and I do because I do addition and pain medicine, I do physical assessment as well, so to that extent I am unable to do certain physical assessments. For the nuance part what I tend to do is as much as possible I will actually control the camera, and if I want a wider view, or a more focused view, or I may want to look whether someone's leg is moving to see if they have achethaesia (sp?), or if they are stiff I may ask them to move in a particular way, or may focus in on them to see if they have tired eye dyskenesia (sp?), things like that. I will actually use the technology to zoom in and zoom out and pan as needed.
- Other issues:
 - Interested in doing clinical research over telehealth.
 - Developing a software package that can deliver point of practice health knowledge while doing telehealth.
 - The limitations for me are by and large, there are times when I just **cannot get clarity of the lesion** that I am looking at, sometimes it is camera related, and sometimes it is operator dependent, the person at the other side just cannot focus in the way I want, and sometimes it is lesion- specific, some are so small or subtle that they just don't show up despite excellent technology and excellent skills by the operator. A lot of times the history that the patient gives me and for what I can see is enough that we don't have to bring them in, but again, for example today there was a patient that the story and what I was seeing was just not connecting up and so I needed to bring them in. So in dermatology that would be by far the biggest limitation, of technology, and I guess the way we get around it is either, sometimes I direct the operator to use the camera in a slightly different way, sometimes we try and position the patient differently, and then when all else fails and I cannot get what I need from the history alone, we would bring them in. They are unusual cases.
 - [Already answered - Other issues?] **One of the things might be the, it seems sometimes that we have a lot of TH, I am growing the number of patients that I have that I want to see by TH and now trying to fit the TH time,** so it is again

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scheduling, and having enough TH time, so that is something that I am starting to see but it has not been a problem per se but a couple of times, a few limitations for getting the TH follow-up appointment time scheduled. So that would be one thing.

- The other thing that has been just amazing with the TH system is that I have been able to track down in Toronto and participate in the Uof T city-wide hematology grant rounds, and so I am on their schedule and participating with that and I am going to be also joining the McMaster U hematology rounds, so in terms of my connectedness with professional development, it is unbelievable, because if I was in Ottawa I would not be able to access that information. **So, personal education, and in terms of patient care, I think it is superb.**
- **I am very pleased to have that as part of my practice.**
- Interference: both sides talking at the same time. This is just comes with getting used. Also, **lines being down** has happened a couple of times. With VC we can show a food model (portions): rubber food showing proper portions.
- **It can be a little bit impersonal,** because you are trying to establish a rapport with a new clientele, in our case a totally different clientele, different ways of life and you are trying to educate them, but you are trying to get that rapport as well. And one of the other ones is when there are **also power failures** or storms that knock out the system and we get shut down, or anything like that. Other than that we just work with what we have. You get more creative with your approach, you spend more time (for the initials) being more social, trying to draw them in and getting them comfortable before you actually jump into the education, and you get a better response that way. There is always room for improvement. The educational side: I find it is very beneficial, I mean you have the ups and downs of it, but it is worth it in the end once all the kinks are worked out.
- **Problems with the technology, all we do is reboot, not a big deal,** there are always weather problems where people cannot come for an appointment, so rebooking not an issue for us. Nurse preparation, guidelines, do they exist? Not they don't exist that I know of and it is something that we could develop for the number of times that we are doing assessments, it would make sense, we would have to get one of our assistant to, we could develop some guidelines so we have find out what equipment is up there so we have really appropriate guidelines, it is actually too much time for the amount that we are using the technology. What % of your session are on TH? Only doing maybe 1%. I had one week where I scheduled 4 in and then I found out that, if I wanted the verbal, the subjective, it was easier to phone, and if wanted something objective then I would fly them in. Just starting to become a tool but not a main one yet? Yeap, no, not at all. It was too many factors, all those things happened, I had 4 appointments and the technology went down, and the people did not show up because they did not feel comfortable with using it, even though they had said ahead of time that they were comfortable with using it, and it all happened with the first group when I was trying to use it, so I said, you know I am going to telephone. Are you hopeful that this will change and be of benefit in future, because these sound just like growing pains? Yeap. I have no problem with

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continuing to use it. And, Probably, I mean as we are talking I am thinking that there is one child who we - that another facility has been trying to get his teacher down, and they have not been able to do that, so a VC would be really appropriate in that case. Other questions? The one end that I don't know how much you guys have looked into is the whole client comfort with it. I know that I feel a little better with using, with talking to a person, even if it may still feel a little strange, because I have worked with Dr. [] Fiddler so many times. But I mean when I get clients on the other end and they have never seen anything like this, they are just giggling, there a real level of feeling uncomfortable for the client as well. Working with Dr. []? He is a rheumatologist based in TB, he does a lot of his assessments and follow-ups via VC. So the person will come in and be assessed by me, it takes about an hour to do the full rheumatology assessment, and then they are assessed by a nurse which takes about 15 minutes, and then they see Dr. [], so the nurse and I would give him our information for the physical findings via VC. He wants to know how the arthritis is progressing, and whether the medications are working, so he needs the joint counts, he needs us to do strength and he needs to hear the heart, and stuff like that. [The type of assessment this specialist does for Dr. [] is comparable with the type of assessment the specialist would be trying to do via VC in a community.]

- **Glitches like a thunderstorm.** I try to contact the coordinator directly to try and find out if it is my end or theirs, find out where the problem is, but that does not happen all that often. Any other? I really like the telehealth, I do, it is really important. Both A and I used it twice a week routinely so we are very comfortable with it, so maybe that had a lot to do with it too.

Limitations have to do with diagnosis of cases where physical contact is needed, or where delicate nuances cannot be appreciated via the camera.

A qualified endorsement, see quote.

Seeing more patients via TH and adjusting the scheduling.

Professional development.

Barriers –

A common-sense approach where TH is seen as an option that has particular advantages for some specializations / stages of treatment. Professional development opportunities that were not there before.

Appendix 5-Focus Groups & Interviews

D: Findings from Interviews with Physician Specialists

Findings from interviews with specialists

Grouped responses

Q: How long you have been providing consults using Telehealth technology?

Ranging from 9 months to 5 years.

- *What clinical applications of Telehealth are you involved with?*

Specialists – medical doctors	Specialists – educators, therapists
Dermatology (2)	Dietitian, Diabetes education (3)
Oncology (1)	Occupational therapy (1)
Psychiatry (1)	
Hematology (1)	
This sample of 9 represents 20% of the specialists involved with the project.	

Main themes

- Dermatology, psychiatry and hematology specialists are able to do almost all their consults via TH, where as oncologists use it as a follow-up.
- Several emphasized the importance of the initial diagnosis being done face-to-face.

Significance

- The degree of early 'adoption' and appreciation of potential depends on specialty and well as the stage of consult (initial vs follow-up) – this suggests that talking about telehealth in general terms is of limited relevance when it comes to valuing or tracking performance.

ACCEPTABILITY

Q: Can you recall a significant Telehealth session that illustrates the role and contribution of the technology and service?

Main themes

- The examples included: education especially in diabetes treatment, follow-up, trouble shooting problems during treatment, communicating with family. The most dramatic education examples are in diabetes and psychiatry.

