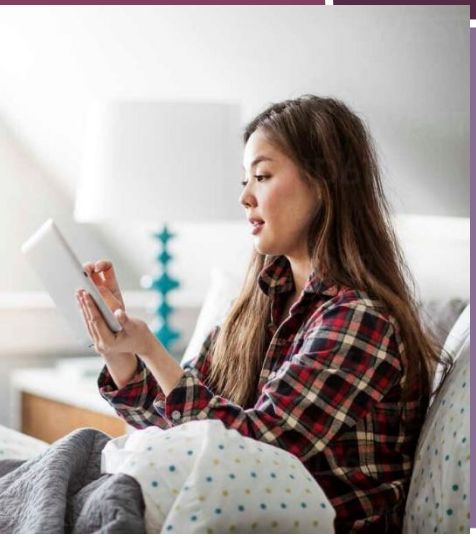
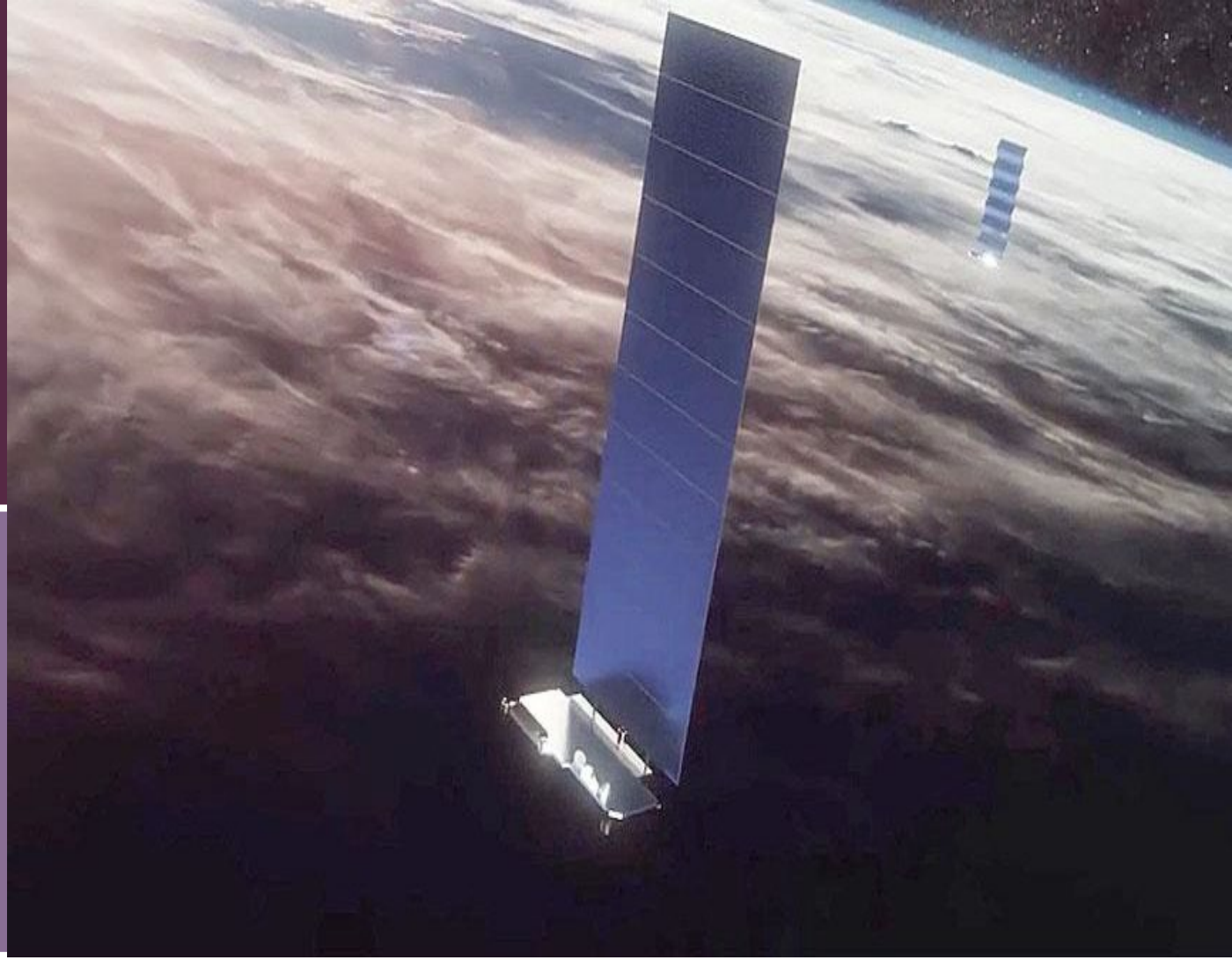
Northern Interior Rural
Division of Family Practice
A GPSC initiative