Significance

- Excellent quotes about how TH provides opportunities to improve and follow-up care. In some cases, the specialists use it fully as an alternative to face-to-face.

“I actually just came from my telehealth clinic, I saw a patient today from very far away with a lesion that was probably not diagnosed correctly, and they wanted a dermatology opinion on that and I was able to completely diagnose the problem with a history and with the camera being able to see the lesion, diagnose it and organize the follow-up without having to bring the patient down, so I mean, that probably represents most of the sessions that I run.” (Specialist)

“Telehealth actually led to improved management, family support, I was able to have the full family communicating, at various points – a daughter came. I also supported and managed several nurses who were involved in the case so that they were familiar with what was going on. It was a large group of people over a fairly lengthy number of appointments. And then, by virtue of that I could actually follow the illness over time, watch its improvement and then see the that were it wasn't improving required a reanalysis.” (Specialist)

“I have seen some patients who have been referred from northern areas in my live clinics, very infrequently though, and for my telehealth clinics to my knowledge I've only actually arranged to have one of them seen in person because I couldn't quite see what I wanted to see via telehealth.” (Specialist)

“I put patients on medication who are living out near [community] and I am following their blood work weekly and I can contact them by telephone, but when I see them on TH for their follow-up, she was describing some swelling in her ankles and I was able to –because of the telehealth- zoom in on her ankles and see that she had an ulceration, that is a side effect that is reported with the drug that I was treating her with. So, you know, without seeing that I wouldn't know for sure that it was drug related, very useful.

[If you had not had the technology in that situation, what would have been the other alternative treatment?] Then I would have had to have her come and let me see her ankles to determine whether this was just swelling that can be caused by many other reasons, or if it was more likely the drug effect, which it turned out it was, so she would have had to travel to Thunder Bay to see me.” (Specialist)

ACCEPTABILITY

Q: What is needed to make Telehealth more appealing to Specialists?

Main themes

- The human element (at the other end – nursing station) was noted: the human component is the number one issue to make it more appealing.
- The importance of doctors being exposed to it in school.
- Familiarity with the benefits of not having to travel in the North.
- Among the challenges: some see it as distant second to face-to-face (though other specialists don't), some noted it is more demanding than a face-to-face, some noted the need to work on team-to-team communications.
- Among the advantages: change of pace (novelty issue) and ease of access to patients (no waiting for patients)
- The need to have a fee for Telehealth Consults was raised again, those in salaried positions face less pressure to see more and more patients.

Significance

- The human element was emphasized and we can share testimonials from the front-line workers (see quotes).
- The potential of telehealth is very much specialty-dependent.
- Those who have lived in the north have empathy with the challenges of travel conditions.
- The novelty side may wear out, but in some cases it has an advantage in terms of Access.
- The fee for service issue is worth exploring further with NORTH network and with KOTH in terms of its impact on the sustainability plan.

“Some sites have well trained people, nurses or people who understand the technology and cameras and have an understanding of what has to be achieved. You have to have someone there, you cannot direct the patient via TH, there has to be someone taking an active role. You cannot have someone do it for a week or two, and then another one. I have had experience with very good people on the site and with some people who are brand new and don't understand the camera, it doesn't work, I am looking at the ceiling half the time. It just makes it all much more effective if everyone is on board. (The specialist confirms:) the human component is the number one issue to make it more appealing. Efficiency means having someone at the other side who can make it efficient. Continuity of the person at the other end is what matters. In one site, for a TH consult they call the emergency nurse, which means she leaves the patient alone.” (Specialist)

“I don't know specifically, I do use telehealth, I think it is better than nothing if the patient really cannot get to the centre, but it is definitely a distant second to having the patient in your office. Things I don't really like about it is the distance of it on the video, it is a bit impersonal, it is slightly better than a phone call in my opinion. I don't really know if there is anything that can really make it better, there is no substitute for having the patient in your office.” (Specialist)

ACCESS / ACCEPTABILITY

Q: In your experience with Telehealth, what are the key factors required to make it work?

Main themes

- The consult fee was raised (again), with emphasis on the need to allocate more funds relative to a conventional face-to-face. Doctors on salary do not face this challenge.
- Technical issues were raised, but the more experienced suggested the glitches had mostly been worked out, both in terms of hardware, quality of image, and experience in using it.
- NORTH Network was congratulated on its effort to highlight the importance of the human component.
- The importance of new relationships with nurses.
- The reference to having a critical mass of users as a factor in further adoption was mentioned.

Significance

- A combination of factors were listed including: funding (additional level for telehealth sessions), technical considerations (mostly solved), human considerations (emphasis is noteworthy- humour and trust), coordination, and critical mass (as a leverage for wider adoption).

“I think it is working. Key factors involved in that are what NORTH Network has done well: they paid as much attention to the human network as for the technological network. And by doing that they really created the opportunity for people, even non-physicians to say, we really need this, and therefore physicians found it easier to come on-board.” (Specialist)

“ I am becoming comfortable with the nurses who are at the other end, and they are more comfortable with me, with the kinds of things I order so we are actually developing a good rapport, and I feel that together there is a therapeutic alliance with the nurse at the other end and the patient and I know that the nurse will make sure that the things I am asking for and going to get done.

[When you say ‘getting more comfortable with the nurses’, is this a two-way thing?] Absolutely, what is interesting is that there is a relationship that develops, in the same way as with the nurses who work in the clinic every day, and it is not just a two-dimensional thing, it is a vivid part of my practice.” (Specialist)

“Well, for example in hematology some of the things that we order in terms of blood work, will be things that those laboratories in [location], for example, which is consult I did last week, they never even see someone ordering that blood work, so they are going to have to track down where to sent it to, how it has to be processed and sent, they have to ask me to spell what it is that I am wanting them to order. So, in a video communication, someone is having to, a nurse professional, is having to write down words that she has not heard before, so it is very important that she be comfortable with me, and not feel intimidated by me, and sort of be able to ask me questions and joke, and learn, right? So, it is astonishing to me that there are personalities that can do that and that works really well and now over time they are learning and becoming more comfortable with the tools in my specialty.” (Specialist)

INTEGRATION

Q: As a specialist, are you happy with the continuity of care you are able to provide utilizing telehealth?

Main themes

- Overwhelmingly positive with examples ranging from: patients for whom a trip is impractical; staying in touch with exceptions on delicate matters; follow-ups; good experiences reaching children with diabetes, and coordination of care across provinces and with GPs

Significance

- TH is seen as a key contributor to continuity, and this applies across a number of medical specializations.

“By and large, I am. There are situations where it would be preferable to have face-to-face, but in NW Ontario with the large expanse, it is impractical to do it for every patient. Almost all the consults via TH are first encounters.” (Specialist)

Very much. As I said I am so respectful of the travel on the Hwy [No.] and what that means, even in the summer with moose and all the hazards on the road, so I feel comfortable that I can get them here for the initial diagnosis, and even some of them I have never met in person, depending on whether they are malignant or non malignant cases, I have never seen them in my clinic I have only met them via TH, but I feel I can arrange TH and actually lay eyes on them, and see them which is very different from just having a telephone follow-up when they are in active treatment.” (Specialist)

“I will tell you another example of continuity at the other site, often if I want something biopsied, the local doctor will biopsy it and send it to the pathologist of my choice, and I consider that the best case scenario so I think that is also an example where the continuity of care has worked very very well for me. It is like the right people looking at the right thing but I do not need to bring the patient in necessarily. And then I follow them up and I get the results and we discuss it.” (Specialist)

QUALITY

Q: Do you feel you can provide the same level of care via telehealth as compared to face-to-face consults?