Bridging the Digital Divide for Increased Equitable Access to Healthcare – A Pilot

DECEMBER 2022

Disclosures

- **Nothing to disclose**

Learning Objectives

- **Identify low orbit satellite solutions and why are they a game changer.**
- **Review the possibilities for leveraging low orbit satellite solution to bridge healthcare gaps for rural, remote and Indigenous patients.**
- **Illustrate how low orbit satellite solutions have already expanded care delivery at the edges of healthcare in our Province.**

The Problem to be Solved

Patients in rural BC and especially the North struggle with adequate bandwidth to access video-enabled virtual care.

As a result, there is a large gap in equitable access to healthcare which we hope to overcome through this pilot. To date there have not been viable solutions for rural and remote patients other than making a costly trip to a larger center to receive the same level of care as more urban patients.

This is no longer the case with Low Orbit Satellite solutions now readily available.

The goal of this pilot is to prove that we now have the technological tools to bridge this equity gap for our rural and remote patients.

Phase 1 (complete) – A Small Northern Community

Setting the scene:

- A patient with comorbidity and mobility issues living without internet access has been unable to access healthcare easily.
- They live in the woods with minimal services and no internet in their log cabin.

- When they need to access healthcare, they must be brought via ambulance to the local health care facility. Once their appointment is complete, they have no transportation home. They have no local supports, so they rely on the healthcare facility staff to drive them back home when time permits.
- Otherwise, all appointments are by telephone.

Piloted solution:

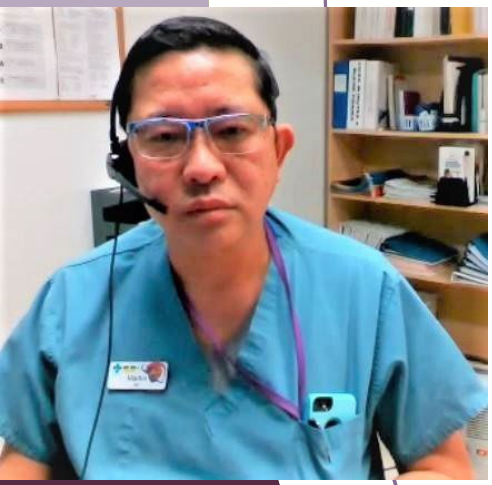
- The primary care team lead nurse brought the following equipment to the patient's home in order to connect the patient with the local physician for a scheduled video-enabled virtual appointment:
    - the RV version of StarLink to provide internet
    - an iPad configured with Zoom
    - an independent power source

- For this pilot, IT support was also present.

How did it go?

- StarLink was set up in the patient's front yard, connected to the independent power source and was online and ready to go in short order

- The iPad was connected to the StarLink WiFi and a Zoom call was placed to the local physician. Video and audio were crystal clear.



- The primary care team lead nurse took the iPad into the patient's home and facilitated the virtual visit by providing physical assessment and clinical feedback to the physician.

This portable internet solution alone would have been a successful pilot in providing connectivity, but there was a surprise benefit…

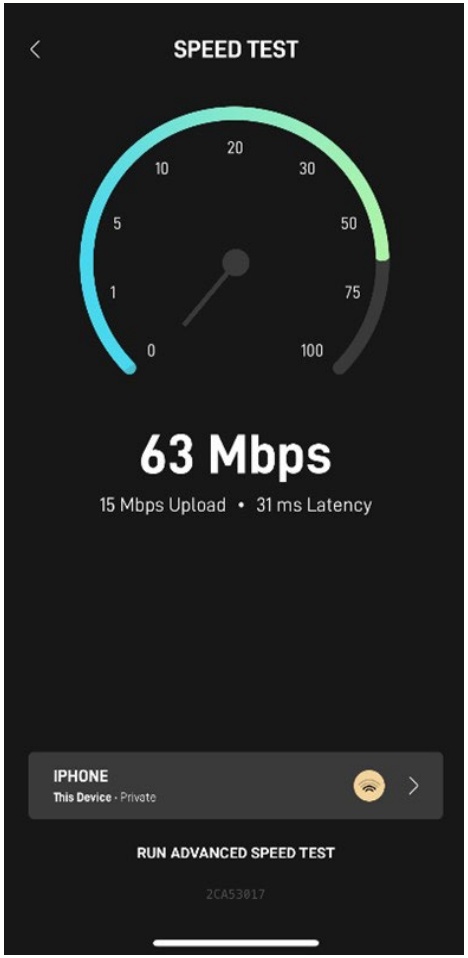
Beyond what we planned

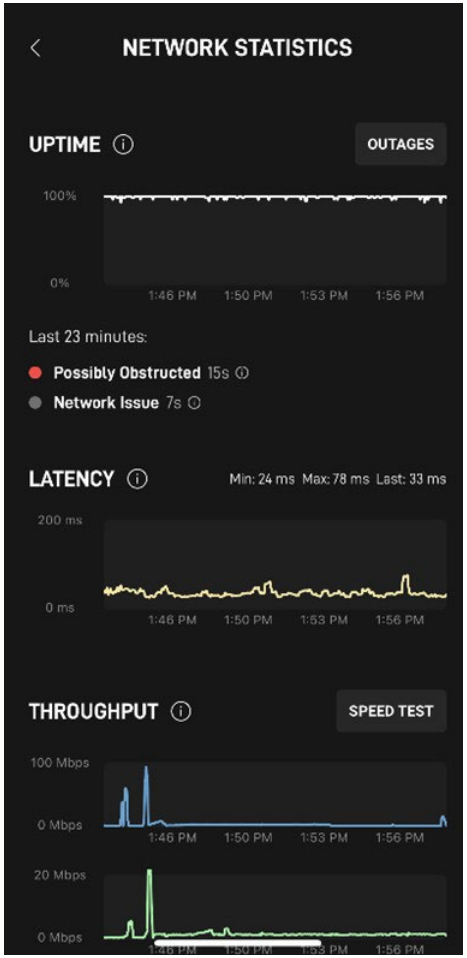
The video-enabled appointment resulted in a new diagnosis by the physician.

This new diagnosis required an **urgent transfer** to a larger center of care for the patient to receive the lifesaving care they needed.

Had this appointment been conducted on the telephone as originally scheduled, this new diagnosis would have been missed and the patient outcome could have been far worse.

Live bandwidth data





Summary of Phase 1

- By equipping our primary care teams who go into patient homes with this low orbit satellite-based connectivity, we can bring healthcare to those who sacrifice equitable access because of where they choose to live.
- The cost of this solution is approximately $1500 one-time cost for the hardware and a monthly cost of $195 for the internet subscription.
- **This low-cost solution is a game changer for our rural and remote patients and providers.**

Our Aim

- We hope to demonstrate that using this portable low orbit satellite technology along with a low-cost delivery device such as an iPad with Zoom **is the future.**
- We believe this solution could **bridge the digital divide** that has resulted in inequitable access to healthcare for rural and remote patients.