Main themes

- Close to full equivalence to face-to-face for some, qualified by others on the issue of having the choice
- Limited medical technology at the other end (nurse station) is a limitation, whether with TH or not.

Significance

- Favourable answers with emphasis placed on having the power to make the choice between face-to-face and telemedicine.

“I do. And I think that the determining factor again is how the team issues are managed. I think that as a specialist I can provide that care but remember I am a psychiatrist, so yes I think I can make an adequate assessment – I have been doing it long enough to develop an understanding of the different nuances than if seen face-to-face. I don’t know if that would be true for some of the physical assessments.” (Specialist)

“As long as, if I make the decision that I need to see the patient in person, as long as that is easy to facilitate, then the answer is yes. And it has only happened once that I wanted that.” (Specialist)

“So it is equivalent to face-to-face with the only caveat that if I decide somebody needs to come down as long as the patient and the family are able to arrange it, then I think it is equivalent to face-to-face consult.” (Specialist)

“It depends on the situation; if I were to do an initial insulin start, to show someone how to actually give themselves insulin, I wouldn’t think that would be nearly as good as fact to face. But generally, routine follow-ups, definitely, as just as if not better because it makes the individual a lot more comfortable when they can stay in their community. I find that it does provide the same level of care for routine follow-ups, definitely, there is no difference, in fact I believe telehealth may even be better especially for those individuals who do not want to come out of the north. But for doing initial teaching of insulin, yes, using the technology, very difficult to show over a TV, especially if communication, you know you need a translator as well, it makes it all the more difficult.” (Specialist)

QUALITY

Q: What are some of the limitations of the technology and how do you deal with these limits?

Main themes

- Weather and technical glitches.
- Limitations have to do with diagnosis of cases where physical contact is needed, or where delicate nuances cannot be appreciated via the camera.
- A qualified endorsement, see quote.
- Seeing more patients via TH and adjusting the scheduling.
- Professional development.

Significance

- Barriers – A common-sense approach where TH is seen as an option that has particular advantages for some specializations / stages of treatment.
- TH opens up professional development opportunities that were not there before.

“I think that telehealth is useful and should continue. It has got limitations but it is a useful tool. Is it a substitute for having patients in your clinic? No, but it is a reasonable option for patients who have a difficult time traveling.” (Specialist)

“I am growing the number of patients that I have that I want to see by TH and now trying to fit the TH time.” (Specialist)

“...so in terms of my connectedness with professional development, it is unbelievable, because if I was in Ottawa I would not be able to access that information. So, personal education, and in terms of patient care, I think it is superb.” (Specialist)

Appendix 5-Focus Groups & Interviews

E: Consolidated Community Narrative

APPENDIX 5E-CONSOLIDATED COMMUNITY NARRATIVE

Summary of Findings

1) Introduction to the Data

This document is an overview and description of findings obtained from interview data gathered in the context of CRaNHR-SEDRD's evaluation of the KO Telehealth Expansion project, and its qualitative research focus on the introduction of telehealth into First Nations communities.

The *Evaluation Themes* included in this summary of qualitative data are:

Acceptability		The extent to which [users] are satisfied with the service or are willing to use it.
Integration		The extent to which the telehealth service and other health care services are integrated.
Costs & Benefits	<i>Costs</i>	The economic value of the telehealth service associated with the pursuit of defined [service] objectives, which are not necessarily measurable in terms of [project budget].
	<i>Benefits</i>	Improvements in care and operation derived from use of the technology/adoption of telehealth.
Quality	<i>Of care</i>	The extent to which care service is consistent with current professional knowledge.
	<i>Of service</i>	Support services, measures of preparation/readiness in service delivery.

Semi-structured interviews were conducted with:

- *Nurses* (non-First Nations public health nurses living and working in First Nations communities)
- *Community health workers* (community telehealth coordinators, home care/support, mental health)
- *Others* (stakeholders that may or may not be involved with telehealth either as clients/patients or potential clients; and community leadership).

1.1) Emerging Concepts and Themes

The notion of Emerging Concepts refers to the hierarchical organisation of ideas that can be deduced from – or are explicitly stated in – interview statements. The frequency in which these ideas occur or are alluded to determines whether it is justified as an “emerging concept”.

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Emerging concepts are shown at the beginning of each thematic discussion (beginning at section 3.1.1). The organisation of these ideas into a narrative is determined by following their importance to the research focus: the process that sustains and gives significance to the introduction of telehealth into First Nations communities. In other words, emerging concepts are the result of consideration of the applicability of interview statements to answering questions related to the four Evaluation Framework themes described earlier, and of the applicability of those same statements as windows into the valuations stakeholders have of the human resources involved in the introduction of telehealth.

1.2) Description of Interview Subjects

Nurses

The first category (Nurses) is that obtained from professional nursing staff at community clinics or nursing stations. Nurses interviewed are non-aboriginal, temporary residents in First Nations communities (on average two years). Nurse-in-Charge (NIC) staff account for most of the interviews for this category. The NICs tend to have a long career behind them and are generally well adapted to living and serving First Nations communities. Other nurses, such as visiting nurses, tend to be younger, remain in the community for shorter periods, and have less experience at (or are quickly adjusting to) serving First Nations clients.

Community Health Workers

This category was created from the grouping of community health care workers who are permanent residents of the community. It represents the pool of individuals who have received training, and continue to receive training and education, and in different areas of health care. This group includes the community telehealth coordinator (CTC) – the only community-based telehealth position. The CTC is also a direct organisational link between the project, the clinic/nursing station, and the community. The other positions under this category are those that have less direct contact with telehealth, as is the case with the out-of-clinic support workers, whose clients are telehealth users or potential telehealth users.

Other

All interviewed stakeholders not working at the clinic or in supporting tasks are included in this category (local authorities). The Clients' point of view is present here. However, due to the lack of an appropriate sample of interviews with clients, their voice cannot constitute its own stakeholder category. It is useful to acknowledge clients' contribution to the process of introducing telehealth, as their participation is a source of challenges and of learning for the providers of the service. The recording of those experiences remains an important pending need.

2) Defining Analysis Categories: Exposure to Telehealth

Interview statements provide a window into the differences in perception that users have regarding the introduction of telehealth into their work environment. The consistent trend in stakeholder impressions about this change is that statements appear to relate directly to the length of time the user has been exposed to or know of telehealth. Different exposure times

are “evident” in the concerns and suggestions that emerge from statements made by all stakeholder groups in their respective interviews. The “least, mid, most” labels group stakeholders' perceptions about what is most important regarding the introduction of telehealth into their work environment.

3) Findings

This section presents both an overview and a theme-by-theme summary of findings dealing with nurses' perception of the introduction of telehealth.