It is our hope that our Health Authority partners would like to work with us on this critical solution.

For further information, please contact Dave Harris: dharris@nirdbc.ca

Northern Interior Rural Division of Family Practice
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Enabling Access to Health Care in a Remote Community

Low Orbit Satellite Solution – A Pilot

Northern Interior Rural
Division of Family Practice
An FPSC initiative

The Pilot

STAKEHOLDERS

The Northern Interior Rural Division of Family Practice (NIRD) coordinated with the Health Director and Lead Nurse for the Tl'azt'en Health Centre in Tachie, at the invitation of the FNHA FNPCI team in Fort St. James.

PURPOSE

To trial a Low Orbit Satellite internet solution to run a virtual video-enabled medical clinic in a small Indigenous community living off grid 100km up a logging road.

PROPOSAL

That remote communities should have equitable access to health care, and this access can be increased by using Low Orbit Satellite solutions to facilitate video-enabled virtual care.

"Being connected is no longer a luxury but a basic essential service...without access to high-speed internet...people in remote communities cannot...access online education, work, and medical and government services."

–Office of the Auditor General of Canada, 2023

Clinic Day

THE SETUP

Two nurses drove out to an Indigenous community of 20 people. For this pilot, IT support was also present. A physician was booked to provide medical appointments via Zoom. Six medical appointments were prearranged.

BE READY FOR THE UNEXPECTED

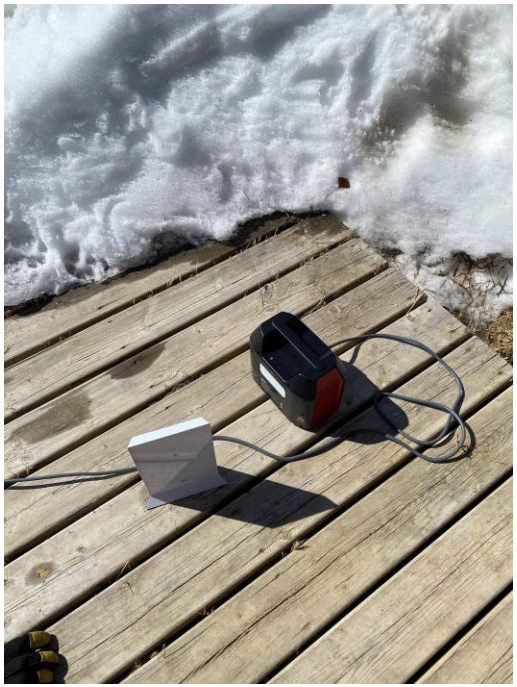
As the community was up a logging road, a vehicle equipped with CB radio was used for safety.

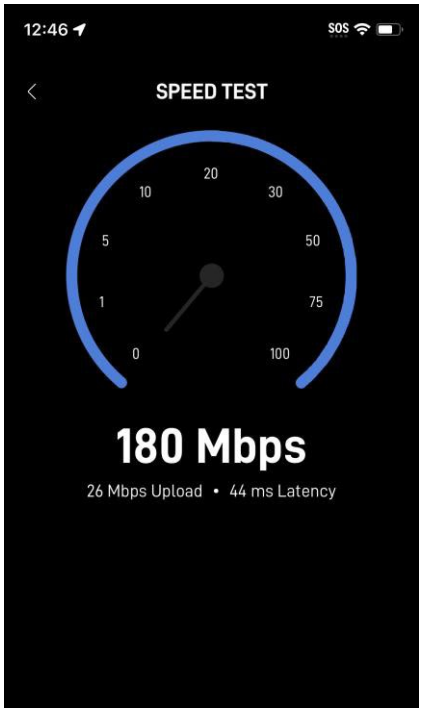
The team brought a portable battery pack along with the satellite equipment and iPad.