The notion of “exposure” levels, although employed as a criteria to group statements within stakeholder groups, has some implications on how a community's level of exposure to telehealth is understood or determined. This first part of the summary (which focuses on nurses) makes an attempt to include mention of how clients and other community stakeholders relate to the technology, considering that they are the true measure of acceptability and integration of the technology into the cultural context of the communities. This relationship is not as clear from nurses' statements as it may be from the perspective of other user types.

3.1) Telehealth & Contrasts in Perception – Overview Nurses

Nurses in all three levels of exposure express concern over the volume of critical health issues that exist in the relatively small communities in which they work. They also have a good grasp of what it takes to meet existing health care demand with the resources available to them. With respect to telehealth, this stakeholder category shares optimism about both the appropriateness of the tool and the human resources available for the operation of this technology

The level of acute care has risen and a lot of it has to do with [...] diabetes [and] rheumatoid arthritis, those are the two main issues in a lot of communities, and they're coming [to a] crisis, and so you have to deal with those things over the public health portion [of the daily schedule]. And it's recognised, in the [Sioux Lookout Health] Zone, and in the region, and in Ottawa, but there's not a lot they can do about it...

Public Health Nurse – New telehealth community

Nurses value the existence of the Community Telehealth Coordinator [CTC] position as a dependable, multi-tasking resource for the operation, promotion, and improvement of the service. Nurses tend to view the CTC's job as an essential component of telehealth; one whose time and effort is chiefly concentrated in making telehealth a fully integrated and preferable option of health care delivery for all users.

As a consequence, in an environment of scarce human resources, nurses see the CTC as a welcome staff addition. The CTC, in their view, helps release public health nurses from some administrative tasks and make them available to see more clients

[Telehealth] decreases the time I have to dedicate to arranging travel bookings, straightening out schedules, re bookings, arranging escorts... our hands are in that quite a bit. Now with the telehealth, it's also easier for me

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to fill out a form and give it to [the CTC to take care of]...

Nurse in Charge – Longer exposure community

There is more than just a technical role for the CTC to play. [The CTC] has to sell [the service] to the community so the community feels comfortable using telehealth here, as being equal to [visiting a physician] in Sioux Lookout and doing the same process...

Nurse – New telehealth community

Well, since it's all come in [the equipment], I've had very little to do with it [...] It's just exclusively the CTC [...] and there again, unstable nursing population... How many nurses are you going to train...

Nurse in Charge – Middle exposure community

I find that our telehealth coordinators are quite handy at it. I personally find it a bit difficult... it's become more the coordinator's baby, and I just come in when there is a session in progress that requires confidentiality [...] I find that the person that helps me all the time with it is the telehealth coordinator. They seem very easy with it...

Acting Nurse in Charge – Longer exposure community

The significance of these statements regarding the tool appears to be that nurses, in all exposure categories, understand the CTC position as another necessary “piece of equipment”, without which the service cannot have a constant presence or a reliable operation.

3.1.1) Findings - Nurses

Acceptability Theme

Emerging concepts: Diffusion, Flexibility, Growth.

Nurses tend to keep regular phone contact with their counterparts across communities to discuss matters of contingency and health care. Nurses working as “Nurse in Charge” (NIC) attend periodic teleconferences put on by the Sioux Lookout Health Zone (SLHZ - the administrative authority that oversees nursing in Northwestern Ontario) where they receive information specifically on the telehealth project from the “Zone” liaison with KOTH. Telehealth has also been a subject of discussion *among* nurses since the start of KOTH's expansion into most First Nations communities of Northwestern Ontario.

In Fort Severn, they were able to – our physician is in BC, Okay, their physician was also in BC and somehow they managed to get the equipment into her [the doctor's] office [...] in BC. So they could do [...] consults with her, with the patient, and I think there are times when I would really like that [to happen here].

Nurse - Least exposure

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Success stories with telehealth technology make their way into communications among nurses even across provinces. Nurses tend to be keen supporters of the technology and an important factor in its early integration into regular medical consults.

As nurses share their experiences using telehealth with others not yet familiar with it in practice (most nurses have heard about telehealth if not of “i-Docs” from other nurses), they may play a part in its promotion among health workers in their own clinics/nursing stations, but this form of promotion is not guaranteed if left only to the nurses.

I always found that nursing and staff have a tendency to be very parallel in the communities. They do their thing, the nurses do their thing.

Nurse - Least exposure

Concerns over the ability of existing infrastructure to house the program (concept of *Growth*) and eventually handle more clients as a result also surface in statements made by nurses

[...] you've got two and three people sharing the same space [...] you're supposed to deal with client confidentiality [...] so, they're looking into bringing more and more people into the nursing station [for telehealth].

Nurse - Least exposure

Other concerns are based more on a reflection on the accumulated experience of providing access to care through telehealth. One of the issues raised is what nurses perceive of the client's experience of the service, obviously thinking of the interface (screen, sound, image) as compared to the alternative (infrequent visits to the doctor's office)

Initial visits to build clients' sense of security are good. I think you lose a bit of that with telehealth.

Nurse – Mid exposure

On this score, the existence of a CTC position in the clinic allows nurses to view the technology as an equivalent option to the alternative for the client. It could be deduced, based on this expressed concern, that nurses are very much in touch with their clients' sense of comfort with telehealth, and that their time working in First Nations communities has taught them something about the concrete *cultural* needs of their clients. Among these needs is the importance of having a local telehealth operator to facilitate more familiarity to the clients' experience of telehealth¹

It's easier to have a full time person to operate the equipment, to make it more available.

Nurse – Mid exposure

¹The CTC coordinates the participation of family members in consults.

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I find that patients have, you know, at first been a bit [...] worried, but once they are done, they are completely satisfied.

Nurse – Most exposure

Some mention has been made by the nurses around the issue of long-term acceptability of the service. That is, the success in the introduction and consolidation of telehealth into a rural-remote clinic is also linked to the capacity of its staff, including the CTC, to make the service available whenever it is needed (i.e. Outside of the nine-to-five schedule)

We [provide telehealth service...] and anytime of day between nine and five it has been on, but we haven't used it in the evening, but I think that probably could expand...

Nurse – Most exposure

It would not be unlikely that, in communities with more experience using telehealth, the same *flexibility* might be expected of the range of applications telehealth can support: health education, training, medical consults, and other uses of this technology.

Costs & Benefits Theme

Emerging concepts: Expectations, Frequency (demand for investment in infrastructure), Trust (in the staff and the tool).

At all exposure levels, this theme surfaces as the need for investment of access to care. Nurses have made their own observations on the subject and speak of very specific applications of telehealth that, in their appreciation, should be considered a legitimate investment in that direction

...Some of this stuff, like speech therapy, could be done by telehealth. There is maybe one speech therapist for all of NW Ontario, so we've got kids in the communities who need it, and they [...] have to leave the community... and might have to wait two years to [attend a session], because there is only one person to service such a large area, and so, this is what I mean by "they perceive", because they don't get out for these appointments, that they are being neglected..

Nurse – Least exposure

In a newly connected clinic, nurses express the hope that telehealth can decrease the frustration that some clients experience from unmet *expectations* (justified or not). Nurses understand the value of well-managed expectations; the live and work in or next to the clinic and go through a period of adaptation that can be made more difficult when communication with clients breaks down.

In this sense, local capacity is seen as the best resource to employ in showing potential clients how their concerns can be met by telehealth. CTCs conduct "open houses" and tours of telehealth and clinical facilities and help nurses handle community interest in the new alternative

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What I've been doing if I'm going to refer somebody to telehealth, I bring them in, I ask them if they are interested. Then I go to the CTC and ask [the CTC] to give them a tour... and [the CTC] sits them down and hooks up with Balmertown, they [the clients] see how it works, and then they agree or disagree. And no one has disagreed.

Nurse – Mid exposure

With longer exposure to telehealth, nurses and clients' concerns over confidentiality of medical information, consults, etc., appears as minimal. The degree to which collaboration between nurse and CTC is responsible for this change appears as significant when considering that nurses (as noted elsewhere) have expressed concern over “turn-over” rates among their peers

... in the first year, it was, well, that “there isn't any privacy”, but that question doesn't seem to come up anymore...

Nurse – Most exposure

From the moment telehealth enters a community as a fully operational service, the CTC's tasks become object of constructive criticism as nurses themselves gain practical experience with the service. Yet, it is worthwhile to note that at the beginning of the process of introducing telehealth, nurses already have a sense of the potential that the new resource represents to the improvement of access to care. As much as the technology, the CTC is viewed by nurses as an asset

...But then when [the CTC] comes in, there is so much more that he actually does, like the education aspect of it, and things like that, so that's why this office got painted blue, and so now a few issues to deal with, but [the CTC] is kind of blossoming and taking over the clinic [laughter]...

Nurse – Least exposure

Over time, as expansion of services and *frequency* of visits occurs, the “space” concern may emerge with greater strength. Nurses place very high value on their time and resources, and because of this, they see promotion as best handled by local capacity (CTC, others in the community). The CTC and local radio are two key community resources that can work together to improve awareness about the service

And, again, just these little individual tours, just go slowly into it [...] Talk about it on the radio, that these services are now available, advertise it

Nurse – Mid exposure

Nurses in the “mid” range of experience with telehealth already see that clients appreciate a chance to learn more before using telehealth.

On going communication is also a function of recognising and facilitating opportunities for community members to share information and experiences. Nurses know that most of the adult population either shares thoughts over local radio and that they themselves constitute the best “sales” voice for a new health service such as telehealth.

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In this respect, nurses know the value of tapping local knowledge (language, culture, etc) as health care workers identify the need and feasibility of new applications for telehealth.

Integration Theme

Emerging concepts: Trust, Ownership, Efficiency

Integration refers to the degree to which the service is part of or contributes to existing services. However, in the context of the communities included in this research, integrating other services, like home care, into telehealth consults is a need for more efficient use of existing resources that is becoming a demand.

Nurses share the desire to expand services offered through telehealth as a way to achieve that efficiency: better continuity of care and prevention of health issues. The idea is to relieve pressure on clinic and its staff in order to allow for public health work to be done more consistently.

...[The] acute care is so big and so vast [...] your day is completely taken up with, there are certain programs, immunization, prenatal, whatever... but, because of all the acute care and chronic problems, the public care and health prevention is not feasible [...] So, I think with the integration of telehealth, because there might be a little bit more teaching in that respect, I think that'll allow the nurses to be able to take on more of that public health role with prevention...

Nurse – Least exposure

Part also of the process of integration is the promotion of telehealth as a user friendly alternative to medevacs or other health travel. Nurses in the “mid” and “most” exposure range view telehealth as an advantage for clients in that they are able to bring family members to a session, which ensures a greater acceptability, comfort, and client awareness about the importance of continuity of care (clients are more willing to continue treatments, attend follow up sessions, etc).

It means more open access to medical specialists and decreased travel time, which translates into a decreased disturbance of family life for clients, less confusion because of language barriers [...] a relationship between the patient and the doctor, which makes my job easier...

Nurse – Mid exposure

Nurses in the higher exposure categories (of telehealth use) value telehealth as a way to facilitate a more constant communication with specialists, which in turn allows for “relationships” based on trust to form and, consequently, for continuity of care to be effectively delivered to the client. Considering these advantages, nurses in remote communities feel that

We don't really have alternatives other than what we've already had, which is to send the patients out

Nurse – Most exposure

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Telehealth provides reliable transmissions, which are the only way to rival the only “other” alternative to continuity of care: to consult specialists over the phone and to send clients who are able to travel away for follow up or diagnosis.

The CTC is also a part of the continuity of care advantage presented by telehealth. Reliance on the CTC is reflected in that telehealth is viewed by nurses all exposure categories as the responsibility of the CTC

I don't like to take over that job. I think [I've] got enough to do...

Nurse – Least exposure

...What we do is... make the referral to the CTC and the CTC sets up the appointments.

Nurse – Mid exposure

Because the task of operating the technology is viewed as the responsibility of somebody other than a nurse, nurses feel they now have the opportunity to dream of new improvements to the way in which they deliver health care

...everybody is brainstorming on how we can use it more and more...

Nurse – Most exposure

An important emerging concept, also related to the question of integration of telehealth, is that of *ownership* over the service and the decisions affecting it. An example of this concept is observed in the fact that both nurses and clients appreciate having the doctor “come in” through telehealth. Another indication of the idea that ownership begins to play a role as a selling point for promotion and adoption of the technology is that nurses have heard, directly from clients, an clear interest in telehealth, even in communities where it has only just arrived

They are asking specifically about telehealth, so I mean, they know it means no trips out, they can see their specialist...

Nurse – Least exposure

[We] have more people staying in the community and that saves us all this time of [having to worry about] travel, planes that get canceled, re bookings, all that kind of thing.

Nurse – Mid exposure

Ownership is a relevant concept as nurses and clients begin coming up with their own rationale for accepting and integrating the technology. As this occurs, nurses are able to contribute more of their experience and knowledge of context towards the continued integration of telehealth (as they collaborate with each other through regular contacts), and

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as clients allow the technology to replace the status quo in their health care options

The communities [clients] are well aware of the services we provide through telehealth

Nurse – Most exposure

Today, throughout the region, the technology and human resources involved represent a legitimate alternative to flying for hours to see a doctor. Moreover, all users realise the advantages to having the consult take place on local turf.

Telehealth is a technology that has began to transform both the role of a nurse (perhaps towards a public health – preventative role), as well as the health care culture of the communities in which it operates (expectations).

Quality Theme

Emerging concepts: Innovation (from knowledge of local needs and context); Organisation (interoperability among local health workers)

The Quality theme applies here as the combination of clinical care and the effective use of the technology (quality of care and of service). It is “measured” in terms of the users' perception, as has been done in the previous summaries.

Throughout this summary, the role of the CTC makes itself present in the statements made by nurses. The CTC has earned legitimacy in all communities and with all health workers at the clinic/nursing station. Nurses in all exposure categories agree that CTCs are helping to provide quality of care. As shown earlier, there is continuing talk about the potential of the position to help nurses gain more time to spend on tasks other than those associated with medical travel.