- Upon arrival, no keys to the facility were available, and no access to local power. The battery pack was used.

The Low Orbit Satellite (LOS) equipment was quickly set up on top of the vehicle.

Connectivity was a success, providing up to 180Mbps download speed.





PIVOTING

- As the facility keys were unavailable, the virtual clinic was set up outside on the porch.

- Some of the booked patients had to leave the community at the last minute. The nurses proactively knocked on doors to see if anyone else needed an appointment.

A MEDICAL APPOINTMENT

- One nurse facilitated the visit with the physician and the physical exam. There were no issues connecting. All parties commented that the sound and video were crystal clear.

- The second nurse logged into the EMR remotely and charted live. There were no issues gaining access to the patient medical history.

- The clinical visit moved forward. The physician was able to renew medications, make referrals, and spent 30 minutes with the patient.

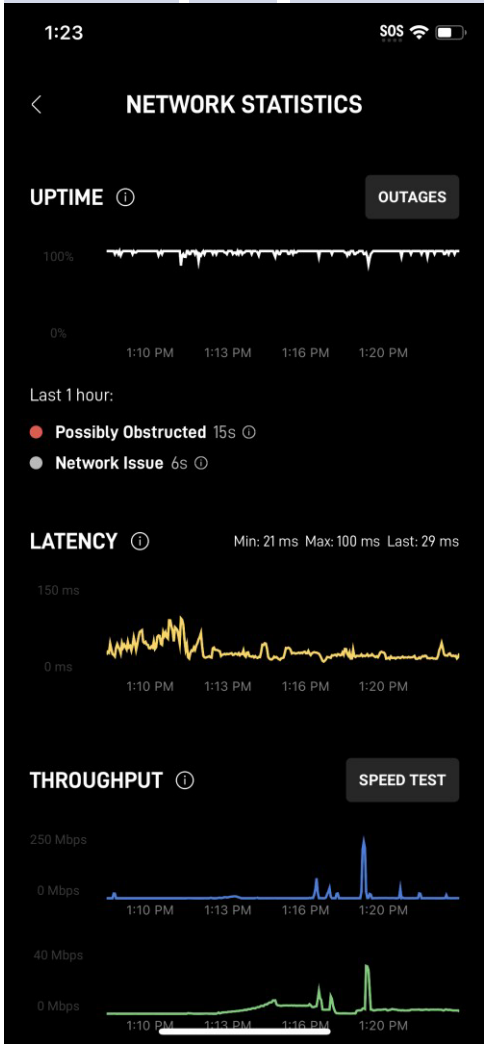
The virtual visit was a success

- The patient had been scheduled for in person visits but was unable to attend as they had no vehicle and in addition felt safer to remain in the community.

*Photo release obtained

The Tech

- A portable, low-cost version of the Low Orbit Satellite equipment was used for this pilot.
- During the clinic, the iPad was running Zoom, another laptop was accessing the EMR on the cloud, stats were being monitored, and multiple simultaneous video connections were started to gauge the effect on bandwidth. These tests were done to determine the scalability of this solution.
- The internet connection performed optimally with no degradation.



Conclusions

THE PORTABLE LOW-COST VERSION WORKS

This pilot used the portable low-cost form of Low Orbit Satellite technology, and the reliability and bandwidth was more than enough to run a virtual medical clinic with multiple devices.

INTERNET IS VITAL TO BRINGING MEDICAL APPOINTMENTS TO REMOTE COMMUNITIES

A video-enabled virtual clinic seeing the patient via Zoom, having the EMR available, and having nursing support for physical assessments will dramatically increase access to health care for remote patients.

RURAL PATIENTS SHOULD BE ABLE TO STAY IN THEIR COMMUNITY

Patients who have lack of transportation, or feel safer staying in community, can be assisted to do so by providing virtual video-enabled access to health care services.

For further information, please contact Dave Harris: dharris@nirdbc.ca

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