Nurses, in particular NICs, have many ideas about how to improve access to care using telehealth. The “added value” in their opinions lies in their knowledge of cultural as well as health context, and in their relationship with the CTC, whom nurses envision – even early on in the process of introduction of telehealth – as a key component of health care delivery through telehealth

[...] if we could get a public health nurse/educator to talk to our girls, that's what I want to talk to [the CTC] about, to make it part of the program...

Nurse – Mid exposure

And I've seen that in other communities, too, like the one [...CTC] who was like: “here's our manual, I want you to read it, and this is what's going on, if you have a chance to come in, we have this thing on depression coming on, if you have time to come in...” I was really impressed...

Nurse – Least exposure

[...] they do their best [...] they are certainly helping

Nurse – Most exposure

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As a constructive criticism, coming from a nurse and community with a long exposure to the technology, is that CTCs should be reinforced in their roles with more training on organisational and communication tasks, given that the CTC position has become indispensable for the program to run effectively. To this fact, it must be added that very few nurses in the “most” category are actually involved in anything (technical or planning wise) the CTC does to make a consult possible.

The CTC is today the only skill-set in the community able to run the *program* locally; the CTC serves as a technical, educational, and organisational resource that is valued by the nursing community of Northwestern Ontario.

3.2) Telehealth & Contrasts in Perception – Overview Community Health Workers

Locally based (Band member) health workers in the first two exposure categories appear to have a more distant relation with the telehealth service and a correspondingly diffuse appreciation for the technology. Health workers interviewed in these first two categories show as much of an understanding of the technology as they can get from sporadic contact with the service. The CTC is not immediately present in their vision of telehealth as community health workers are only peripherally in contact with the work of the CTC.

Community health workers learn about telehealth from the “buzz” it generates upon arrival, through “Open Houses” offered by the CTCs, and through eventually coming into contact with the service in the performance of their work with a variety of clients in the different health services (particularly in their work with elders who require assistance with their mobility to attend clinical consults on telehealth).

Some workers expressed concern over the need for more care personnel to cover the demand from chronic clients. Part of this concern stems from the difficulty of being “related to almost everybody” in the community. The added stress of the job that might be attributed to the kinship issue mentioned is understood by community health workers as an unavoidable responsibility that justifies bringing in more staff positions in order to better distribute the workload (there are some workers who spend far more time than their paid hours taking care of clients to whom they are related).

Although some local health workers would argue that training needs to reach all services at clinic/nursing station in order to *promote* acceptability, some statements seem to point towards an ultimate reliance on the CTC to ensure the proper and reliable operation of the service

It's gotta be someone who's willing to take this on as a career...

CHW – Most exposure

The expansion of coverage through telehealth has not reached all services in communities on the earlier exposure categories to the extent that local health workers can see immediate ways to integrate their work with telehealth.

It is likely that the service will be readily accepted and sought by community health workers as they begin to find ways to employ it in improving their ability to manage complex cases with few resources. In consequence, they will begin relying more on the CTC to help them in integrating telehealth with their own activities.

3.2.1) Findings – Community Health Workers

Acceptability Theme

Context of little or no exposure	Middle exposure	Longest Exposure
Education Respect Flexibility	Education Respect Flexibility	Education

Education Beyond “training”, people appear to be concerned about “knowing” what the technology is about in order to make decisions about its potential in relation to the present and future needs of the community.

Respect The term “respect” is not often mentioned in interview statements. Nevertheless, respect is a concept that is implied in the issue of what is acceptable or not acceptable practice, from both the community and the health worker’s point of view. For the former, respect is the result of being properly consulted, and of the effort to create bonds of trust. For the latter, the issue is to engage in consideration of the cultural (language, family, appropriate space, confidentiality) as well as the medical needs of their clients. As with nurses, community health workers realise the importance of providing an environment where such needs as met, and are concerned that telehealth meets that requirement.

Flexibility Health workers see the need to recognize the particularity of the situation in the communities, where the population is small, but the health demands are not. Many health workers work beyond their paid hours to take care of “clients” to whom they are in fact related.

Nurses and technology are not enough when it comes to creating appropriate conditions for specialist consults, as evidenced by the special needs of clients attending mental health follow up sessions

The client is an abused client... who is reluctant to open up to a machine, you know.

CHW – Mid exposure

Although health workers understand the needs of their clients, not all of them have had an opportunity to discuss their particular concerns with telehealth technology. This issue, like other technology questions, can be in part answered through exposure and practice using the tools involved. Other concerns may be dealt with through training. But, for some community health workers, the need for training on a tool like telehealth is not immediately clear or does not seem particularly important. The demand is for more human resources to be made available for specialized, chronic care.

Community health workers who are more exposed to situations where telehealth consults require the use of peripheral equipment appear more inclined towards recognising the technology’s immediate benefits to clients; they understand that telehealth consults go a long way in reducing the anxiety older clients, for example, experience when forced to travel out

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of town to the a doctor

[...] especially when there is an elder who is sick and cannot be flown out right away if he's really in critical condition. He could just go to the telehealth and get checked up right away, instead of being flown out...

CHW – Mid exposure

Local health workers across exposure levels also find themselves rather in the dark as to how this new technology can help *them* in their day-to-day tasks. Their demand is that the pool of local capacity for care be increased in accordance with the needs they face in the front lines (as is the case with home care workers)

We need more health care providers, especially for folks who are at home, the elders...

CHW – Mid exposure

After some exposure to the service, community health workers appreciate the need to have more, not less, human resources available in the community, as they clearly understand client needs in a professional and at times a personal level. Perhaps in part for this reason, the CTCs support role in introducing and explaining the technology, and in facilitating other needed services, such as translation during the session, are noticed, trusted, and appreciated by other community health workers, who view telehealth as the entire package, the full experience that includes its tools and its human resource

Eventually, I hope everybody sees the doctor through telehealth.

CHW – Mid exposure

Local health workers, both home and clinic based, see a problem with the demand for chronic care services (some make mention of diabetes as a major – and growing – problem). For workers at the first two levels of exposure, *flexibility* is a coping mechanism to deal with that critical level of demand. Although the link was not explicitly made in their statements, community health workers would partly measure the usefulness of a new service on whether it can help to bring some *administrative* flexibility into the care process

[We spend too much time doing] paper work [...] Yeah, they keep changing the format, I keep all the data, I enter it in the computer, have to send it out to Ottawa. They changed their program, I have to learn again...

CHW – Least exposure

The level of access to training and educational opportunities through video conferencing/telehealth is seen as one of the most positive changes brought on by the service. Program and capacity development help satisfy a demand for meaningful jobs that remain in the community. The acceptability of the program, in the eyes of community health workers, is also related to this benefit

[...] Education is very convenient now, because [we] have a chance to learn new skills, not like before, because we don't have any funds to travel to educational sessions and there are now mental health and all

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that, so whenever it is available we can now attend [...]

CHW – Most exposure

The level of acceptability that telehealth enjoys with community health workers is in part product of a preexisting positive attitude towards change. It is also the product of the degree to which workers in this category have had a chance to see and learn first hand about telehealth; its potential as a tool for palliative care (reducing the need to leave the community for care) as well as its role in widening the door to training opportunities.

Still, this category of workers, if subdivided into “out of clinic” and “clinic” positions, can probably point towards the importance of the active promotion and support role the CTC plays. For those workers who spend more time with the clients (in their homes), the CTC and telehealth remain a somewhat distant, but almost indivisible concept.

Costs & Benefits Theme

Context of little or no exposure	Middle exposure	Longest Exposure
Integration	Culture	Culture
	Training	Information
	Infrastructure	Integration

Integration – Of services with telehealth in order to maximize available space, resources.

Culture – This idea is tacitly present in statements made about the benefits of having local health care workers available to help community members approach, grasp, and use new services. Refers to how a community member envisions a visit to the doctor through telehealth in their own community. Space for a consult touches upon issue of how a consult is designed to be useful to both client perception/experience with telehealth, and medical practice needs. That is, telehealth's spatial location is as important as it's translation service.

Training – Refers to local awareness of skills improvements required in the implementation or improvement of services. This is not an idea that emerges in relation to telehealth necessarily, but represents a permanent concern of health care workers.

Infrastructure – Refers to current and future improvements needed in the structures already in place as well as in the planning of new spaces for use by telehealth and other potential eHealth care initiatives. Consult type – Space needed to accommodate client and entourage, depending on the service being consulted [i.e. Dermatology versus mental health]

Information – Refers to the organisational skills required to centralise and make accessible all documents, manuals, and other information pertaining to telehealth in such a way as to allow interoperability among clinic staff with telehealth. The client's perception of telehealth presents a recognised “cost” to the program that involves the need to create

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awareness of its current limitations [infrastructure and access to specialists]

In a number of clinics and nursing stations, the arrival of telehealth has created a “space sharing” issue that has often been resolved through the intervention of the local Nurse-in-Charge, sometimes with no input from the CTC. However, in all communities visited, health workers have made an effort to give telehealth adequate space in which to function.

Some community health workers point to this problem as a mere inconvenience. Those with less exposure to telehealth, especially out-of-clinic health workers who would like, but are often not centrally located (in the clinic with all other health services) highlight what they perceive as a cost to them in this respect

We were supposed to be located at the nursing station, but there is no room there. The other problem is we don't have storage space [for our equipment]...

CHW – Least exposure

We work with Healthy Babies, Early Years, Head Start, CPNP, and Regional Diabetes... we work together with all the resources here...

CHW – Least exposure

Many community health workers play a support role to other programs. Nurses have expressed concern that in-clinic (in same building as telehealth) health workers work in “parallel” to nursing, something which could, in their opinion, represent a barrier to the prompt integration of telehealth (see “Nurses” section) with the work of support staff. It would appear that a central location, then, has not been sufficient to ensure integration among health services.

To take into account the particularities of health care in a First Nations rural and remote community (infrastructure to house services, the arrival of telehealth, etc) would be to point to the issue of “working space” as the foundation for effective integration of services, especially since the arrival of telehealth, a technology with potential applications across several health services currently provided.

In this sense, there is a latent demand for investment in resolving this issue. However, no explicit comments are made by community health workers in which it is possible to assert that they believe telehealth, for example, should finance its own working space, although they do comment on the need for the space problem to be resolved

[The] only thing is it's too small, the [telehealth] office is too small. It could be bigger than that, because not that many people can get in there...

CHW – Mid exposure

It is useful to keep in mind that community health workers, and nurses, understand and live the cultural imperatives of health care in Northwestern Ontario. The implication of this understanding (to the issue of Costs per benefit) is that adequate space is needed to

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accommodate client needs [i.e. mental health, remote patient visitations, and other telehealth applications where family members do or would like to accompany the client]

In terms of other costs that could be considered for promotion of the service, they are seen as much more manageable than the issue of space allocation for services. Local health workers with more telehealth experience observe the interest that telehealth generates over time, as client lists grow, as do visits and the community's trust in all the elements associated with access to care through telehealth²

...It wasn't promoted before. [Clients] are starting to realize now what this is about. I'm telling them what telehealth is, letting people know what they can use it for. Friends talk about it or with people that talk about health or people call and ask...

CHW – Most exposure

Community health workers with at least a mid-range exposure to telehealth begin making suggestions as to what other services could be handled by the telehealth project, without making mention or asking about anything related to what this service integration would “cost” or how it may affect their own programs (in terms of budgets, etc)

Telehealth can help people with drinking problems ... keeps them here [in the community]. When they travel sometimes they get into trouble...

CHW – Mid exposure

As more health workers get a chance to see how telehealth works (be that through Open Houses, word of mouth or by observation), other services may request the aid of telehealth. As demand for use of the telehealth service increases, the integration of telehealth will go forward, without much regard for cost implications.

During interviews, I did not pursue this line of questioning (costs) beyond peripheral ideas, such as “ownership” of the equipment and the service. Community health workers, as well as nurses, had few doubts as to “who owns” the telehealth service (communities are entitled to health service improvement and, therefore, telehealth belongs to them). I did not ask health workers directly about “who should pay” for the service or for improvements to it, but an answer can be sometimes deduced from their statements. In this respect, further investments in resolving the space issue and the cost of integrating other services into telehealth are not really the concern of community health workers. To them, the improvement of access (a promise made by KOTH) is the determining criteria.

²Explicit mention of the CTC is not often found in such comments about community interest in telehealth. Telehealth is the label given to the entire experience of the consult; the location, the appropriateness of the space, the quality of the service (i.e. Translation), the quality of the connection, etc. The communications element (the technology per se) is only one aspect of the entire experience.

Integration Theme

Context of little or no exposure	Middle exposure	Longest Exposure
Local Capacity	Local Capacity	Innovation
Change	Innovation	Convenience
	Convenience	Capacity
	Capacity	

- Local Capacity* – The potential of existing local prevention and health education efforts to become a factor in continuity of care in different areas.
- Innovation* – The planned or desired reorganisation of human resources of health care in the communities, and the potential thereof, as expressed by stakeholders.
- Convenience* – all Telehealth needs to quickly demonstrate its comparative advantages to stakeholders, but principally to the client (and especially to elders). Users appreciate less disruption to their lives afforded by telehealth consults.
- Capacity* – Human resources already available need to know hands on about telehealth, receive further training, and explore uses, staffing, and other related issues around the technology
- Change* – Some clients face physical barriers to attending telehealth consults. These are being brought to the attention of local authorities by local health workers [telehealth as leverage for infrastructural improvements?]

The integration of more health services with telehealth is an active topic of discussion and brainstorming by health workers in all exposure levels. As “wish lists” develop, so do expectations for the future of telehealth in each community, although some expectations may be somewhat misled due to the lack of integration in the discussions telehealth generates (staff in the different programs are not sharing ideas or information beyond what is required for each client's case)

[...A] lab could be established here [a basic laboratory to handle things like blood and urine tests]... we've seen problems with blood that has been contaminated [in its handling from the community to the lab in Thunder Bay or Sioux Lookout...] So, telehealth [can be used for] conducting basic tests instructing medical care given in the community [...]

CHW – Mid exposure

We are trying to promote the idea of follow ups on telehealth with the mental health worker, so [the clients] don't have to wait to the next month...

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CHW – Most exposure

Community health workers with more exposure to telehealth are keen on using telehealth with clients in chronic care, such as those using mental health services. Their suggestions coincide with those made by nurses, although the two (nurses and CHWs) may not necessarily be sharing these ideas with each other.

For some health workers, the telehealth service is talked about primarily in relation to a major worry (shared by other community health workers): elders

Sometimes the elderly can't get any support or they're not approved for an escort. Not everybody speaks English, so it's hard for them to go out for their appointment and understand [instructions]...

CHW – Least exposure

... They are our teachers... on life in general... teach us to be positive with the creator...

CHW – Mid exposure

In home care... we provide services for all ages... Elderly, disabled or acute [...] people who need help when they're discharged from the hospital

CHW – Least exposure

Local capacity is understood as a requirement for the integration of telehealth into community care. There is a recognition of the need to build a capacity pool for continuity of care in the communities that is surfaced in statements made by community health workers with at least a mid range exposure level to telehealth

[the CTC is] the only one who knows how to work with telehealth...

CHW – Mid exposure

Improvements needed?... try and keep the experienced nurses here.

CHW – Mid exposure

The merely curious, as well as potential clients seek to learn more about telehealth on their own. This interest may help facilitate the integration of telehealth as demand for it reaches healthcare workers at the clinic

I know most people that come in here [to mental health] know what [telehealth is], and some people just come by the doorway, standing by the doorway, watching it, while we [are] inside. Most people know it's there.

CHW – Mid exposure

[Clients] don't want to travel. They'd rather stay here...

CHW – Most exposure

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The health workers themselves appreciate the benefits of the sheer communications advantage of the technology, if nothing else

I've always used telehealth, whenever there is a need [...] I started using it a couple of years ago to cut down on travelling [to meetings], because I get tired of that...

CHW – Most exposure

Although not a recurrent comment (in the statements of Community Health Workers) there is a recognition of the complexity of demands on the CTC, who is seen as the central pillar of telehealth in the communities. Either for the convenience of it or for other reasons (such as a desire to see more sources of employment in the community) the CTC job is valued as being very important to the use and integration of telehealth into local health care practice

It's gotta be someone who's willing to take this on as a career.

CHW – Most exposure

Quality Theme

Context of little or no exposure	Middle exposure	Longest Exposure
		Organisation

Organisation – The need to ensure proper integration and maximization of the technology for quality of care and service. The focus should be on training CTCs, who already have the advantage of certification on telehealth. Requires tracking and reporting of session events to reflect client experience of service and plan for possible improvements in service delivery.

Community health workers link the CTC more frequently to the theme of “quality” than to other themes. When they were asked to share their ideas on the subject, they revealed the extent to which they have been “watching” the CTC perform on the job, regardless of whether as community health workers they had much experience with telehealth at all

The CTCs need to learn how to plan for every month, and from there they learn if this didn't work, how are they going to improve it to attract more participants...

CHW – Most exposure

The thing that I would recommend is ... to have the worker get trained more... right now that person is part-time, eh? And it would [need to] be a full time, eh? And another person maybe to be trained to be part-time, just in case that person can't ... or is sick or is away from the community and that other person then takes over, eh?

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CHW – Mid exposure

The adequate preparation of the CTC is seen as a pending requirement for quality of service, but an adequate supply of qualified human resources for care is seen as a priority that goes beyond telehealth. In other words, telehealth has made its “splash”, but it has not replaced or changed perceptions about what communities “really” need to improve the quality of their health care. Telehealth is not seen in isolation from other improvements in this direction. The betterment of access to care specialists has been noticeable to the communities, which makes telehealth yet another expression of the change that has taken place

... We used to be satisfied with a visit from the nurse once a month...

CHW – Mid exposure

... Our level of satisfaction [with the quality of care] is improving compared to twenty years ago... just a visiting doctor once a year... Now, we have nurses all year round, with some problems, but they are here... and a visiting doctor every month... we have different health workers, like the diabetes nutritionist, dental hygienist...

CHW – Mid exposure

The arrival of telehealth as a new tool does not appear to be valued in and of itself. That is, the human resources component of this and other improvements to the quality of health care in the communities is equally, if not more, important

... When you're lying up here, getting that type of diagnosis ... the biggest limitation would be that you're dependent on technicians...

CHW – Mid exposure

We need more health care providers... especially for folks who are at home, the elders...

CHW – Least exposure

The “quality” of care and service issue was not tacked with direct references to telehealth in “Least exposure” level interviews. This topic was less clear, in regards to telehealth, in the thoughts of community health workers, as many of them do not have immediate experience with the service. It is still interesting to note the perception of “quality” of service that this stakeholders group appears to hold. The selected comments illustrate a historic sense of improvements to “access” as being equivalent to an improvement to “quality” of care and of service.

3.3) Telehealth & Contrasts in Perception – Other

Acceptability Theme

Context of little or no exposure	Middle exposure
Trust	Innovation Capacity Trust

Innovation *The adoption of telehealth opens the door for local context and local knowledge to surface in the form of proposals for adaptation of new services or approaches.*

Capacity *Refers to emerging or potential demands on the health care delivery model in the communities, and the role that local capacity could play in managing growth and change in services. Research and other related capacity is a vital necessity for full adoption of technology and for dealing with integration and funding issues*

Trust *With the expansion of services, there will be more expectations. Eventually, telehealth will have to deal with them increasingly at the local level, with locally based human resources. Expectations grow and need to be dealt with appropriately*

Community stakeholders not in regular contact with telehealth (classified as “Other” in the coding) tend to agree that telehealth makes health care more accessible

“It will be easier for people to use this. Especially [as] the nurse was saying [...] instead of people going out, you know, like they can come here [to the nursing station/clinic]. The doctor can just see them over this thing here” (Councillor – Least exposure)

This stakeholder group also raised issue with what is perceived as an infrastructural deficit (evident in some cases) that may pose an obstacle to access and to the proper implementation of the telehealth program

“Clinic...has to be [...] renovated or make an addition to it, because of the limited [space for] staff and [users’] concerns over privacy” (Chief – Mid exposure)

Integration Theme

[Data only available for communities in the “Mid exposure” category]

<i>Trust</i>	<i>Refers to the importance of the “exposure” dimension as both a function of the demonstrated benefits of the technology and of the “human factor” behind its introduction and use with the client.</i>
<i>Investment</i>	<i>Refers to the existence of local demand for minimum material and human resources for effective service.</i>
<i>Innovation</i>	<i>Technology facilitates the enrichment of interaction among local players and this produces a context of adaptation of the technology to handle emerging demand/needs.</i>

As “outside” observers of the integration process that follows the arrival of telehealth, other community stakeholders evidence a very clear understanding of what the technology and the service are meant to achieve

*“[First nations people] learn from what we see... we have very curious minds”
(Councillor – Mid exposure)*

“...Health workers [are] communicating with each other, they're sharing ideas for the betterment of the client or whatever crisis there is” (Councillor – Mid exposure)

“What it did that I saw was that it connected the communities, the health departments together, whether it was the nursing, the medical; where it was really strong was in the mental health resource workers, they were connected together and able to see each other” (Resource Worker – Mid exposure)

“With telehealth, my specialist can see me here” (Client – Mid exposure)